

CONTRACT DOCUMENTS

For

DARLING POND DAM IMPROVEMENTS PROJECT Town of Chaplin Chaplin, Connecticut



Drop Inlet Type Structure, Photo Taken August 5, 2013, by RTG

July 2015

Prepared By:



RT Group, Inc.

Engineered from the Ground Up

70 Romano Vineyard Way, Suite 134
North Kingstown, Rhode Island 02852

T 401 438 3100 F 401 294 9806

Geotechnical Waterfront Structural Civil Geo-Environmental

Prepared For:

Town of Chaplin
495 Phoenixville Road
Chaplin, CT 06235



RTG Project No. 13105.00

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PART 1

BIDDING REQUIREMENTS

SECTION 00020
INVITATION TO BID

Sealed bids for the Darling Pond Dam Improvements Project will be received at the Town of Chaplin, 495 Phoenixville Road, Chaplin, CT, 06235 until 10:00 a.m. on the 10th day of August 2015, at which time said bids will be publicly opened and read aloud. The work of this project generally involves clearing, grubbing, and removal; temporary flow bypassing; cast-in-place concrete work; slip lining; construction of a new spillway; and site restoration including grading, riprap placement, and grass establishment

Contract Documents may be obtained at the Town of Chaplin, 495 Phoenixville Road, Chaplin, CT, 06235 on or after 10:00 AM on the 13th day of July 2015. A Pre-Bid Conference will be held at 10:00 AM on the 27th day of July 2015, at the Town's Offices; site visit immediately thereafter. Each Bid shall be submitted in accordance with the Instructions to Bidders and be accompanied by a Bid Security in the designated form in the amount of 5 percent of the Bid. Bid Security will be refunded to all bidders following award and execution of the Contract.

No bidder may withdraw their Bid for a period of ninety (90) days after the date of the opening of the Bids. The Successful Bidder shall furnish a 100 percent Construction Performance Bond and a 100 percent Labor and Material Bond with a CT licensed surety company acceptable to the Owner. Furnish the required Performance Bond and Labor and Material Payment Bond for preparation of Agreement by Owner within fifteen (15) calendar days after written Notice to Award, and complete the entire construction project by June 2016.

The Owner reserves the right to waive any informality in or to reject any or all Bids if deemed to be in its best interest. The offices of the Town Hall are handicap accessible. Individuals requesting interpreter services for the hearing impaired must contact the Town of Chaplin 72 hours before the meeting (Telecommunications device for the hearing impaired available).

* * * * *

INSTRUCTIONS TO BIDDERS FOR CONSTRUCTION CONTRACTS

Prepared by

ENGINEERS JOINT CONTRACT DOCUMENTS COMMITTEE

and

Issued and Published Jointly by



AMERICAN COUNCIL OF ENGINEERING COMPANIES

ASSOCIATED GENERAL CONTRACTORS OF AMERICA

AMERICAN SOCIETY OF CIVIL ENGINEERS

PROFESSIONAL ENGINEERS IN PRIVATE PRACTICE
A Practice Division of the
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CONSTRUCTION SPECIFICATIONS INSTITUTE

INSTRUCTIONS TO BIDDERS

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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 and where the bidding procedures are to be administered.

ARTICLE 2 – COPIES OF BIDDING DOCUMENTS

- 2.01 Complete sets of the Bidding Documents in the number and for the deposit sum, if any, stated in the advertisement or invitation to bid may be obtained from the Issuing Office. The deposit will be refunded to each document holder of record who returns a complete set of Bidding Documents in good condition within 30 days after opening of Bids.
- 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, within 10 days of Owner's request, Bidder shall submit written evidence such as financial data, previous experience, present commitments, and such other data as may be called for below.
- A. Evidence of Bidder's authority to do business in Connecticut.
- B. Bidder's state contractor license number, if applicable.
- 3.02 Bidder is advised to carefully review those portions of the Bid Form requiring Bidder's representations and certifications.

ARTICLE 4 – EXAMINATION OF BIDDING DOCUMENTS, OTHER RELATED DATA, AND SITE

- 4.01 *Subsurface and Physical Conditions*
- A. The Supplementary Conditions identify:
1. Those reports known to Owner of explorations and tests of subsurface conditions at or contiguous to the Site.

2. Those drawings known to Owner of physical conditions relating to existing surface or subsurface structures at the Site (except Underground Facilities).

B. Copies of reports and drawings referenced in Paragraph 4.01.A will be made available by Owner to any Bidder on request. Those reports and drawings are not part of the Contract Documents, but the “technical data” contained therein upon which Bidder is entitled to rely as provided in Paragraph 4.02 of the General Conditions has been identified and established in Paragraph 4.02 of 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.

4.02 *Underground Facilities*

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

4.03 *Hazardous Environmental Condition*

A. The Supplementary Conditions identify any reports and drawings known to Owner relating to a Hazardous Environmental Condition identified at the Site.

B. Copies of reports and drawings referenced in Paragraph 4.03.A will be made available by Owner to any Bidder on request. Those reports and drawings are not part of the Contract Documents, but the “technical data” contained therein upon which Bidder is entitled to rely as provided in Paragraph 4.06 of the General Conditions has been identified and established in Paragraph 4.06 of 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.

4.04 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 4.02, 4.03, and 4.04 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 4.06 of the General Conditions.

- 4.05 On request, Owner will provide Bidder access to the Site to conduct such examinations, investigations, explorations, tests, and studies as Bidder deems necessary for submission of a Bid. 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. Bidder shall comply with all applicable Laws and Regulations relative to excavation and utility locates.
- 4.06 A. Reference is made to Article 7 of the Supplementary Conditions for the identification of the general nature of other work that is to be performed at the Site by Owner or others (such as utilities and other prime contractors) that relates to the Work contemplated by these Bidding Documents. On request, Owner will provide to each Bidder for examination access to or copies of contract documents (other than portions thereof related to price) for such other work.
- B. Paragraph 6.13.C of the General Conditions indicates that if an Owner safety program exists, it will be noted in the Supplementary Conditions.
- 4.07 It is the responsibility of each Bidder before submitting a Bid to:
- A. examine and carefully study the Bidding Documents, and the other related data identified in the Bidding Documents;
- B. visit the Site and become familiar with and satisfy Bidder as to the general, local, and Site conditions that may affect cost, progress, and performance of the Work;
- C. become familiar with and satisfy Bidder as to all federal, state, and local Laws and Regulations that may affect cost, progress, and performance of the Work;
- D. obtain and carefully study (or accept consequences of not doing so) all: (1) reports of explorations and tests of subsurface conditions at or contiguous to the Site and all drawings of physical conditions relating to existing surface or subsurface structures at the Site (except Underground Facilities) that have been identified in Paragraph 4.02 of the Supplementary Conditions as containing reliable "technical data," and (2) reports and drawings of Hazardous Environmental Conditions, if any, at the Site that have been identified in the Paragraph 4.06 of the Supplementary Conditions as containing reliable "technical data";
- E. consider the information known to Bidder; 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, including applying any specific means, methods, techniques, sequences, and procedures of construction expressly required by the Bidding Documents; and (3) Bidder's safety precautions and programs;
- F. agree at the time of submitting its Bid that 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(s) 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; and
- I. determine that the Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for the performance of the Work.

4.08 The submission of a Bid will constitute an incontrovertible representation by Bidder that Bidder has complied with every requirement of this Article 4, that without exception the Bid is premised upon performing and furnishing the Work required by the Bidding Documents and applying any specific means, methods, techniques, sequences, and procedures of construction that may be shown or indicated or expressly required by the Bidding Documents, that Bidder has given Engineer written notice of all conflicts, errors, ambiguities, and discrepancies that Bidder has discovered in the Bidding Documents and the written resolutions thereof by Engineer are acceptable to Bidder, and that the Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performing and furnishing the Work.

ARTICLE 5 – PRE-BID CONFERENCE

5.01 A non-mandatory pre-Bid conference will be held at 10:00 a.m. local time on July 27, 2015 at the site. 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 6 – SITE AND OTHER AREAS

6.01 The Site is identified in the Bidding Documents. Easements for permanent structures or permanent changes in existing facilities are to be obtained and paid for by Owner unless otherwise provided in the Bidding Documents. All additional lands and access thereto required for temporary construction facilities, construction equipment, or storage of materials and equipment to be incorporated in the Work are to be obtained and paid for by Contractor.

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 mailed or delivered to all parties recorded by Engineer as having received the Bidding Documents. Questions received less than ten 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, or change the Bidding Documents as deemed advisable by Owner or Engineer.

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 and in the form of a certified check, bank money order, or a Bid bond (on the form attached) issued by a surety meeting the requirements of Paragraphs 5.01 and 5.02 of the General Conditions.
- 8.02 The Bid security of the Successful Bidder will be retained until 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 returned. 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. The Bid security of other Bidders whom 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 Agreement or 61 days after the Bid opening, whereupon Bid security furnished by such Bidders will be returned.
- 8.03 Bid security of other Bidders whom Owner believes do not have a reasonable chance of receiving the award will be returned 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, are set forth in the Agreement.

ARTICLE 11 – SUBSTITUTE AND “OR-EQUAL” ITEMS

- 11.01 The Contract, if awarded, will be on the basis of materials and equipment specified or described in the Bidding Documents without consideration of possible substitute or “or-equal” items. Whenever it is specified or described in the Bidding Documents that a substitute or “or-equal” item of material or equipment may be furnished or used by Contractor if acceptable to Engineer,

application for such acceptance will not be considered by Engineer until after the Effective Date of the Agreement.

ARTICLE 12 – SUBCONTRACTORS, SUPPLIERS AND OTHERS

- 12.01 If the Supplementary Conditions require the identity of certain Subcontractors, Suppliers, individuals, or entities to be submitted to Owner in advance of a specified date prior to the Effective Date of the Agreement, the apparent Successful Bidder, and any other Bidder so requested, shall within five days after Bid opening, submit to Owner a list of all such Subcontractors, Suppliers, individuals, or entities proposed for those portions of the Work for which such identification is required. 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, individual, or entity if requested by Owner. 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 a substitute, without an increase in the Bid.
- 12.02 Contractor shall not be required to employ any Subcontractor, Supplier, individual, or entity against whom Contractor has reasonable objection.

ARTICLE 13 – PREPARATION OF BID

- 13.01 The Bid Form is included with the Bidding Documents. Additional copies may be obtained from the Engineer.
- 13.02 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, alternative, adjustment unit price item, and unit price item] listed therein. In the case of optional alternatives the words “No Bid,” “No Change,” or “Not Applicable” may be entered.
- 13.03 A Bid by a corporation shall be executed in the corporate name by the president or a vice-president or other corporate officer accompanied by evidence of authority to sign. The corporate seal shall be affixed and attested by the secretary or an assistant secretary. The corporate address and state of incorporation shall be shown.
- 13.04 A Bid by a partnership shall be executed in the partnership name and signed by a partner (whose title must appear under the signature), accompanied by evidence of authority to sign. The official address of the partnership shall be shown.
- 13.05 A Bid by a limited liability company shall be executed in the name of the firm by a member 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.

- 13.06 A Bid by an individual shall show the Bidder's name and official address.
- 13.07 A Bid by a joint venture shall be executed by each joint venturer in the manner indicated on the Bid Form. The official address of the joint venture shall be shown.
- 13.08 All names shall be printed in ink below the signatures.
- 13.09 The Bid shall contain an acknowledgment of receipt of all Addenda, the numbers of which shall be filled in on the Bid Form.
- 13.10 Postal and e-mail addresses and telephone number for communications regarding the Bid shall be shown.
- 13.11 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; COMPARISON OF BIDS

14.01 *Unit Price*

- A. Bidders shall submit a Bid on a unit price basis for each item of Work listed in Section 00310.
- B. The total of all estimated prices will be the sum of the products of the estimated quantity of each item and the corresponding unit price. The final quantities and Contract Price will be determined in accordance with Paragraph 11.03 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.

14.02 *Allowances*

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 11.02.B of the General Conditions.

14.03 *Completion Time Comparisons*

- A. Bid prices will be compared after adjusting for differences in the time designated by Bidders for Substantial Completion. The adjusting amount will be determined at the rate set forth in the Contract Documents for liquidated damages for failing to achieve Substantial Completion for each day before or after the desired date appearing in Article 9 above.

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 following documents:
- A. Section 00310 of the Specifications – Bid Form
 - B. Section 00430 of the Specifications – Bid Bond
 - C. Contractors Qualifications Statement
 - D. Non-collusion Affidavit of Contractor
- 15.02 A Bid shall be submitted 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 Town of Chaplin, 495 Phoenixville Road, Chaplin, CT 06235.

ARTICLE 16 – MODIFICATION AND WITHDRAWAL OF BID

- 16.01 A Bid may be modified or 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.
- 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 privately.

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 further reserves the right to reject the Bid of any Bidder whom it finds, after reasonable inquiry and evaluation, to not be responsible. Owner may also reject the Bid of any Bidder if Owner believes that it would not be in the best interest of the Project to make an award to that Bidder. Owner also reserves the right to waive all informalities not involving price, time, or changes in the Work and to negotiate contract terms with the Successful Bidder.
- 19.02 More than one Bid for the same Work from an individual or entity under the same or different names will not be considered. Reasonable grounds for believing that any Bidder has an interest in more than one Bid for the Work may be cause for disqualification of that Bidder and the rejection of all Bids in which that Bidder has an interest.
- 19.03 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.
- 19.04 In evaluating Bidders, Owner will consider the qualifications of Bidders and may consider the qualifications and experience of Subcontractors, Suppliers, and other individuals or entities proposed for those portions of the Work for which the identity of Subcontractors, Suppliers, and other individuals or entities must be submitted as provided in the Supplementary Conditions.
- 19.05 Owner may conduct such investigations as Owner deems necessary to establish the responsibility, qualifications, and financial ability of Bidders, proposed Subcontractors, Suppliers, individuals, or entities proposed for those portions of the Work in accordance with the Contract Documents.
- 19.06 If the Contract is to be awarded, Owner will award the Contract to the Bidder whose Bid is in the best interests of the Project.

ARTICLE 20 – CONTRACT SECURITY AND INSURANCE

- 20.01 Article 5 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 executed Agreement to Owner, it shall be accompanied by such bonds.

ARTICLE 21 – SIGNING OF AGREEMENT

- 21.01 When Owner issues a Notice of Award to the Successful Bidder, it shall be accompanied by the required number of unsigned counterparts of the Agreement along with the other Contract Documents which are identified in the Agreement as attached thereto. Within 15 days thereafter, Successful Bidder shall sign and deliver the required number of counterparts of the Agreement and attached documents to Owner. Within ten days thereafter, Owner shall deliver one fully signed counterpart to Successful Bidder with a complete set of the Drawings with appropriate identification.

ARTICLE 22 – SALES AND USE TAXES

- 22.01 Owner is exempt from Connecticut state sales and use taxes on materials to be incorporated in the Work. Refer to Paragraph 6.10 of the Supplementary Conditions for additional information.

ARTICLE 23 – RETAINAGE

- 23.01 Provisions concerning Contractor's rights to deposit securities in lieu of retainage are set forth in the Agreement.

BID FORM FOR CONSTRUCTION CONTRACTS

Prepared by

ENGINEERS JOINT CONTRACT DOCUMENTS COMMITTEE

and

Issued and Published Jointly by



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CONSTRUCTION SPECIFICATIONS INSTITUTE

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ARTICLE 1 – BID RECIPIENT

1.01 This Bid is submitted to:

Town of Chaplin, 495 Phoenixville Road, Chaplin, CT 06235

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 90 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, other related data identified in the Bidding Documents, and the following Addenda, receipt of which is hereby acknowledged:

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

B. Bidder has visited the Site and become familiar with and is satisfied as to the general, local, and Site conditions that may affect cost, progress, and performance of the Work.

C. Bidder is familiar with and is satisfied 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 contiguous to the Site and all drawings of physical conditions relating to existing surface or subsurface structures at the Site (except Underground Facilities) that have been identified in in these Bidding Documents as containing reliable "technical data," and (2) reports and drawings of Hazardous Environmental Conditions, if any, at the Site that have been identified in these Bidding Documents as containing reliable "technical data."

E. Bidder has considered the information known to Bidder; 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, including applying the specific means, methods, techniques, sequences, and procedures of construction expressly required by the Bidding Documents; and (3) Bidder's safety precautions and programs.

- F. Based on the information and observations referred to in Paragraph 3.01.E above, Bidder does not consider that further examinations, investigations, explorations, tests, studies, or data are necessary for the determination of this Bid for performance of the Work at the price(s) 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 the written resolution thereof by Engineer is acceptable to Bidder.
1. The Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for the performance of the Work for which this Bid is submitted.

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):

Complete and Submit Exhibit A – Bid Form

Unit Prices have been computed in accordance with Paragraph 11.03.B of the General Conditions.

Bidder acknowledges that 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 the actual quantities, determined as provided in the Contract Documents.

ARTICLE 6 – TIME OF COMPLETION

6.01 Bidder agrees that the Work will be substantially completed on or before June 30, 2016, and will be completed and ready for final payment in accordance with Paragraph 14.07 of the General Conditions on or before July 4, 2016.

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 5% Bid Bond or Cashiers Check;
- B. List of Proposed Subcontractors;
- C. List of Proposed Suppliers;
- D. List of Project References;
- E. Affidavit of Non-Collusion;
- F. 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;
- G. Contractor’s License No.: _____ ;
- H. Exhibit A – Bid Form and;

I. Contractor's Qualification Statement.

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

9.01 This Bid is submitted by:

If Bidder is:

An Individual

Name (typed or printed): _____

By: _____
(Individual's signature)

Doing business as: _____

A Partnership

Partnership Name: _____

By: _____
(Signature of general partner -- attach evidence of authority to sign)

Name (typed or printed): _____

A Corporation

Corporation Name: _____ (SEAL)

State of Incorporation: _____

Type (General Business, Professional, Service, Limited Liability): _____

By: _____
(Signature -- attach evidence of authority to sign)

Name (typed or printed): _____

Title: _____
(CORPORATE SEAL)

Attest _____

Date of Qualification to do business in Connecticut is ____/____/____.

A Joint Venture

Name of Joint Venture: _____

First Joint Venturer Name: _____ (SEAL)

By: _____
(Signature of first joint venture partner -- attach evidence of authority to sign)

Name (typed or printed): _____

Title: _____

Second Joint Venturer Name: _____ (SEAL)

By: _____
(Signature of second joint venture partner -- attach evidence of authority to sign)

Name (typed or printed): _____

Title: _____

(Each joint venturer must sign. The manner of signing for each individual, partnership, and corporation that is a party to the joint venture should be in the manner indicated above.)

Bidder's Business Address _____

Phone No. _____ Fax No. _____

E-mail _____

SUBMITTED on _____, 20____.

State Contractor License No. _____ . *[If applicable]*

CONTRACTOR'S QUALIFICATION STATEMENT

Name of Firm: _____

Address: _____

Telephone No. _____

Please provide the requested information as indicated. Failure to provide the required information will be considered grounds for rejection of your bid.

If you answer "yes" to any part of question 1, 2, or 3 provide an explanation on a separate sheet

1. Has your organization been subject of any of the following actions in the past five years by a government agency, private company or other entity:
 - a. been suspended, debarred, disqualified, or otherwise declared ineligible to bid? yes no
 - b. been prevented or barred from bidding for any reason? yes no
 - c. been denied a contract despite being the low bidder for any other reason? yes no
 - d. had liquidated damages assessed against it upon completion of a contract? yes no
 - e. defaulted on any contract? yes no
 - f. had a contract terminated? yes no
 - g. been the subject of an OSHA investigation pertaining to a construction related accident? yes no

2. In the past five years, has your organization or any current or past key people or affiliate firms been a party to any lawsuits related to public or private construction contracts? yes no

3. Claims and suits: Has your organization ever failed to complete any work awarded to it? yes no

On a separate sheet(s) provide the following information

4. At least three references from municipalities for whom you've worked.
5. A list of similar construction projects performed over the past two years.
6. The names of the engineers or site inspectors for three projects listed in 5 above.
7. Name and resumes of key personnel to be used on this project: Project Manager, Site Superintendent, and lead foreman.

I certify that to the best of my knowledge the information given in response to each question is full, complete and truthful.

I acknowledge that the Town of Chaplin or designated Engineer may, by means it deems appropriate, determine the accuracy and truth of the statements in the application.

I authorize the Town of Chaplin or designated Engineer to contact any entity named in the documents supporting this statement for purposes of verifying the information supplied by the Contractor.

_____ / _____
name date

signature

Title

NON-COLLUSION AFFIDAVIT OF CONTRACTOR

State of _____

County of _____

_____ Being first duly sworn, deposes and says that:

- 1) He is _____ of _____, the Bidder that has submitted the attached Bid;
- 2) He is fully informed respecting the preparation and contents of the attached Bid and of all pertinent circumstances respecting such bid;
- 3) Such price is genuine and is not a collusive or sham Bid:
- 4) Neither the said Bidder nor any of its officers, partners, owners, agents, representatives, employees or parties in interest, including this affidavit, has in any way colluded, conspired, connived or agreed, directly or indirectly with any other Bidder, firm or person to submit a collusive or sham Bid in connection with the Contract for which the attached Bid has been submitted or to refrain from bidding in connection with such contract, or has in any manner, directly or indirectly, sought by agreement or collusion or communication or conference with any other Bidder, firm or person to fix the price or prices in the attached Bid or of any other Bidder, or to fix any overhead, profit or cost element of the Bid price or the Bid price of any Bidder or to secure through any collusion, conspiracy, connivance or unlawful agreement any advantage against the Town of Jamestown, or any person interested in the proposed Contract; and
- 5) The price or prices quoted in the Subcontractor's Proposal are fair and proper and are not tainted by any collusion, conspiracy, connivance or unlawful agreement on the part of the Bidder or any of its agents, representatives, employees or parties in interest, including this affiant.

Signed _____

Title

Subscribed and sworn to before me this _____ day of _____, 20____,

_____ (Title)

My Commission Expires _____, 20____.

EXHIBIT A

DARLING POND DAM IMPROVEMENTS

JULY 2015

SECTION 00310
BID FORM

ITEM	DESCRIPTION	UNIT	ESTIMATED QUANTITY	UNIT BID PRICE	TOTAL COST
1.	General Requirements	LS	1	\$ _____	\$ _____

UNIT PRICE IN WORDS: _____

2.	Mobilization (Shall not exceed 15% of the Total Amount of all Bid Items)	LS	1	\$ _____	\$ _____
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UNIT PRICE IN WORDS: _____

3.	Quality Control				
3A.	Grain Size through No. 200 Sieve	EA	4	\$ _____	\$ _____

UNIT PRICE IN WORDS: _____

3B.	Moisture Density Relationship Granular Materials	EA	4	\$ _____	\$ _____
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UNIT PRICE IN WORDS: _____

3C.	Dry Density and As-Placed Moisture Content	½ DAY	6	\$ _____	\$ _____
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UNIT PRICE IN WORDS: _____

3D.	Concrete Compressive Strength	EA	12	\$ _____	\$ _____
-----	-------------------------------	----	----	----------	----------

UNIT PRICE IN WORDS: _____

4.	Erosion and Sedimentation Controls	LS	1	\$ _____	\$ _____
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UNIT PRICE IN WORDS: _____

EXHIBIT A

DARLING POND DAM IMPROVEMENTS

JULY 2015

SECTION 00310
BID FORM

ITEM	DESCRIPTION	UNIT	ESTIMATED QUANTITY	UNIT BID PRICE	TOTAL COST
5.	Clearing, Grubbing, and Removal	LS	1	\$ _____	\$ _____

UNIT PRICE IN WORDS: _____

6.	Temporary Flow Bypassing	LS	1	\$ _____	\$ _____
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UNIT PRICE IN WORDS: _____

7.	Repair and Retrofit Existing Water Control Structure	LS	1	\$ _____	\$ _____
----	--	----	---	----------	----------

UNIT PRICE IN WORDS: _____

8.	Slip Line Existing CMP	LS	1	\$ _____	\$ _____
----	------------------------	----	---	----------	----------

UNIT PRICE IN WORDS: _____

9.	New Spillway Structure	LS	1	\$ _____	\$ _____
----	------------------------	----	---	----------	----------

UNIT PRICE IN WORDS: _____

10.	Site Restoration	LS	1	\$ _____	\$ _____
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UNIT PRICE IN WORDS: _____

11.	Over-Excavation and Replacement	CY	50	\$ _____	\$ _____
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UNIT PRICE IN WORDS: _____

12.	Demobilization and Clean-up	LS	1	\$ _____	\$ _____
-----	-----------------------------	----	---	----------	----------

UNIT PRICE IN WORDS: _____

SECTION 00310
BID FORM

TOTAL BID AMOUNT FOR DETERMINATION OF LOWEST BID

TOTAL SUM OF LUMP SUM ITEMS
(ITEMS 1 - 12)

\$ _____
(Amount in Figures)

_____ Dollars and _____ Cents
(Amount in Words)

BID BOND

Any singular reference to Bidder, Surety, Owner or other party shall be considered plural where applicable.

BIDDER *(Name and Address)*:

SURETY *(Name and Address of Principal Place of Business)*:

OWNER *(Name and Address)*:

Town of Chaplin
495 Phoenixville Road
Chaplin, CT 06235

BID

Bid Due Date: August 10, 2015
Description *(Project Name and Include Location)*:
Darling Pond Dam Improvements Project, Town of Chaplin

BOND

Bond Number:
Date *(Not earlier than Bid due date)*:
Penal sum _____

(Words)

\$

_____ (Figures)

Surety and Bidder, intending to be legally bound hereby, subject to the terms set forth below, do each cause this Bid Bond to be duly executed by an authorized officer, agent, or representative.

BIDDER

SURETY

Bidder's Name and Corporate Seal

(Seal)

Surety's Name and Corporate Seal

(Seal)

By: _____
Signature

By: _____
Signature (Attach Power of Attorney)

Print Name

Print Name

Title

Title

Attest: _____
Signature

Attest: _____
Signature

Title

Title

Note: Above addresses are to be used for giving any required notice. Provide execution by any additional parties, such as joint venturers, if necessary.

PENAL SUM FORM

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 shall be Owner's sole and exclusive remedy upon default of Bidder.
2. Default of Bidder shall occur 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 shall 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 shall not in the aggregate exceed 120 days from Bid due date without Surety's written consent.
6. No suit or action shall 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 Bid due date.
7. Any suit or action under this Bond shall be commenced only in a court of competent jurisdiction located in the state in which the Project is located.
8. Notices required hereunder shall 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 Registered or Certified Mail, return receipt requested, postage pre-paid, and shall 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 shall 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 shall govern and the remainder of this Bond that is not in conflict therewith shall continue in full force and effect.
11. The term "Bid" as used herein includes a Bid, offer, or proposal as applicable.


WAGE RATES

1. WAGE RATES

- A. Minimum wage rates shall be in accordance with the Connecticut Department of Labor Laws.
- B. A copy of the current rates listed by the Connecticut Department of Labor is included in this Section. These rates are the most updated available as of the time the specifications were drafted. These rates may change without notice. It is the responsibility of all bidders to check and confirm that their rates meet current guidelines. Incorrect rates will result in disqualification of bid.

Opportunity * Guidance * Support

CONNECTICUT
DEPARTMENT
OF LABOR



Prevailing Wage Rates System

Annual Adjusted July 1st Rates

[DOL Web Site](#) [Wage and Workplace Issues](#) [Wage Rates](#) [Building Rates - Chaplin](#)

Building Rates - Chaplin (effective July 1, 2015)

Classification	Hourly Rate	Benefits
1a) Asbestos Worker/Insulator (Includes application of insulating materials, protective coverings, coatings, & finishes to all types of mechanical systems; application of firestopping material for wall openings & penetrations in walls, floors, ceilings)	\$35.75	28.82
1b) Asbestos/Toxic Waste Removal Laborers: Asbestos removal and encapsulation (except its removal from mechanical systems which are not to be scrapped), toxic waste removers, blasters.**See Laborers Group 7**		
1c) Asbestos Worker/Heat and Frost Insulator	\$37.15	27.56
2) Boilermaker	\$35.24	25.01
3a) Bricklayer, Cement Mason, Concrete Finisher (including caulking), Stone Masons	\$32.50	28.74 + a
3b) Tile Setter	\$33.75	24.21
3c) Terrazzo Mechanics and Marble Setters	\$31.69	22.35
3d) Tile, Marble & Terrazzo Finishers	\$26.26	20.69
3e) Plasterer	\$32.50	29.45
-----LABORERS-----		
4) Group 1: Laborers (common or general), acetylene burners, carpenter tenders, concrete specialists, wrecking laborers, fire watchers.	\$27.85	18.30
4a) Group 2: Mortar mixers, plaster tender, power buggy operators, powdermen, fireproofers/mixer/nozzleman (Person running mixer and spraying fireproof only).	\$28.10	18.30
4b) Group 3: Jackhammer operators/pavement breaker, mason tender (brick), mason tender (cement/concrete), forklift operators and forklift operators (masonry).	\$28.35	18.30
4c) **Group 4: Pipelayers (Installation of water, storm drainage or sewage lines outside of the building line with P6, P7 license) (the pipelayer rate shall apply only to one or two employees of the total crew who primary task is to actually perform the m	\$28.85	18.30
4d) Group 5: Air track operator, sand blaster and hydraulic drills.	\$28.60	18.30
4e) Group 6: Blasters, nuclear and toxic waste removal.	\$30.85	18.30
4f) Group 7: Asbestos/lead removal and encapsulation (except it's removal from mechanical systems which are not to be scrapped).	\$28.85	18.30
4g) Group 8: Bottom men on open air caisson, cylindrical work and boring crew.	\$28.38	18.30
4h) Group 9: Top men on open air caisson, cylindrical work and boring crew.	\$27.86	18.30
4i) Group 10: Traffic Control Signalman	\$16.00	18.30
5) Carpenter, Acoustical Ceiling Installation, Soft Floor/Carpet Laying, Metal Stud Installation, Form Work and Scaffold Building, Drywall Hanging, Modular-Furniture Systems Installers, Lathers, Piledrivers, Resilient Floor Layers.	\$31.45	23.54

5a) Millwrights	\$31.84	23.99
6) Electrical Worker (including low voltage wiring) (Trade License required: E1,2 L-5,6 C-5,6 T-1,2 L-1,2 V-1,2,7,8,9)	\$38.20	24.15 + 3% of gross wage
7a) Elevator Mechanic (Trade License required: R-1,2,5,6)	\$47.96	28.385+a+b
----LINE CONSTRUCTION----		
Groundman	\$24.37	6.5%+10.04
Linemen/Cable Splicer	\$44.30	6.5%+17.70
8) Glazier (Trade License required: FG-1,2)	\$34.58	18.55 + a
9) Ironworker, Ornamental, Reinforcing, Structural, and Precast Concrete Erection	\$34.47	31.09 + a
----OPERATORS----		
Group 1: Crane handling or erecting structural steel or stone, hoisting engineer 2 drums or over, front end loader (7 cubic yards or over); work boat 26 ft. and over. (Trade License Required)	\$37.55	23.05 + a
Group 2: Cranes (100 ton rate capacity and over); Excavator over 2 cubic yards; Piledriver (\$3.00 premium when operator controls hammer); Bauer Drill/Caisson. (Trade License Required)	\$37.23	23.05 + a
Group 3: Excavator; Backhoe/Excavator under 2 cubic yards; Cranes (under 100 ton rated capacity), Grader/Blade; Master Mechanic; Hoisting Engineer (all types of equipment where a drum and cable are used to hoist or drag material regardless of motive pow	\$36.49	23.05 + a
Group 4: Trenching Machines; Lighter Derrick; Concrete Finishing Machine; CMI Machine or Similar; Koehring Loader (Skooper).	\$36.10	23.05 + a
Group 5: Specialty Railroad Equipment; Asphalt Paver; Asphalt Reclaiming Machine; Line Grinder; Concrete Pumps; Drills with Self Contained Power Units; Boring Machine; Post Hole Digger; Auger; Pounder; Well Digger; Milling Machine (over 24" Mandrell)	\$35.51	23.05 + a
Group 5 continued: Side Boom; Combination Hoe and Loader; Directional Driller; Pile Testing Machine.	\$35.51	23.05 + a
Group 6: Front End Loader (3 up to 7 cubic yards); Bulldozer (rough grade dozer).	\$35.20	23.05 + a
Group 7: Asphalt roller, concrete saws and cutters (ride on types), vermeer concrete cutter, Stump Grinder; Scraper; Snooper; Skidder; Milling Machine (24" and under Mandrell).	\$34.86	23.05 + a
Group 8: Mechanic, grease truck operator, hydroblaster; barrier mover; power stone spreader; welding; work boat under 26 ft.; transfer machine.	\$34.46	23.05 + a
Group 9: Front end loader (under 3 cubic yards), skid steer loader regardless of attachments, (Bobcat or Similar): forklift, power chipper; landscape equipment (including Hydroseeder).	\$34.03	23.05 + a
Group 10: Vibratory hammer; ice machine; diesel and air, hammer, etc.	\$31.99	23.05 + a
Group 11: Conveyor, earth roller, power pavement breaker (whiphammer), robot demolition equipment.	\$31.99	23.05 + a
Group 12: Wellpoint operator.	\$31.93	23.05 + a
Group 13: Compressor battery operator.	\$31.35	23.05 + a
Group 14: Elevator operator; tow motor operator (solid tire no rough terrain).	\$30.21	23.05 + a
Group 15: Generator Operator; Compressor Operator; Pump Operator; Welding Machine Operator; Heater Operator.	\$29.80	23.05 + a
Group 16: Maintenance Engineer/Oiler.	\$29.15	23.05 + a
Group 17: Portable asphalt plant operator; portable crusher plant operator; portable concrete plant operator.	\$33.46	23.05 + a
Group 18: Power safety boat; vacuum truck; zim mixer; sweeper; (Minimum for any job requiring a CDL license).	\$31.04	23.05 + a
-----PAINTERS (Including Drywall Finishing)-----		

10a) Brush and Roller	\$31.02	18.55
10b) Taping Only/Drywall Finishing	\$31.77	18.55
10c) Paperhanger and Red Label	\$31.52	18.55
10e) Blast and Spray	\$34.02	18.55
11) Plumber (excluding HVAC pipe installation) (Trade License required: P-1,2,6,7,8,9 J-1,2,3,4 SP-1,2)	\$40.62	28.91
12) Well Digger, Pile Testing Machine	\$33.01	19.40 + a
13) Roofer (composition)	\$33.25	18.05
14) Roofer (slate & tile)	\$33.75	18.05
15) Sheetmetal Worker (Trade License required for HVAC and Ductwork: SM-1,SM-2,SM-3,SM-4,SM-5,SM-6)	\$35.74	33.22
16) Pipefitter (Including HVAC work) (Trade License required: S-1,2,3,4,5,6,7,8 B-1,2,3,4 D-1,2,3,4, G-1, G-2, G-8 & G-9)	\$40.62	28.91
-----TRUCK DRIVERS-----		
17a) 2 Axle	\$28.58	20.24 + a
17b) 3 Axle, 2 Axle Ready Mix	\$28.68	20.24 + a
17c) 3 Axle Ready Mix	\$28.73	20.24 + a
17d) 4 Axle, Heavy Duty Trailer up to 40 tons	\$28.78	20.24 + a
17e) 4 Axle Ready Mix	\$28.83	20.24 + a
17f) Heavy Duty Trailer (40 Tons and Over)	\$29.03	20.24 + a
17g) Specialized Earth Moving Equipment (Other Than Conventional Type on-the-Road Trucks and Semi-Trailers, Including Euclids)	\$28.83	20.24 + a
18) Sprinkler Fitter (Trade License required: F-1,2,3,4)	\$41.37	20.37 + a
19) Theatrical Stage Journeyman	\$25.76	7.34

Welders: Rate for craft to which welding is incidental.

*Note: Hazardous waste removal work receives additional \$1.25 per hour for truck drivers.

**Note: Hazardous waste premium \$3.00 per hour over classified rate.

ALL Cranes: When crane operator is operating equipment that requires a fully licensed crane operator to operate he receives an extra \$2.00 premium in addition to the hourly wage rate and benefit contributions:

- 1) Crane handling or erecting structural steel or stone; hoisting engineer (2 drums or over)
- 2) Cranes (100 ton rate capacity and over) Bauer Drill/Caisson
- 3) Cranes (under 100 ton rated capacity)

- Crane with boom including jib, 150 feet - \$1.50 extra.
- Crane with boom including jib, 200 feet - \$2.50 extra.
- Crane with boom including jib, 250 feet - \$5.00 extra.
- Crane with boom including jib, 300 feet - \$7.00 extra.
- Crane with boom including jib, 400 feet - \$10.00 extra.

~ ~ ~ All classifications that indicate a percentage of the fringe benefits must be calculated at the percentage rate times the "base hourly rate".

Apprentices duly registered under the Commissioner of Labor's regulations on "Work Training Standards for Apprenticeship and Training Programs" Section 31-51-d-1 to 12, are allowed to be paid the appropriate percentage of the prevailing

journeymen hourly base and the full fringe benefit rate, providing the work site ratio shall not be less than one full-time journeyman instructing and supervising the work of one apprentice in a specific trade.

~~Connecticut General Statute Section 31-55a: Annual Adjustments to wage rates by contractors doing state work~~

The Prevailing wage rates applicable to this project are subject to annual adjustments each July 1st for the duration of the project.

Each contractor shall pay the annual adjusted prevailing wage rate that is in effect each July 1st, as posted by the Department of Labor.

It is the contractor's responsibility to obtain the annual adjusted prevailing wage rate increases directly from the Department of Labor's website.

The annual adjustments will be posted on the Department of Labor's Web page: www.ctdol.state.ct.us.

The Department of Labor will continue to issue the initial prevailing wage rate schedule to the Contracting Agency for the project.

All subsequent annual adjustments will be posted on our Web Site for contractor access.

Effective October 1, 2005 - Public Act 05-50: any person performing the work of any mechanic, laborer, or worker shall be paid prevailing wage.

All Persons who perform work ON SITE must be paid prevailing wage for the appropriate mechanic, laborer, or worker classification.

All certified payrolls must list the hours worked and wages paid to All Persons who perform work ON SITE regardless of their ownership i.e.: (Owners, Corporate Officers, LLC Members, Independent Contractors, et. al)

Reporting and payment of wages is required regardless of any contractual relationship alleged to exist between the contractor and such person.

~~Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clause (29 CFR 5.5 (a) (1) (ii)).

Please direct any questions which you may have pertaining to classification of work and payment of prevailing wages to the Wage and Workplace Standards Division, telephone (860)263-6790.

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PART 2

CONTRACT FORMS

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

Prepared by

ENGINEERS JOINT CONTRACT DOCUMENTS COMMITTEE

and

Issued and Published Jointly by



AMERICAN COUNCIL OF ENGINEERING COMPANIES

ASSOCIATED GENERAL CONTRACTORS OF AMERICA

AMERICAN SOCIETY OF CIVIL ENGINEERS

PROFESSIONAL ENGINEERS IN PRIVATE PRACTICE
A Practice Division of the
NATIONAL SOCIETY OF PROFESSIONAL ENGINEERS

Endorsed by



CONSTRUCTION SPECIFICATIONS INSTITUTE

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

Contractor agree that as liquidated damages for delay (but not as a penalty), Contractor shall pay Owner \$1,500.00 for each day that expires after the time specified in Paragraph 4.02 above for Substantial Completion until the Work is substantially complete. After Substantial Completion, if Contractor shall neglect, refuse, or fail to complete the remaining Work within the Contract Time or any proper extension thereof granted by Owner, Contractor shall pay Owner \$2,500.00 for each day that expires after the time specified in Paragraph 4.02 above for completion and readiness for final payment until the Work is completed and ready for final payment.

ARTICLE 5 – CONTRACT PRICE

5.01 Owner shall pay Contractor for completion of the Work in accordance with the Contract Documents an amount in current funds equal to the sum of the amounts determined pursuant to Paragraphs 5.01.A, below:

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

The Bid prices for Unit Price Work set forth as of the Effective Date of the Agreement are based on the estimated quantities. As provided in Paragraph 11.03 of the General Conditions, estimated quantities are not guaranteed, and determinations of actual quantities and classifications are to be made by Engineer as provided in Paragraph 9.07 of the General Conditions.

ARTICLE 6 – PAYMENT PROCEDURES

6.01 *Submittal and Processing of Payments*

A. Contractor shall submit Applications for Payment in accordance with Article 14 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 account of the Contract Price on the basis of Contractor's Applications for Payment on or about the last day of each month during performance of the Work as provided in Paragraph 6.02.A.1 below. All such payments will be measured by the schedule of values established as provided in Paragraph 2.07.A of 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 in the General Requirements.

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 Engineer may determine or Owner may withhold, including but not limited to liquidated damages, in accordance with Paragraph 14.02 of the General Conditions.

a. 10 percent retainage will be withheld from each Progress Payment.

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 as Engineer shall determine in accordance with Paragraph 14.02.B.5 of the General Conditions.

6.03 *Final Payment*

- A. Upon final completion and acceptance of the Work in accordance with Paragraph 14.07 of the General Conditions, Owner shall pay the remainder of the Contract Price as recommended by Engineer as provided in said Paragraph 14.07.

ARTICLE 7 – INTEREST

- 7.01 All moneys not paid when due as provided in Article 14 of the General Conditions shall bear interest at the maximum legal rate.

ARTICLE 8 – CONTRACTOR’S REPRESENTATIONS

- 8.01 In order to induce Owner to enter into this Agreement, Contractor makes the following representations:
 - A. Contractor has examined and carefully studied the Contract Documents and the other related data identified in the Bidding Documents.
 - B. Contractor has visited the Site and become familiar with and is satisfied as to the general, local, and Site conditions that may affect cost, progress, and performance of the Work.
 - C. Contractor is familiar with and is satisfied as to all federal, state, and local Laws and Regulations that may affect cost, progress, and performance of the Work.
 - D. Contractor has obtained and carefully studied all: (1) reports of explorations and tests of subsurface conditions at or contiguous to the Site and all drawings of physical conditions relating to existing surface or subsurface structures at the Site (except Underground Facilities), if any, that have been identified in Paragraph SC-4.02 of the Supplementary Conditions as containing reliable "technical data," and (2) reports and drawings of Hazardous Environmental Conditions, if any, at the Site that have been identified in Paragraph SC-4.06 of the Supplementary Conditions as containing reliable "technical data."
 - E. Contractor has considered the information known to Contractor; 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 Site-related reports and drawings identified in the Contract 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 Contractor, including any specific means, methods, techniques, sequences, and procedures of construction expressly required by the Contract Documents; and (3) Contractor’s safety precautions and programs.

- F. Based on the information and observations referred to in Paragraph 8.01.E above, Contractor does not consider that 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 Documents.
- G. 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.
- H. Contractor has given Engineer written notice of all conflicts, errors, ambiguities, or discrepancies that Contractor has discovered in the Contract Documents, and the written resolution thereof by Engineer is acceptable to Contractor.
- I. The Contract Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performance and furnishing of the Work.

ARTICLE 9 – CONTRACT DOCUMENTS

9.01 *Contents*

- A. The Contract Documents consist of the following:
 - 1. This Agreement
 - 2. Performance bond (if required).
 - 3. Payment bond (if required).
 - 4. General Conditions.
 - 5. Supplementary Conditions.
 - 6. Specifications as listed in the table of contents of the Project Manual.
 - 7. Drawings bearing the following title: Darling Pond Dam Improvements Project, Town of Chaplin.
 - 8. Addenda (numbers 0 to 0, inclusive).
 - 9. Exhibits to this Agreement (enumerated as follows):
 - a. Contractor’s Bid.
 - b. Documentation submitted by Contractor prior to Notice of Award.
 - c. Contractor’s Qualification Statement.
 - d. Non-Collision Affidavit of Contractor.

10. The following which may be delivered or issued on or after the Effective Date of the Agreement and are not attached hereto:

- a. Notice to Proceed.
 - b. Work Change Directives.
 - c. Change Order(s).
- B. The documents listed in Paragraph 9.01.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 9.
- D. The Contract Documents may only be amended, modified, or supplemented as provided in Paragraph 3.04 of the General Conditions.

ARTICLE 10 – MISCELLANEOUS

10.01 *Terms*

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

10.02 *Assignment of Contract*

- A. No assignment by a party hereto of any rights under or interests in the Contract will be binding on another party hereto without the written consent of the party sought to be bound; and, specifically but without limitation, moneys that may become due and moneys that are 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 Documents.

10.03 *Successors and Assigns*

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

10.04 *Severability*

- A. Any provision or part of the Contract Documents held to be void or unenforceable under any Law or Regulation shall be deemed stricken, and all remaining provisions shall continue to be valid and binding upon Owner and Contractor, who agree that the Contract Documents shall 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.

10.05 *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 10.05:
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 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.

IN WITNESS WHEREOF, Owner and Contractor have signed this Agreement. Counterparts have been delivered to Owner and Contractor. All portions of the Contract Documents have been signed or have been identified by Owner and Contractor or on their behalf.

NOTE TO USER

See I-21 and correlate procedures for format and signing of the documents.

This Agreement will be effective on _____ 2015 (which is the Effective Date of the Agreement).

OWNER:

Town of Chaplin _____

By: _____

Title: _____

Attest: _____

Title: _____

Address for giving notices:

Town of Chaplin _____

495 Phoenixville Road _____

Chaplin, CT 06235 _____

(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.)

CONTRACTOR

By: _____

Title: _____

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

Attest: _____

Title: _____

Address for giving notices:

License No.: _____

(Where applicable)

Agent for service of process:

PERFORMANCE BOND

Any singular reference to Contractor, Surety, Owner, or other party shall be considered plural where applicable.

CONTRACTOR (*Name and Address*): SURETY (*Name, and Address of Principal Place of Business*):

OWNER (*Name and Address*):

Town of Chaplin
495 Phoenixville Road
Chaplin, CT 06235

CONTRACT

Effective Date of Agreement:

Amount:

Description (*Name and Location*): Darling Pond Dam Improvements Project, Chaplin, CT

BOND

Bond Number:

Date (*Not earlier than Effective Date of Agreement*):

Amount:

Modifications to this Bond Form:

Surety and Contractor, intending to be legally bound hereby, subject to the terms set forth below, do each cause this Performance Bond to be duly executed by an authorized officer, agent, or representative.

CONTRACTOR AS PRINCIPAL

SURETY

Contractor's Name and Corporate Seal (Seal)

Surety's Name and Corporate Seal (Seal)

By: _____
Signature

By: _____
Signature (Attach Power of Attorney)

Print Name

Print Name

Title

Title

Attest: _____
Signature

Attest: _____
Signature

Title

Title

Note: Provide execution by additional parties, such as joint venturers, if necessary.

Contractor and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors, and assigns to Owner for the performance of the Contract, which is incorporated herein by reference.

1. If Contractor performs the Contract, Surety and Contractor have no obligation under this Bond, except to participate in conferences as provided in Paragraph 2.1.
2. If there is no Owner Default, Surety's obligation under this Bond shall arise after:
 - 2.1 Owner has notified Contractor and Surety, at the addresses described in Paragraph 9 below, that Owner is considering declaring a Contractor Default and has requested and attempted to arrange a conference with Contractor and Surety to be held not later than 15 days after receipt of such notice to discuss methods of performing the Contract. If Owner, Contractor, and Surety agree, Contractor shall be allowed a reasonable time to perform the Contract, but such an agreement shall not waive Owner's right, if any, subsequently to declare a Contractor Default; and
 - 2.2 Owner has declared a Contractor Default and formally terminated Contractor's right to complete the Contract. Such Contractor Default shall not be declared earlier than 20 days after Contractor and Surety have received notice as provided in Paragraph 2.1; and
 - 2.3 Owner has agreed to pay the Balance of the Contract Price to:
 1. Surety in accordance with the terms of the Contract; or
 2. Another contractor selected pursuant to Paragraph 3.3 to perform the Contract.
3. When Owner has satisfied the conditions of Paragraph 2, Surety shall promptly, and at Surety's expense, take one of the following actions:
 - 3.1 Arrange for Contractor, with consent of Owner, to perform and complete the Contract; or
 - 3.2 Undertake to perform and complete the Contract itself, through its agents or through independent contractors; or
 - 3.3 Obtain bids or negotiated proposals from qualified contractors acceptable to Owner for a contract for performance and completion of the Contract, arrange for a contract to be prepared for execution by Owner and contractor selected with Owner's concurrence, to be secured with performance and payment bonds executed by a qualified surety equivalent to the bonds issued on the Contract, and pay to Owner the amount of damages as described in Paragraph 5 in excess of the Balance of the Contract Price incurred by Owner resulting from Contractor Default; or
 - 3.4 Waive its right to perform and complete, arrange for completion, or obtain a new contractor, and with reasonable promptness under the circumstances:
 1. After investigation, determine the amount for which it may be liable to Owner and, as soon as practicable after the amount is determined, tender payment therefor to Owner; or
 2. Deny liability in whole or in part and notify Owner citing reasons therefor.
4. If Surety does not proceed as provided in Paragraph 3 with reasonable promptness, Surety shall be deemed to be in default on this Bond 15 days after receipt of an additional written notice from Owner to Surety demanding that Surety perform its obligations under this Bond, and Owner shall be entitled to enforce any remedy available to Owner. If Surety proceeds as provided in Paragraph 3.4, and Owner refuses the payment tendered or Surety has denied liability, in whole or in part, without further notice Owner shall be entitled to enforce any remedy available to Owner.
5. After Owner has terminated Contractor's right to complete the Contract, and if Surety elects to act under Paragraph 3.1, 3.2, or 3.3 above, then the responsibilities of Surety to Owner shall not be greater than those of Contractor under the Contract, and the responsibilities of Owner to Surety shall not be greater than those of Owner under the Contract. To the limit of the amount of this Bond, but subject to commitment by Owner of the Balance of the Contract Price to mitigation of costs and damages on the Contract, Surety is obligated without duplication for:

- 5.1 The responsibilities of Contractor for correction of defective Work and completion of the Contract;
- 5.2 Additional legal, design professional, and delay costs resulting from Contractor's Default, and resulting from the actions of or failure to act of Surety under Paragraph 3; and
- 5.3 Liquidated damages, or if no liquidated damages are specified in the Contract, actual damages caused by delayed performance or non-performance of Contractor.

6. Surety shall not be liable to Owner or others for obligations of Contractor that are unrelated to the Contract, and the Balance of the Contract Price shall not be reduced or set off on account of any such unrelated obligations. No right of action shall accrue on this Bond to any person or entity other than Owner or its heirs, executors, administrators, or successors.

7. Surety hereby waives notice of any change, including changes of time, to Contract or to related subcontracts, purchase orders, and other obligations.

8. Any proceeding, legal or equitable, under this Bond may be instituted in any court of competent jurisdiction in the location in which the Work or part of the Work is located, and shall be instituted within two years after Contractor Default or within two years after Contractor ceased working or within two years after 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 period of limitation available to sureties as a defense in the jurisdiction of the suit shall be applicable.

9. Notice to Surety, Owner, or Contractor shall be mailed or delivered to the address shown on the signature page.

10. When this Bond has been furnished to comply with a statutory requirement in the location where the Contract was to be performed, any provision in this Bond conflicting with said statutory requirement shall be deemed deleted herefrom and provisions conforming to such statutory requirement shall be deemed incorporated herein. The intent is that this Bond shall be construed as a statutory bond and not as a common law bond.

11. Definitions.

- 11.1 Balance of the Contract Price: The total amount payable by Owner to Contractor under the Contract after all proper adjustments have been made, including allowance to Contractor of any amounts received or to be received by Owner in settlement of insurance or other Claims for damages to which Contractor is entitled, reduced by all valid and proper payments made to or on behalf of Contractor under the Contract.
- 11.2 Contract: The agreement between Owner and Contractor identified on the signature page, including all Contract Documents and changes thereto.
- 11.3 Contractor Default: Failure of Contractor, which has neither been remedied nor waived, to perform or otherwise to comply with the terms of the Contract.
- 11.4 Owner Default: Failure of Owner, which has neither been remedied nor waived, to pay Contractor as required by the Contract or to perform and complete or otherwise comply with the other terms thereof.

FOR INFORMATION ONLY – *(Name, Address and Telephone)*

Surety Agency or Broker:

Owner's Representative *(Engineer or other party)*:

PAYMENT BOND

Any singular reference to Contractor, Surety, Owner, or other party shall be considered plural where applicable.

CONTRACTOR (*Name and Address*):

SURETY (*Name, and Address of Principal Place of Business*):

OWNER (*Name and Address*):

Town of Chaplin
495 Phoenixville Road
Chaplin, CT 06235

CONTRACT

Effective Date of Agreement:

Amount:

Description (*Name and Location*): Darling Pond Dam Improvements Project, Chaplin, CT

BOND

Bond Number:

Date (*Not earlier than Effective Date of Agreement*):

Amount:

Modifications to this Bond Form:

Surety and Contractor, intending to be legally bound hereby, subject to the terms set forth below, do each cause this Payment Bond to be duly executed by an authorized officer, agent, or representative.

CONTRACTOR AS PRINCIPAL

SURETY

Contractor's Name and Corporate Seal (Seal)

Surety's Name and Corporate Seal (Seal)

By: _____
Signature

By: _____
Signature (Attach Power of Attorney)

Print Name

Print Name

Title

Title

Attest: _____
Signature

Attest: _____
Signature

Title

Title

Note: Provide execution by additional parties, such as joint venturers, if necessary.

1. Contractor and Surety, jointly and severally, bind themselves, their heirs, executors, administrators,

- successors, and assigns to Owner to pay for labor, materials, and equipment furnished by Claimants for use in the performance of the Contract, which is incorporated herein by reference.
2. With respect to Owner, this obligation shall be null and void if Contractor:
 - 2.1 Promptly makes payment, directly or indirectly, for all sums due Claimants, and
 - 2.2 Defends, indemnifies, and holds harmless Owner from all claims, demands, liens, or suits alleging non-payment by Contractor by any person or entity who furnished labor, materials, or equipment for use in the performance of the Contract, provided Owner has promptly notified Contractor and Surety (at the addresses described in Paragraph 12) of any claims, demands, liens, or suits and tendered defense of such claims, demands, liens, or suits to Contractor and Surety, and provided there is no Owner Default.
 3. With respect to Claimants, this obligation shall be null and void if Contractor promptly makes payment, directly or indirectly, for all sums due.
 4. Surety shall have no obligation to Claimants under this Bond until:
 - 4.1 Claimants who are employed by or have a direct contract with Contractor have given notice to Surety (at the address described in Paragraph 12) and sent a copy, or notice thereof, to Owner, stating that a claim is being made under this Bond and, with substantial accuracy, the amount of the claim.
 - 4.2 Claimants who do not have a direct contract with Contractor:
 1. Have furnished written notice to Contractor and sent a copy, or notice thereof, to Owner, within 90 days after having last performed labor or last furnished materials or equipment included in the claim stating, with substantial accuracy, the amount of the claim and the name of the party to whom the materials or equipment were furnished or supplied, or for whom the labor was done or performed; and
 2. Have either received a rejection in whole or in part from Contractor, or not received within 30 days of furnishing the above notice any communication from Contractor by which Contractor had indicated the claim will be paid directly or indirectly; and
 3. Not having been paid within the above 30 days, have sent a written notice to Surety (at the address described in Paragraph 12) and sent a copy, or notice thereof, to Owner, stating that a claim is being made under this Bond and enclosing a copy of the previous written notice furnished to Contractor.
 5. If a notice by a Claimant required by Paragraph 4 is provided by Owner to Contractor or to Surety, that is sufficient compliance.
 6. When a Claimant has satisfied the conditions of Paragraph 4, the Surety shall promptly and at Surety's expense take the following actions:
 - 6.1 Send an answer to that Claimant, with a copy to Owner, within 45 days after receipt of the claim, stating the amounts that are undisputed and the basis for challenging any amounts that are disputed.
 - 6.2 Pay or arrange for payment of any undisputed amounts.
 7. Surety's total obligation shall not exceed the amount of this Bond, and the amount of this Bond shall be credited for any payments made in good faith by Surety.
 8. Amounts owed by Owner to Contractor under the Contract shall be used for the performance of the Contract and to satisfy claims, if any, under any performance bond. By Contractor furnishing and Owner accepting this Bond, they agree that all funds earned by Contractor in the performance of the Contract are dedicated to satisfy obligations of Contractor and Surety under this Bond, subject to Owner's priority to use the funds for the completion of the Work.

9. Surety shall not be liable to Owner, Claimants, or others for obligations of Contractor that are unrelated to the Contract. Owner shall not be liable for payment of any costs or expenses of any Claimant under this Bond, and shall have under this Bond no obligations to make payments to, give notices on behalf of, or otherwise have obligations to Claimants under this Bond.

10. Surety hereby waives notice of any change, including changes of time, to the Contract or to related subcontracts, purchase orders, and other obligations.

11. No suit or action shall be commenced by a Claimant under this Bond other than in a court of competent jurisdiction in the location in which the Work or part of the Work is located or after the expiration of one year from the date (1) on which the Claimant gave the notice required by Paragraph 4.1 or Paragraph 4.2.3, 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 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 shall be applicable.

12. Notice to Surety, Owner, or Contractor shall be mailed or delivered to the addresses shown on the signature page. Actual receipt of notice by Surety, Owner, or Contractor, however accomplished, shall be sufficient compliance as of the date received at the address shown on the signature page.

13. When this Bond has been furnished to comply with a statutory requirement in the location where the Contract was to be performed, any provision in this Bond conflicting with said statutory requirement shall be deemed deleted herefrom and provisions conforming to such statutory requirement shall be deemed incorporated herein. The intent is that this Bond shall be construed as a statutory Bond and not as a common law bond.

14. Upon request of any person or entity appearing to be a potential beneficiary of this Bond, Contractor shall promptly furnish a copy of this Bond or shall permit a copy to be made.

15. Definitions

15.1 Claimant: An individual or entity having a direct contract with Contractor, or with a first-tier subcontractor of Contractor, to furnish labor, materials, or equipment for use in the performance of the Contract. The intent of this Bond shall be to include without limitation in the terms “labor, materials or equipment” that part of water, gas, power, light, heat, oil, gasoline, telephone service, or rental equipment used in the Contract, architectural and engineering services required for performance of the Work of Contractor and 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.

15.2 Contract: The agreement between Owner and Contractor identified on the signature page, including all Contract Documents and changes thereto.

15.3 Owner Default: Failure of Owner, which has neither been remedied nor waived, to pay Contractor as required by the Contract, or to perform and complete or otherwise comply with the other terms thereof.

FOR INFORMATION ONLY – *(Name, Address, and Telephone)*

Surety Agency or Broker:

Owner’s Representative *(Engineer or other)*:

Notice of Award

Date: _____

Project:	
Owner:	Owner's Contract No.:
Contract:	Engineer's Project No.:
Bidder:	
Bidder's Address: <i>[send Notice of Award Certified Mail, Return Receipt Requested]</i>	

You are notified that your Bid dated _____ for the above Contract has been considered. You are the Successful Bidder and are awarded a Contract for _____

[Indicate total Work, alternates, or sections of Work awarded.]

The Contract Price of your Contract is _____ Dollars (\$_____).

[Insert appropriate data if unit prices are used. Change language for cost-plus contracts.]

_____ copies of the proposed Contract Documents (except Drawings) accompany this Notice of Award.

_____ sets of the Drawings will be delivered separately or otherwise made available to you immediately.

You must comply with the following conditions precedent within [15] days of the date you receive this Notice of Award.

1. Deliver to the Owner [_____] fully executed counterparts of the Contract Documents.
2. Deliver with the executed Contract Documents the Contract security [Bonds] as specified in the Instructions to Bidders (Article 20), General Conditions (Paragraph 5.01), and Supplementary Conditions (Paragraph SC-5.01).
3. Other conditions precedent:

Failure to comply with these conditions within the time specified will entitle Owner to consider you in default, annul this Notice of Award, and declare your Bid security forfeited.

Within ten days after you comply with the above conditions, Owner will return to you one fully executed counterpart of the Contract Documents.

Owner
By: _____
Authorized Signature

Title

Copy to Engineer

Notice to Proceed

Date: _____

Project: Darling Pond Dam Improvements

Owner: Town of Chaplin

Owner's Contract No.:

Contract: Darling Pond Dam Improvements

Engineer's Project No.: 13105.00

Contractor:

Contractor's Address: [send Certified Mail, Return Receipt Requested]

You are notified that the City of Providence, Dept. of Parks and Recreation has authorized that ordering of materials for the above Contract may commence. In accordance with Article 4 of the Agreement, the date of Substantial Completion is _____, and the date of readiness for final payment is _____.

Before you may start any Work at the Site, Paragraph 2.01.B of the General Conditions provides that you and Owner must each deliver to the other (with copies to Engineer and other identified additional insureds and loss payees) certificates of insurance which each is required to purchase and maintain in accordance with the Contract Documents.

Also, before you may start any Work at the Site, you must:

1. Notify the City, seventy-two (72) hours prior to starting work.
2. Attend a pre-construction conference.
3. Supply the Owner with a project schedule and schedule of values.

	Town of Chaplin
	Owner
	Given by: _____
	Authorized Signature

	Title

	Date

Copy to Engineer

Contractor's Application for Payment No.

	Application Period:	Application Date:
To (Owner): <p style="text-align: center;">Town of Chaplin</p>	From (Contractor):	Via (Engineer):
Project: <p style="text-align: center;">Darling Pond Dam Improvements Project</p>	Contract:	
Owner's Contract No.:	Contractor's Project No.:	Engineer's Project No.:

Application For Payment Change Order Summary

Approved Change Orders			
Number	Additions	Deductions	
			1. ORIGINAL CONTRACT PRICE \$ _____
			2. Net change by Change Orders \$ _____
			3. Current Contract Price (Line 1 ± 2) \$ _____
			4. TOTAL COMPLETED AND STORED TO DATE
			(Column F on Progress Estimate)..... \$ _____
			5. RETAINAGE:
			a. X Work Completed..... \$ _____
			b. X Stored Material..... \$ _____
			c. Total Retainage (Line 5a + Line 5b)..... \$ _____
			6. AMOUNT ELIGIBLE TO DATE (Line 4 - Line 5c) \$ _____
			7. LESS PREVIOUS PAYMENTS (Line 6 from prior Application) \$ _____
			8. AMOUNT DUE THIS APPLICATION \$ _____
			9. BALANCE TO FINISH, PLUS RETAINAGE
			(Column G on Progress Estimate + Line 5 above)..... \$ _____
TOTALS			
NET CHANGE BY CHANGE ORDERS			

Contractor's Certification	
<p>The undersigned Contractor certifies that to the best of its knowledge: (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 Work covered by prior Applications for Payment; (2) title of 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 Work covered by this Application for Payment is in accordance with the Contract Documents and is not defective.</p>	
By:	Date:

Payment of: \$ _____
(Line 8 or other - attach explanation of the other amount)

is recommended by: _____ (Engineer) _____ (Date)

Payment of: \$ _____
(Line 8 or other - attach explanation of the other amount)

is approved by: _____ (Owner) _____ (Date)

Approved by: _____ (Date)
Funding Agency (if applicable)

Endorsed by the Construction Specifications Institute.

Progress Estimate

Contractor's Application

For (contract): Darling Pond Dam Improvements Project				Application Number:				
Application Period:				Application Date:				
A		B	Work Completed		E	F		G
Item		Scheduled Value	C	D	Materials Presently Stored (not in C or D)	Total Completed and Stored to Date (C + D + E)	% (E) B	Balance to Finish (B - F)
Specification Section No.	Description		From Previous Application (C+D)	This Period				
Totals								

Progress Estimate

Contractor's Application

For (contract): Darling Pond Dam Improvements Project							Application Number:			
Application Period:							Application Date:			
A				B	C	D	E	F		
Item		Bid Quantity	Unit Price	Bid Value	Estimated Quantity Installed	Value	Materials Presently Stored (not in C)	Total Completed and Stored to Date (D + E)	% (F) B	Balance to Finish (B - F)
Bid Item No.	Description									
Totals										

Change Order

No. _____

Date of Issuance: _____ Effective Date: _____

Project: Darling Pond Dam Improvements Project	Owner: Town of Chaplin	Owner's Contract No.:
Contract: Darling Pond Dam Improvements Project		Date of Contract:
Contractor:		Engineer's Project No.: 13105.00

The Contract Documents are modified as follows upon execution of this Change Order:

Description:

Attachments (list documents supporting change):

CHANGE IN CONTRACT PRICE:

CHANGE IN CONTRACT TIMES:

Original Contract Price:

Original Contract Times: Working Calendar days

\$ _____

Substantial completion (days or date): _____

Ready for final payment (days or date): _____

[Increase] [Decrease] from previously approved Change Orders No. _____ to No. _____:

[Increase] [Decrease] from previously approved Change Orders No. _____ to No. _____:

\$ _____

Substantial completion (days): _____

Ready for final payment (days): _____

Contract Price prior to this Change Order:

Contract Times prior to this Change Order:

\$ _____

Substantial completion (days or date): _____

Ready for final payment (days or date): _____

[Increase] [Decrease] of this Change Order:

[Increase] [Decrease] of this Change Order:

\$ _____

Substantial completion (days or date): _____

Ready for final payment (days or date): _____

Contract Price incorporating this Change

Contract Times with all approved Change Orders:

\$ _____

Substantial completion (days or date): _____

Ready for final payment (days or date): _____

RECOMMENDED:

ACCEPTED:

ACCEPTED:

By: _____
Engineer (Authorized Signature)

By: _____
Owner (Authorized Signature)

By: _____
Contractor (Authorized Signature)

Date: _____

Date: _____

Date: _____

Approved by Funding Agency (if applicable):

Date: _____

Change Order

Instructions

A. GENERAL INFORMATION

This document was developed to provide a uniform format for handling contract changes that affect Contract Price or Contract Times. Changes that have been initiated by a Work Change Directive must be incorporated into a subsequent Change Order if they affect Price or Times.

Changes that affect Contract Price or Contract Times should be promptly covered by a Change Order. The practice of accumulating Change Orders to reduce the administrative burden may lead to unnecessary disputes.

If Milestones have been listed in the Agreement, any effect of a Change Order thereon should be addressed.

For supplemental instructions and minor changes not involving a change in the Contract Price or Contract Times, a Field Order should be used.

B. COMPLETING THE CHANGE ORDER FORM

Engineer normally initiates the form, including a description of the changes involved and attachments based upon documents and proposals submitted by Contractor, or requests from Owner, or both.

Once Engineer has completed and signed the form, all copies should be sent to Owner or Contractor for approval, depending on whether the Change Order is a true order to the Contractor or the formalization of a negotiated agreement for a previously performed change. After approval by one contracting party, all copies should be sent to the other party for approval. Engineer should make distribution of executed copies after approval by both parties.

If a change only applies to price or to times, cross out the part of the tabulation that does not apply.

Certificate of Substantial Completion

Project: Darling Pond Dam Improvements Project	
Owner: Town of Chaplin	Owner's Contract No.:
Contract:	Engineer's Project No.: 13105.00

This [tentative] [definitive] Certificate of Substantial Completion applies to:

- All Work under the Contract Documents: The following specified portions of the Work:

Date of Substantial Completion

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 Project or portion thereof designated above is hereby declared and is also the date of commencement of applicable warranties required by the Contract Documents, except as stated below.

A [tentative] [definitive] list of items to be completed or corrected is attached hereto. 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.

The responsibilities between Owner and Contractor for security, operation, safety, maintenance, heat, utilities, insurance and warranties shall be as provided in the Contract Documents except as amended as follows:

- Amended Responsibilities Not Amended

Owner's Amended Responsibilities:

Contractor's Amended Responsibilities:

The following documents are attached to and made 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.

Executed by Engineer _____ Date _____

Accepted by Contractor _____ Date _____

Accepted by Owner _____ Date _____

PART 3

CONDITIONS OF THE CONTRACT

STANDARD GENERAL CONDITIONS OF THE CONSTRUCTION CONTRACT

Prepared by

ENGINEERS JOINT CONTRACT DOCUMENTS COMMITTEE

and

Issued and Published Jointly by



AMERICAN COUNCIL OF ENGINEERING COMPANIES

ASSOCIATED GENERAL CONTRACTORS OF AMERICA

AMERICAN SOCIETY OF CIVIL ENGINEERS

PROFESSIONAL ENGINEERS IN PRIVATE PRACTICE
A Practice Division of the
NATIONAL SOCIETY OF PROFESSIONAL ENGINEERS

Endorsed by



CONSTRUCTION SPECIFICATIONS INSTITUTE

**STANDARD GENERAL CONDITIONS OF THE
CONSTRUCTION CONTRACT**

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ARTICLE 1 – DEFINITIONS AND TERMINOLOGY

1.01 *Defined Terms*

- A. Wherever used in the Bidding Requirements or Contract Documents and printed with initial capital letters, the terms listed below will have the meanings indicated which are applicable to both the singular and plural thereof. 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 which is evidence of the agreement between Owner and Contractor covering the Work.
 3. *Application for Payment*—The form acceptable to Engineer which is to be used by Contractor during the course of the Work in requesting progress or final payments and which is to be accompanied by such supporting documentation as is required by the Contract Documents.
 4. *Asbestos*—Any material that contains more than one percent asbestos and is friable or is releasing asbestos fibers into the air above current action levels established by the United States Occupational Safety and Health Administration.
 5. *Bid*—The offer or proposal of a Bidder submitted on the prescribed form setting forth the prices for the Work to be performed.
 6. *Bidder*—The individual or entity who submits a Bid directly to Owner.
 7. *Bidding Documents*—The Bidding Requirements and the proposed Contract Documents (including all Addenda).
 8. *Bidding Requirements*—The advertisement or invitation to bid, Instructions to Bidders, Bid security of acceptable form, if any, and the Bid Form with any supplements.
 9. *Change Order*—A document recommended by Engineer 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, issued on or after the Effective Date of the Agreement.
 10. *Claim*—A demand or assertion by Owner or Contractor seeking an adjustment of Contract Price or Contract Times, or both, or other relief with respect to the terms of the Contract. A demand for money or services by a third party is not a Claim.
 11. *Contract*—The entire and integrated written agreement between the Owner and Contractor concerning the Work. The Contract supersedes prior negotiations, representations, or agreements, whether written or oral.

12. *Contract Documents*—Those items so designated in the Agreement. Only printed or hard copies of the items listed in the Agreement are Contract Documents. Approved Shop Drawings, other Contractor’s submittals, and the reports and drawings of subsurface and physical conditions are not Contract Documents.
13. *Contract Price*—The moneys payable by Owner to Contractor for completion of the Work in accordance with the Contract Documents as stated in the Agreement (subject to the provisions of Paragraph 11.03 in the case of Unit Price Work).
14. *Contract Times*—The number of days or the dates stated in the Agreement to: (i) achieve Milestones, if any; (ii) achieve Substantial Completion; and (iii) complete the Work so that it is ready for final payment as evidenced by Engineer’s written recommendation of final payment.
15. *Contractor*—The individual or entity with whom Owner has entered into the Agreement.
16. *Cost of the Work*—See Paragraph 11.01 for definition.
17. *Drawings*—That part of the Contract Documents prepared or approved by Engineer which graphically shows the scope, extent, and character of the Work to be performed by Contractor. Shop Drawings and other Contractor’s submittals are not Drawings as so defined.
18. *Effective Date of the Agreement*—The date indicated in the Agreement on which it becomes effective, but if no such date is indicated, it means the date on which the Agreement is signed and delivered by the last of the two parties to sign and deliver.
19. *Engineer*—The individual or entity named as such in the Agreement.
20. *Field Order*—A written order issued by Engineer which requires minor changes in the Work but which does not involve a change in the Contract Price or the Contract Times.
21. *General Requirements*—Sections of Division 1 of the Specifications. The General Requirements pertain to all sections of the Specifications.
22. *Hazardous Environmental Condition*—The presence at the Site of Asbestos, PCBs, Petroleum, Hazardous Waste, or Radioactive Material in such quantities or circumstances that may present a substantial danger to persons or property exposed thereto.
23. *Hazardous Waste*—The term Hazardous Waste shall have the meaning provided in Section 1004 of the Solid Waste Disposal Act (42 USC Section 6903) as amended from time to time.
24. *Laws and Regulations; Laws or Regulations*—Any and all applicable laws, rules, regulations, ordinances, codes, and orders of any and all governmental bodies, agencies, authorities, and courts having jurisdiction.
25. *Liens*—Charges, security interests, or encumbrances upon Project funds, real property, or personal property.

26. *Milestone*—A principal event specified in the Contract Documents relating to an intermediate completion date or time prior to Substantial Completion of all the Work.
27. *Notice of Award*—The written notice by Owner to the Successful Bidder stating that upon timely compliance by the Successful Bidder with the conditions precedent listed therein, Owner will sign and deliver the Agreement.
28. *Notice to Proceed*—A written notice given 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 under the Contract Documents.
29. *Owner*—The individual or entity with whom Contractor has entered into the Agreement and for whom the Work is to be performed.
30. *PCBs*—Polychlorinated biphenyls.
31. *Petroleum*—Petroleum, including crude oil or any fraction thereof which is liquid at standard conditions of temperature and pressure (60 degrees Fahrenheit and 14.7 pounds per square inch absolute), such as oil, petroleum, fuel oil, oil sludge, oil refuse, gasoline, kerosene, and oil mixed with other non-Hazardous Waste and crude oils.
32. *Progress Schedule*—A schedule, prepared and maintained by Contractor, describing the sequence and duration of the activities comprising the Contractor's plan to accomplish the Work within the Contract Times.
33. *Project*—The total construction of which the Work to be performed under the Contract Documents may be the whole, or a part.
34. *Project Manual*—The bound documentary information prepared for bidding and constructing the Work. A listing of the contents of the Project Manual, which may be bound in one or more volumes, is contained in the table(s) of contents.
35. *Radioactive Material*—Source, special nuclear, or byproduct material as defined by the Atomic Energy Act of 1954 (42 USC Section 2011 et seq.) as amended from time to time.
36. *Resident Project Representative*—The authorized representative of Engineer who may be assigned to the Site or any part thereof.
37. *Samples*—Physical examples of materials, equipment, or workmanship that are representative of some portion of the Work and which establish the standards by which such portion of the Work will be judged.
38. *Schedule of Submittals*—A schedule, prepared and maintained by Contractor, of required submittals and the time requirements to support scheduled performance of related construction activities.
39. *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.

40. *Shop Drawings*—All drawings, diagrams, illustrations, schedules, and other data or information which are specifically prepared or assembled by or for Contractor and submitted by Contractor to illustrate some portion of the Work.
41. *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 for access thereto, and such other lands furnished by Owner which are designated for the use of Contractor.
42. *Specifications*—That part of the Contract Documents consisting of written requirements for materials, equipment, systems, standards and workmanship as applied to the Work, and certain administrative requirements and procedural matters applicable thereto.
43. *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 at the Site.
44. *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 thereof.
45. *Successful Bidder*—The Bidder submitting a responsive Bid to whom Owner makes an award.
46. *Supplementary Conditions*—That part of the Contract Documents which amends or supplements these General Conditions.
47. *Supplier*—A manufacturer, fabricator, supplier, distributor, materialman, 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 Subcontractor.
48. *Underground Facilities*—All underground pipelines, conduits, ducts, cables, wires, manholes, vaults, tanks, tunnels, or other such facilities or attachments, and any encasements containing such facilities, including those that convey electricity, gases, steam, liquid petroleum products, telephone or other communications, cable television, water, wastewater, storm water, other liquids or chemicals, or traffic or other control systems.
49. *Unit Price Work*—Work to be paid for on the basis of unit prices.
50. *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, and furnishing, installing, and incorporating all materials and equipment into such construction, all as required by the Contract Documents.
51. *Work Change Directive*—A written statement to Contractor issued on or after the Effective Date of the Agreement and signed by Owner and recommended by Engineer ordering an

addition, deletion, or revision in the Work, or responding to differing or unforeseen subsurface or physical conditions under which the Work is to be performed or to emergencies. A Work Change Directive will not change the Contract Price or the Contract Times but is evidence that the parties expect that the change ordered or documented by a Work Change Directive will be incorporated in a subsequently issued Change Order following negotiations by the parties as to its effect, if any, on the Contract Price or Contract Times.

1.02 *Terminology*

A. The words and terms discussed in Paragraph 1.02.B through F are not defined but, when used in the Bidding Requirements or Contract Documents, have the indicated meaning.

B. *Intent of Certain Terms or Adjectives:*

1. 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 Paragraph 9.09 or any other provision of the Contract Documents.

C. *Day:*

1. The word “day” means a calendar day of 24 hours measured from midnight to the next midnight.

D. *Defective:*

1. The word “defective,” when modifying the word “Work,” refers to Work that is unsatisfactory, faulty, or deficient in that it:
 - a. does not conform to the Contract Documents; or
 - b. does not meet the requirements of any applicable inspection, reference standard, test, or approval referred to in the Contract Documents; or
 - c. 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 14.04 or 14.05).

E. *Furnish, Install, Perform, Provide:*

1. The word “furnish,” when used in connection with services, materials, or equipment, shall mean 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, shall mean 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, shall mean to furnish and install said services, materials, or equipment complete and ready for intended use.
 4. When “furnish,” “install,” “perform,” or “provide” is not used in connection with services, materials, or equipment in a context clearly requiring an obligation of Contractor, “provide” is implied.
- F. 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 Bonds and Evidence of Insurance

- A. When Contractor delivers the executed counterparts of the Agreement to Owner, Contractor shall also deliver to Owner such bonds as Contractor may be required to furnish.
- B. *Evidence of Insurance:* Before any Work at the Site is started, Contractor and Owner shall each deliver to the other, with copies to each additional insured identified in the Supplementary Conditions, certificates of insurance (and other evidence of insurance which either of them or any additional insured may reasonably request) which Contractor and Owner respectively are required to purchase and maintain in accordance with Article 5.

2.02 Copies of Documents

- A. Owner shall furnish to Contractor up to ten printed or hard copies of the Drawings and Project Manual. Additional copies will be furnished upon request at the cost of reproduction.

2.03 Commencement of Contract Times; Notice to Proceed

- A. The Contract Times will commence to run on the thirtieth day after the Effective Date of the Agreement 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 Agreement. In no event will the Contract Times commence to run later than the sixtieth day after the day of Bid opening or the thirtieth day after the Effective Date of the Agreement, whichever date is earlier.

2.04 *Starting the Work*

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

2.05 *Before Starting Construction*

- A. *Preliminary Schedules:* Within 10 days after the Effective Date of the Agreement (unless otherwise specified in the General Requirements), 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 Documents;
 - 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.

2.06 *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 2.05.A, procedures for handling Shop Drawings and other submittals, processing Applications for Payment, 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 instructions, receive information, render decisions relative to the Contract, and otherwise act on behalf of each respective party.

2.07 *Initial 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 for acceptability to Engineer as provided below the schedules submitted in accordance with Paragraph 2.05.A. Contractor shall have an additional 10 days to make corrections and adjustments and to complete and resubmit the schedules. No progress payment shall 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 component parts of the Work.

ARTICLE 3 – CONTRACT DOCUMENTS: INTENT, AMENDING, REUSE

3.01 *Intent*

- A. The Contract Documents are complementary; what is required by one 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. Any labor, documentation, services, materials, or equipment that reasonably may be inferred from the Contract Documents or from prevailing custom or trade usage as being required to produce the indicated result will be provided whether or not specifically called for, at no additional cost to Owner.
- C. Clarifications and interpretations of the Contract Documents shall be issued by Engineer as provided in Article 9.

3.02 *Reference Standards*

- A. Standards, Specifications, Codes, Laws, and Regulations
 1. Reference to standards, specifications, manuals, or codes of any technical society, organization, or association, or to Laws or Regulations, whether such reference be specific or by implication, shall mean the standard, specification, manual, code, or Laws or Regulations in effect at the time of opening of Bids (or on the Effective Date of the Agreement 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, or code, or any instruction of a Supplier, shall be effective to change the duties or responsibilities of Owner, Contractor, or Engineer, or any of their subcontractors, consultants, agents, or employees, from those set forth in the Contract Documents. No such provision or instruction shall be effective to assign to Owner, Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors, 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 Contract Documents.

3.03 *Reporting and Resolving Discrepancies*

- A. *Reporting Discrepancies:*

1. *Contractor's Review of Contract Documents Before Starting Work:* Before undertaking each part of the Work, Contractor shall carefully study and compare the Contract Documents and check and verify pertinent figures therein and all applicable field measurements. Contractor shall promptly report in writing to Engineer any conflict, error, ambiguity, or discrepancy which Contractor discovers, or has actual knowledge of, and shall obtain a written interpretation or clarification from Engineer before proceeding with any Work affected thereby.
2. *Contractor's Review of Contract Documents During Performance of Work:* If, 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) any standard, specification, manual, or code, or (c) 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 6.16.A) until an amendment or supplement to the Contract Documents has been issued by one of the methods indicated in Paragraph 3.04.
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 known or reasonably should have known thereof.

B. *Resolving Discrepancies:*

1. Except as may be otherwise specifically stated in the Contract Documents, the provisions of the Contract Documents shall take precedence in resolving any conflict, error, ambiguity, or discrepancy between the provisions of the Contract Documents and:
 - a. the provisions of any standard, specification, manual, or code, or the instruction of any Supplier (whether or not specifically incorporated by reference in the Contract Documents); 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 *Amending and Supplementing Contract Documents*

- A. The Contract Documents may be amended to provide for additions, deletions, and revisions in the Work or to modify the terms and conditions thereof by either a Change Order or a Work Change Directive.
- B. The requirements of the Contract Documents may be supplemented, and minor variations and deviations in the Work may be authorized, by one or more of the following ways:
 1. A Field Order;
 2. Engineer's approval of a Shop Drawing or Sample (subject to the provisions of Paragraph 6.17.D.3); or

3. Engineer's written interpretation or clarification.

3.05 *Reuse of Documents*

- A. Contractor and any Subcontractor or Supplier or other individual or entity performing or furnishing all of the work under a direct or indirect contract with the contractor, 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 editions; or
 2. 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.
- B. The prohibitions of this Paragraph 3.05 will survive final payment, or termination of the Contract. Nothing herein shall preclude Contractor from retaining copies of the Contract Documents for record purposes.

3.06 *Electronic Data*

- A. Unless otherwise stated in the Supplementary Conditions, the data furnished by Owner or Engineer to Contractor, or by Contractor to Owner or Engineer, that may be relied upon are limited to the printed copies (also known as hard copies). Files in electronic media format of text, data, graphics, or other types are furnished only for the convenience of the receiving party. Any conclusion or information obtained or derived from such electronic files will be at the user's sole risk. If there is a discrepancy between the electronic files and the hard copies, the hard copies govern.
- B. Because data stored in electronic media format can deteriorate or be modified inadvertently or otherwise without authorization of the data's creator, the party receiving electronic files agrees that it will perform acceptance tests or procedures within 60 days, after which the receiving party shall be deemed to have accepted the data thus transferred. Any errors detected within the 60-day acceptance period will be corrected by the transferring party.
- C. When transferring documents in electronic media format, the transferring party makes no representations as to long term compatibility, usability, or readability of documents resulting from the use of software application packages, operating systems, or computer hardware differing from those used by the data's creator.

ARTICLE 4 – AVAILABILITY OF LANDS; SUBSURFACE AND PHYSICAL CONDITIONS; HAZARDOUS ENVIRONMENTAL CONDITIONS; REFERENCE POINTS

4.01 *Availability of Lands*

- A. Owner shall furnish the Site. Owner shall notify Contractor 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. Owner will obtain in a timely manner and pay for easements for permanent structures or permanent changes in existing facilities. If Contractor and Owner are

unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in the Contract Price or Contract Times, or both, as a result of any delay in Owner's furnishing the Site or a part thereof, Contractor may make a Claim therefor as provided in Paragraph 10.05.

- 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 the Work is to be performed 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.

4.02 *Subsurface and Physical Conditions*

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

- 1. those reports known to Owner of explorations and tests of subsurface conditions at or contiguous to the Site; and
- 2. those drawings known to Owner of physical conditions relating to existing surface or subsurface structures at the Site (except Underground Facilities).

B. *Limited Reliance by Contractor on Technical Data Authorized:* Contractor may rely upon the accuracy of the "technical data" contained in such reports and drawings, but such reports and drawings are not Contract Documents. Such "technical data" is identified in the Supplementary Conditions. Except for such reliance on such "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; or
- 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.

4.03 *Differing Subsurface or Physical Conditions*

A. *Notice:* If Contractor believes that any subsurface or physical condition that is uncovered or revealed either:

- 1. is of such a nature as to establish that any "technical data" on which Contractor is entitled to rely as provided in Paragraph 4.02 is materially inaccurate; or
- 2. is of such a nature as to require a change in the Contract Documents; or

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 6.16.A), notify Owner and Engineer in writing about such condition. Contractor shall not further disturb such condition or perform any Work in connection therewith (except as aforesaid) until receipt of written order to do so.

B. *Engineer's Review:* After receipt of written notice as required by Paragraph 4.03.A, Engineer will promptly review the pertinent condition, determine the necessity of Owner's obtaining additional exploration or tests with respect thereto, and advise Owner in writing (with a copy to Contractor) of Engineer's findings and conclusions.

C. *Possible Price and Times Adjustments:*

1. The Contract Price or the Contract Times, or both, will be equitably adjusted to the extent that the existence of such differing subsurface or physical condition 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 meet any one or more of the categories described in Paragraph 4.03.A; and
 - 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 Paragraphs 9.07 and 11.03.
2. Contractor shall not be entitled to any adjustment in the Contract Price or Contract Times if:
 - a. Contractor knew of the existence of such conditions at the time Contractor made a final 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
 - b. the existence of such condition could reasonably have been discovered or revealed as a result of any examination, investigation, exploration, test, or study of the Site and contiguous areas required by the Bidding Requirements or Contract Documents to be conducted by or for Contractor prior to Contractor's making such final commitment; or
 - c. Contractor failed to give the written notice as required by Paragraph 4.03.A.
3. If Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in the Contract Price or Contract Times, or both, a Claim may be made therefor as provided in Paragraph 10.05. However, neither Owner or Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors shall be liable to Contractor for any claims, costs, losses, or 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) sustained by Contractor on or in connection with any other project or anticipated project.

4.04 *Underground Facilities*

A. *Shown or Indicated:* The information and data shown or indicated in the Contract Documents with respect to existing Underground Facilities at or contiguous to the Site is based on information and data furnished to Owner or Engineer by the owners of such Underground Facilities, including Owner, or by others. Unless it is otherwise expressly provided in the Supplementary Conditions:

1. Owner and Engineer shall not be responsible for the accuracy or completeness of any such information or data provided by others; and
2. the cost of all of the following will be included in the Contract Price, and Contractor shall have full responsibility for:
 - a. reviewing and checking all such information and data;
 - b. locating all Underground Facilities shown or indicated in the Contract Documents;
 - c. coordination of the Work with the owners of such Underground Facilities, including Owner, during construction; and
 - d. the safety and protection of all such Underground Facilities and repairing any damage thereto resulting from the Work.

B. *Not Shown or Indicated:*

1. If an Underground Facility is uncovered or revealed at or contiguous to the Site which was not shown or indicated, or not shown or indicated with reasonable accuracy in the Contract Documents, 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 6.16.A), identify the owner of such Underground Facility and give written notice to that owner and to Owner and Engineer. Engineer will promptly review the Underground Facility and determine the extent, if any, to which a change is required in the Contract Documents to reflect and document the consequences of the existence or location of the Underground Facility. During such time, Contractor shall be responsible for the safety and protection of such Underground Facility.
2. If Engineer concludes that a change in the Contract Documents is required, a Work Change Directive or a Change Order will be issued to reflect and document such consequences. An equitable adjustment shall be made in the Contract Price or Contract Times, or both, to the extent that they are attributable to the existence or location of any Underground Facility that was not shown or indicated or not shown or indicated with reasonable accuracy in the Contract Documents and that Contractor did not know of and could not reasonably have been expected to be aware of or to have anticipated. If Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any such adjustment in Contract Price

or Contract Times, Owner or Contractor may make a Claim therefor as provided in Paragraph 10.05.

4.05 *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.

4.06 *Hazardous Environmental Condition at Site*

- A. *Reports and Drawings:* The Supplementary Conditions identify those reports and drawings known to Owner relating to Hazardous Environmental Conditions that have been identified at the Site.
- B. *Limited Reliance by Contractor on Technical Data Authorized:* Contractor may rely upon the accuracy of the "technical data" contained in such reports and drawings, but such reports and drawings are not Contract Documents. Such "technical data" is identified in the Supplementary Conditions. Except for such reliance on such "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; or
 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 any Hazardous Environmental Condition uncovered or revealed at the Site which was not shown or indicated in Drawings or Specifications or identified in the Contract Documents to be within the scope of the Work. Contractor shall be responsible for a Hazardous Environmental Condition created with any materials brought to the Site by Contractor, Subcontractors, Suppliers, or anyone else for whom Contractor is responsible.
- D. If Contractor encounters a Hazardous Environmental Condition or if Contractor or anyone for whom Contractor is responsible creates a Hazardous Environmental Condition, Contractor shall immediately: (i) secure or otherwise isolate such condition; (ii) stop all Work in connection with such condition and in any area affected thereby (except in an emergency as required by

Paragraph 6.16.A); and (iii) 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 4.06.E.

- E. Contractor shall not be required to resume Work in connection with such condition or in any affected area until after Owner has obtained any required permits related thereto and delivered written notice to Contractor: (i) specifying that such condition and any affected area is or has been rendered safe for the resumption of Work; or (ii) specifying any special conditions under which such Work may be resumed safely. 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, or both, as a result of such Work stoppage or such special conditions under which Work is agreed to be resumed by Contractor, either party may make a Claim therefor as provided in Paragraph 10.05.
- F. 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. If Owner and Contractor cannot agree as to entitlement to or on the amount or extent, if any, of an adjustment in Contract Price or Contract Times as a result of deleting such portion of the Work, then either party may make a Claim therefor as provided in Paragraph 10.05. Owner may have such deleted portion of the Work performed by Owner's own forces or others in accordance with Article 7.
- G. 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 or arbitration or other dispute resolution costs) arising out of or relating to a Hazardous Environmental Condition, provided that such Hazardous Environmental Condition: (i) was not shown or indicated in the Drawings or Specifications or identified in the Contract Documents to be included within the scope of the Work, and (ii) was not created by Contractor or by anyone for whom Contractor is responsible. Nothing in this Paragraph 4.06.G shall obligate Owner to indemnify any individual or entity from and against the consequences of that individual's or entity's own negligence.
- H. 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 a Hazardous Environmental Condition created by Contractor or by anyone for whom Contractor is responsible. Nothing in this Paragraph 4.06.H shall obligate Contractor to indemnify any individual or entity from and against the consequences of that individual's or entity's own negligence.

- I. The provisions of Paragraphs 4.02, 4.03, and 4.04 do not apply to a Hazardous Environmental Condition uncovered or revealed at the Site.

ARTICLE 5 – BONDS AND INSURANCE

5.01 *Performance, Payment, and Other Bonds*

- A. Contractor shall furnish performance and payment bonds, each in an amount at least equal to the Contract Price as security for the faithful performance and payment of all of Contractor's obligations under the Contract Documents. These bonds shall remain in effect until one year after the date when final payment becomes due or until completion of the correction period specified in Paragraph 13.07, whichever is later, except as provided otherwise by Laws or Regulations or by the Contract Documents. Contractor shall also furnish such other bonds as are required by the Contract Documents.
- B. All bonds shall be in the form prescribed by the Contract Documents except as provided otherwise by Laws or Regulations, and shall be executed by such sureties as are named in the list of "Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies" as published in Circular 570 (amended) by the Financial Management Service, Surety Bond Branch, U.S. Department of the Treasury. All bonds 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 shall show that it is effective on the date the agent or attorney-in-fact signed each bond.
- C. If the surety on any bond furnished by Contractor is declared bankrupt or becomes insolvent or its right to do business is terminated in any state where any part of the Project is located or it ceases to meet the requirements of Paragraph 5.01.B, Contractor shall promptly notify Owner and Engineer and shall, within 20 days after the event giving rise to such notification, provide another bond and surety, both of which shall comply with the requirements of Paragraphs 5.01.B and 5.02.

5.02 *Licensed Sureties and Insurers*

- A. All bonds and insurance required by the Contract Documents to be purchased and maintained by Owner or Contractor shall be obtained from surety or insurance companies that are duly licensed or authorized in the jurisdiction in which the Project is located to issue bonds or insurance policies for the limits and coverages so required. Such surety and insurance companies shall also meet such additional requirements and qualifications as may be provided in the Supplementary Conditions.

5.03 *Certificates of Insurance*

- A. Contractor shall deliver to Owner, with copies to each additional insured and loss payee identified in the Supplementary Conditions, certificates of insurance (and other evidence of insurance requested by Owner or any other additional insured) which Contractor is required to purchase and maintain.

- B. Owner shall deliver to Contractor, with copies to each additional insured and loss payee identified in the Supplementary Conditions, certificates of insurance (and other evidence of insurance requested by Contractor or any other additional insured) which Owner is required to purchase and maintain.
- C. Failure of Owner to demand such certificates or other evidence of Contractor's full compliance with these insurance requirements or failure of Owner to identify a deficiency in compliance from the evidence provided shall not be construed as a waiver of Contractor's obligation to maintain such insurance.
- D. Owner does not represent that insurance coverage and limits established in this Contract necessarily will be adequate to protect Contractor.
- E. The insurance and insurance limits required herein shall not be deemed as a limitation on Contractor's liability under the indemnities granted to Owner in the Contract Documents.

5.04 *Contractor's Insurance*

- A. Contractor shall purchase and maintain such insurance as is appropriate for the Work being performed and as will provide protection from claims set forth below which may arise out of or result from Contractor's performance of the Work and Contractor's other obligations under the Contract Documents, whether it is to be performed 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:
 - 1. claims under workers' compensation, disability benefits, and other similar employee benefit acts;
 - 2. claims for damages because of bodily injury, occupational sickness or disease, or death of Contractor's employees;
 - 3. claims for damages because of bodily injury, sickness or disease, or death of any person other than Contractor's employees;
 - 4. claims for damages insured by reasonably available personal injury liability coverage which are sustained:
 - a. by any person as a result of an offense directly or indirectly related to the employment of such person by Contractor, or
 - b. by any other person for any other reason;
 - 5. claims for damages, other than to the Work itself, because of injury to or destruction of tangible property wherever located, including loss of use resulting therefrom;
 - 6. claims 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; and
 - 7. Claims for damages caused by pollution resulting from the execution of the work.

B. The policies of insurance required by this Paragraph 5.04 shall:

1. with respect to insurance required by Paragraphs 5.04.A.3 through 5.04.A.6 inclusive, be written on an occurrence basis, include as additional insureds (subject to any customary exclusion regarding professional liability) Owner and Engineer, and any other individuals or entities identified in the Supplementary Conditions, all of whom shall be listed as additional insureds, and include coverage for the respective officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of all such additional insureds, and the insurance afforded to these additional insureds shall provide primary coverage for all claims covered thereby;
2. include at least the specific coverages and be written for not less than the limits of liability provided in the Supplementary Conditions or required by Laws or Regulations, whichever is greater;
3. include contractual liability insurance covering Contractor's indemnity obligations under Paragraphs 6.11 and 6.20;
4. contain a provision or endorsement that the coverage afforded will not be canceled, materially changed or renewal refused until at least 30 days prior written notice has been given to Owner and Contractor and to each other additional insured identified in the Supplementary Conditions to whom a certificate of insurance has been issued (and the certificates of insurance furnished by the Contractor pursuant to Paragraph 5.03 will so provide);
5. remain in effect at least until final payment and at all times thereafter when Contractor may be correcting, removing, or replacing defective Work in accordance with Paragraph 13.07; and
6. include completed operations coverage:
 - a. Such insurance shall remain in effect for two years after final payment.
 - b. Contractor shall furnish Owner and each other additional insured identified in the Supplementary Conditions, to whom a certificate of insurance has been issued, evidence satisfactory to Owner and any such additional insured of continuation of such insurance at final payment and one year thereafter.

5.05 *Owner's Liability Insurance*

- A. In addition to the insurance required to be provided by Contractor under Paragraph 5.04, Owner, at Owner's option, may purchase and maintain at Owner's expense Owner's own liability insurance as will protect Owner against claims which may arise from operations under the Contract Documents.

5.06 *Property Insurance*

- A. Unless otherwise provided in the Supplementary Conditions, Owner shall purchase and maintain property insurance upon the Work at the Site in the amount of the full replacement cost thereof

(subject to such deductible amounts as may be provided in the Supplementary Conditions or required by Laws and Regulations). This insurance shall:

1. include the interests of Owner, Contractor, Subcontractors, and Engineer, and any other individuals or entities identified in the Supplementary Conditions, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them, each of whom is deemed to have an insurable interest and shall be listed as a loss payee;
 2. be written on a Builder's Risk "all-risk" policy form that shall at least include insurance for physical loss or damage to the Work, temporary buildings, falsework, and materials and equipment in transit, and shall insure against at least the following perils or causes of loss: fire, lightning, extended coverage, theft, vandalism and malicious mischief, earthquake, collapse, debris removal, demolition occasioned by enforcement of Laws and Regulations, water damage (other than that caused by flood), and such other perils or causes of loss as may be specifically required by the Supplementary Conditions.
 3. include expenses incurred in the repair or replacement of any insured property (including but not limited to fees and charges of engineers and architects);
 4. cover materials and equipment stored at the Site or at another location that was agreed to in writing by Owner prior to being incorporated in the Work, provided that such materials and equipment have been included in an Application for Payment recommended by Engineer;
 5. allow for partial utilization of the Work by Owner;
 6. include testing and startup; and
 7. be maintained in effect until final payment is made unless otherwise agreed to in writing by Owner, Contractor, and Engineer with 30 days written notice to each other loss payee to whom a certificate of insurance has been issued.
- B. Owner shall purchase and maintain such equipment breakdown insurance or additional property insurance as may be required by the Supplementary Conditions or Laws and Regulations which will include the interests of Owner, Contractor, Subcontractors, and Engineer, and any other individuals or entities identified in the Supplementary Conditions, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them, each of whom is deemed to have an insurable interest and shall be listed as a loss payee.
- C. All the policies of insurance (and the certificates or other evidence thereof) required to be purchased and maintained in accordance with this Paragraph 5.06 will contain a provision or endorsement that the coverage afforded will not be canceled or materially changed or renewal refused until at least 30 days prior written notice has been given to Owner and Contractor and to each other loss payee to whom a certificate of insurance has been issued and will contain waiver provisions in accordance with Paragraph 5.07.
- D. Owner shall not be responsible for purchasing and maintaining any property insurance specified in this Paragraph 5.06 to protect the interests of Contractor, Subcontractors, or others in the

Work to the extent of any deductible amounts that are identified in the Supplementary Conditions. The risk of loss within such identified deductible amount will be borne by Contractor, Subcontractors, or others suffering any such loss, and if any of them wishes property insurance coverage within the limits of such amounts, each may purchase and maintain it at the purchaser's own expense.

- E. If Contractor requests in writing that other special insurance be included in the property insurance policies provided under this Paragraph 5.06, Owner shall, if possible, include such insurance, and the cost thereof will be charged to Contractor by appropriate Change Order. Prior to commencement of the Work at the Site, Owner shall in writing advise Contractor whether or not such other insurance has been procured by Owner.

5.07 *Waiver of Rights*

- A. Owner and Contractor intend that all policies purchased in accordance with Paragraph 5.06 will protect Owner, Contractor, Subcontractors, and Engineer, and all other individuals or entities identified in the Supplementary Conditions as loss payees (and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them) in such policies and will provide primary coverage for all losses and damages caused by the perils or causes of loss covered thereby. All such policies shall contain provisions to the effect that in the event of payment of any loss or damage the insurers will have no rights of recovery against any of the insureds or loss payees thereunder. Owner and Contractor waive all rights against each other and their 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 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 Subcontractors and Engineer, and all other individuals or entities identified in the Supplementary Conditions as loss payees (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. None of the above waivers shall extend to the rights that any party making such waiver may have to the proceeds of insurance held by Owner as trustee or otherwise payable under any policy so issued.
- B. 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:
 - 1. loss 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 perils whether or not insured by Owner; and
 - 2. loss or damage to the completed Project or part thereof caused by, arising out of, or resulting from fire or other insured peril or cause of loss covered by any property insurance maintained on the completed Project or part thereof by Owner during partial utilization pursuant to Paragraph 14.05, after Substantial Completion pursuant to Paragraph 14.04, or after final payment pursuant to Paragraph 14.07.

- C. Any insurance policy maintained by Owner covering any loss, damage or consequential loss referred to in Paragraph 5.07.B shall contain provisions to the effect that in the event of payment of any such loss, damage, or consequential loss, the insurers will have no rights of recovery against Contractor, Subcontractors, or Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them.

5.08 *Receipt and Application of Insurance Proceeds*

- A. Any insured loss under the policies of insurance required by Paragraph 5.06 will be adjusted with Owner and made payable to Owner as fiduciary for the loss payees, as their interests may appear, subject to the requirements of any applicable mortgage clause and of Paragraph 5.08.B. Owner shall deposit in a separate account any money so received and shall distribute it in accordance with such agreement as the parties in interest may reach. If no other special agreement is reached, the damaged Work shall be repaired or replaced, the moneys so received applied on account thereof, and the Work and the cost thereof covered by an appropriate Change Order.
- B. Owner as fiduciary shall have power to adjust and settle any loss with the insurers unless one of the parties in interest shall object in writing within 15 days after the occurrence of loss to Owner's exercise of this power. If such objection be made, Owner as fiduciary shall make settlement with the insurers in accordance with such agreement as the parties in interest may reach. If no such agreement among the parties in interest is reached, Owner as fiduciary shall adjust and settle the loss with the insurers and, if required in writing by any party in interest, Owner as fiduciary shall give bond for the proper performance of such duties.

5.09 *Acceptance of Bonds and Insurance; Option to Replace*

- A. If either Owner or Contractor has any objection to the coverage afforded by or other provisions of the bonds or insurance required to be purchased and maintained by the other party in accordance with Article 5 on the basis of non-conformance with the Contract Documents, the objecting party shall so notify the other party in writing within 10 days after receipt of the certificates (or other evidence requested) required by Paragraph 2.01.B. Owner and Contractor shall each provide to the other such additional information in respect of insurance provided as the other may reasonably request. If either party does not purchase or maintain all of the bonds and insurance required of such party by the Contract Documents, 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. Without prejudice to any other right or remedy, the other party may elect to obtain equivalent bonds or insurance to protect such other party's interests at the expense of the party who was required to provide such coverage, and a Change Order shall be issued to adjust the Contract Price accordingly.

5.10 *Partial Utilization, Acknowledgment of Property Insurer*

- A. If Owner finds it necessary to occupy or use a portion or portions of the Work prior to Substantial Completion of all the Work as provided in Paragraph 14.05, no such use or occupancy shall commence before the insurers providing the property insurance pursuant to Paragraph 5.06 have acknowledged notice thereof and in writing effected any changes in coverage necessitated thereby. The insurers providing the property insurance shall consent by

endorsement on the policy or policies, but the property insurance shall not be canceled or permitted to lapse on account of any such partial use or occupancy.

ARTICLE 6 – CONTRACTOR’S RESPONSIBILITIES

6.01 *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. Contractor shall be solely responsible for the means, methods, techniques, sequences, and procedures of construction. Contractor shall not be responsible for the negligence of Owner or Engineer in the design or specification of a specific means, method, technique, sequence, or procedure of construction which is shown or indicated in and expressly required by the Contract Documents.
- B. At all times during the progress of the Work, Contractor shall assign a competent resident superintendent who shall not be replaced without written notice to Owner and Engineer except under extraordinary circumstances.

6.02 *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 at all times maintain good discipline and order at the Site.
- B. 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 shall be performed during regular working hours. Contractor will not permit the performance of Work on a Saturday, Sunday, or any legal holiday without Owner’s written consent (which will not be unreasonably withheld) given after prior written notice to Engineer.

6.03 *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.
- B. All materials and equipment incorporated into the Work shall be as specified or, if not specified, shall be of good quality and new, except as otherwise provided in the Contract Documents. All special warranties and guarantees required by the Specifications shall 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 shall 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.

6.04 *Progress Schedule*

- A. Contractor shall adhere to the Progress Schedule established in accordance with Paragraph 2.07 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 2.07) proposed adjustments in the Progress Schedule that will not result in changing the Contract Times. Such adjustments will comply with any provisions of the General Requirements applicable thereto.
 2. Proposed adjustments in the Progress Schedule that will change the Contract Times shall be submitted in accordance with the requirements of Article 12. Adjustments in Contract Times may only be made by a Change Order.

6.05 *Substitutes and "Or-Equals"*

- A. Whenever an item of material or equipment is specified or described in the Contract Documents by using the name of a proprietary item or the name of a particular Supplier, the specification or description 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 or no substitution is permitted, other items of material or equipment or material or equipment of other Suppliers may be submitted to Engineer for review under the circumstances described below.
1. *"Or-Equal" Items:* If in Engineer's sole discretion an item of material or equipment proposed by Contractor is functionally equal to that named and sufficiently similar so that no change in related Work will be required, it may be considered by Engineer as an "or-equal" item, in which case review and approval of the proposed item may, in Engineer's sole discretion, be accomplished without compliance with some or all of the requirements for approval of proposed substitute items. For the purposes of this Paragraph 6.05.A.1, a proposed item of material or equipment will be considered functionally equal to an item so named if:
 - a. in the exercise of reasonable judgment Engineer determines that:
 - 1) it is at least equal in materials of construction, quality, durability, appearance, strength, and design characteristics;
 - 2) it 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; and
 - 3) it has a proven record of performance and availability of responsive service.
 - b. Contractor certifies that, if approved and incorporated into the Work:
 - 1) there will be no increase in cost to the Owner or increase in Contract Times; and
 - 2) it will conform substantially to the detailed requirements of the item named in the Contract Documents.

2. *Substitute Items:*

- a. If in Engineer's sole discretion an item of material or equipment proposed by Contractor does not qualify as an "or-equal" item under Paragraph 6.05.A.1, it will be considered a proposed substitute item.
- b. Contractor shall submit sufficient information as provided below to allow Engineer to determine if the item of material or equipment proposed is essentially equivalent to that named and an acceptable substitute therefor. Requests for review of proposed substitute items of material or equipment will not be accepted by Engineer from anyone other than Contractor.
- c. The requirements for review by Engineer will be as set forth in Paragraph 6.05.A.2.d, as supplemented by the General Requirements, and as Engineer may decide is appropriate under the circumstances.
- d. Contractor shall make written application to Engineer for review of a proposed substitute item of material or equipment that Contractor seeks to furnish or use. The application:
 - 1) shall certify that the proposed substitute item will:
 - a) perform adequately the functions and achieve the results called for by the general design,
 - b) be similar in substance to that specified, and
 - c) be suited to the same use as that specified;
 - 2) will state:
 - a) the extent, if any, to which the use of the proposed substitute item will prejudice Contractor's achievement of Substantial Completion on time,
 - b) 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
 - c) whether incorporation or use of the proposed substitute item in connection with the Work is subject to payment of any license fee or royalty;
 - 3) will identify:
 - a) all variations of the proposed substitute item from that specified, and
 - b) available engineering, sales, maintenance, repair, and replacement services; and

- 4) shall contain an itemized estimate of all costs or credits that will result directly or indirectly from use of such substitute item, including costs of redesign and claims of other contractors affected by any resulting change.
- B. *Substitute Construction Methods or Procedures:* If a specific means, method, technique, sequence, or procedure of construction is expressly required by the Contract Documents, Contractor may furnish or utilize a substitute means, method, technique, sequence, or procedure of construction approved by Engineer. Contractor shall submit sufficient information to allow Engineer, in Engineer's sole discretion, to determine that the substitute proposed is equivalent to that expressly called for by the Contract Documents. The requirements for review by Engineer will be similar to those provided in Paragraph 6.05.A.2.
- C. *Engineer's Evaluation:* Engineer will be allowed a reasonable time within which to evaluate each proposal or submittal made pursuant to Paragraphs 6.05.A and 6.05.B. Engineer may require Contractor to furnish additional data about the proposed substitute item. Engineer will be the sole judge of acceptability. No "or equal" or substitute will be ordered, installed or utilized until Engineer's review is complete, which will be evidenced by a Change Order in the case of a substitute and an approved Shop Drawing for an "or equal." Engineer will advise Contractor in writing of any negative determination.
- D. *Special Guarantee:* Owner may require Contractor to furnish at Contractor's expense a special performance guarantee or other surety with respect to any substitute.
- E. *Engineer's Cost Reimbursement:* Engineer will record Engineer's costs in evaluating a substitute proposed or submitted by Contractor pursuant to Paragraphs 6.05.A.2 and 6.05.B. 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.
- F. *Contractor's Expense:* Contractor shall provide all data in support of any proposed substitute or "or-equal" at Contractor's expense.

6.06 *Concerning Subcontractors, Suppliers, and Others*

- A. Contractor shall not employ any Subcontractor, Supplier, or other individual or entity (including those acceptable to Owner as indicated in Paragraph 6.06.B), whether initially or as a replacement, against whom Owner may have reasonable objection. Contractor shall not be required to employ any Subcontractor, Supplier, or other individual or entity to furnish or perform any of the Work against whom Contractor has reasonable objection.
- B. If the Supplementary Conditions require the identity of certain Subcontractors, Suppliers, or other individuals or entities to be submitted to Owner in advance for acceptance by Owner by a specified date prior to the Effective Date of the Agreement, and if Contractor has submitted a list thereof in accordance with the Supplementary Conditions, Owner's acceptance (either in writing or by failing to make written objection thereto by the date indicated for acceptance or objection in the Bidding Documents or the Contract Documents) of any such Subcontractor, Supplier, or

other individual or entity so identified may be revoked on the basis of reasonable objection after due investigation. Contractor shall submit an acceptable replacement for the rejected Subcontractor, Supplier, or other individual or entity, and the Contract Price will be adjusted by the difference in the cost occasioned by such replacement, and an appropriate Change Order will be issued. No acceptance by Owner of any such Subcontractor, Supplier, or other individual or entity, whether initially or as a replacement, shall constitute a waiver of any right of Owner or Engineer to reject defective Work.

- C. Contractor shall be fully responsible to Owner and Engineer for all acts and omissions of the Subcontractors, Suppliers, and other individuals or entities performing or furnishing any of the Work just as Contractor is responsible for Contractor's own acts and omissions. Nothing in the Contract Documents:
1. shall create for the benefit of any such Subcontractor, Supplier, or other individual or entity any contractual relationship between Owner or Engineer and any such Subcontractor, Supplier or other individual or entity; nor
 2. shall create any obligation on the part of Owner or Engineer to pay or to see to the payment of any moneys due any such Subcontractor, Supplier, or other individual or entity except as may otherwise be required by Laws and Regulations.
- D. Contractor shall be solely responsible for scheduling and coordinating the Work of Subcontractors, Suppliers, and other individuals or entities performing or furnishing any of the Work under a direct or indirect contract with Contractor.
- E. Contractor shall require all Subcontractors, Suppliers, and such other individuals or entities performing or furnishing any of the Work to communicate with Engineer through Contractor.
- F. The divisions and sections of the Specifications and the identifications of any Drawings shall not control Contractor in dividing the Work among Subcontractors or Suppliers or delineating the Work to be performed by any specific trade.
- G. All Work performed for Contractor by a Subcontractor or Supplier will be pursuant to an appropriate agreement between Contractor and the Subcontractor or Supplier which specifically binds the Subcontractor or Supplier to the applicable terms and conditions of the Contract Documents for the benefit of Owner and Engineer. Whenever any such agreement is with a Subcontractor or Supplier who is listed as a loss payee on the property insurance provided in Paragraph 5.06, the agreement between the Contractor and the Subcontractor or Supplier will contain provisions whereby the Subcontractor or Supplier waives all rights against Owner, Contractor, Engineer, and all other individuals or entities identified in the Supplementary Conditions to be listed as insureds or loss payees (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 any of the perils or causes of loss covered by such policies and any other property insurance applicable to the Work. If the insurers on any such policies require separate waiver forms to be signed by any Subcontractor or Supplier, Contractor will obtain the same.

6.07 *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 a particular 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 shall be disclosed by Owner 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.

6.08 *Permits*

- A. Unless otherwise provided in the Supplementary Conditions, Contractor shall obtain and pay for all construction permits and licenses. 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 opening of Bids, or, if there are no Bids, on the Effective Date of the Agreement. Owner shall pay all charges of utility owners for connections for providing permanent service to the Work.

6.09 *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. Except where otherwise expressly required by applicable Laws and Regulations, neither Owner nor Engineer shall be responsible for monitoring Contractor's compliance with any Laws or Regulations.
- B. If Contractor performs any Work knowing or having reason to know that it is contrary to Laws or Regulations, Contractor shall bear 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. However, it shall not be Contractor's responsibility to make certain that the Specifications and Drawings are in accordance with Laws and Regulations, but this shall not relieve Contractor of Contractor's obligations under Paragraph 3.03.

- C. Changes in Laws or Regulations not known at the time of opening of Bids (or, on the Effective Date of the Agreement if there were no Bids) having an effect on the cost or time of performance of the Work shall be the subject of an adjustment in Contract Price or Contract Times. If Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any such adjustment, a Claim may be made therefor as provided in Paragraph 10.05.

6.10 *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.

6.11 *Use of Site and Other Areas*

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

1. Contractor shall confine construction equipment, the storage of materials and equipment, and the operations of workers to the Site and other areas permitted by Laws and Regulations, and shall not unreasonably encumber the Site and other areas with construction equipment or other materials or equipment. Contractor shall assume full responsibility for any damage to any such land or area, or to the owner or occupant thereof, or of any adjacent land or areas resulting from the performance of the Work.
2. Should any claim be made by any such owner or occupant because of the performance of the Work, Contractor shall promptly settle with such other party by negotiation or otherwise resolve the claim by arbitration or other dispute resolution proceeding or at law.
3. 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 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 by or based upon Contractor's performance of the Work.

- B. *Removal of Debris During Performance of the Work:* During the progress of the Work Contractor shall keep the Site and other areas free from accumulations of waste materials, rubbish, and other debris. Removal and disposal of such waste materials, rubbish, and other debris shall 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 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 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 property to stresses or pressures that will endanger it.

6.12 *Record Documents*

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

6.13 *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. 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, utilities, and Underground Facilities not designated for removal, relocation, or replacement in the course of construction.
- B. 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. Contractor shall notify owners of adjacent property and of Underground Facilities and other utility owners when prosecution of the Work may affect them, and shall cooperate with them in the protection, removal, relocation, and replacement of their property.
- C. Contractor shall comply with the applicable requirements of Owner's safety programs, if any. The Supplementary Conditions identify any Owner's safety programs that are applicable to the Work.

- D. 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.
- E. All damage, injury, or loss to any property referred to in Paragraph 6.13.A.2 or 6.13.A.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 (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).
- F. Contractor's duties and responsibilities for safety and for protection of the Work shall continue until such time as all the Work is completed and Engineer has issued a notice to Owner and Contractor in accordance with Paragraph 14.07.B that the Work is acceptable (except as otherwise expressly provided in connection with Substantial Completion).

6.14 *Safety Representative*

- A. Contractor shall designate a qualified and experienced safety representative at the Site whose duties and responsibilities shall be the prevention of accidents and the maintaining and supervising of safety precautions and programs.

6.15 *Hazard Communication Programs*

- A. Contractor shall be responsible for coordinating any exchange of 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.

6.16 *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 threatened 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 thereby or are required as a result thereof. If Engineer determines that a change in the Contract Documents is required because of the action taken by Contractor in response to such an emergency, a Work Change Directive or Change Order will be issued.

6.17 *Shop Drawings and Samples*

- A. Contractor shall submit Shop Drawings and Samples to Engineer for review and approval in accordance with the accepted Schedule of Submittals (as required by Paragraph 2.07). Each submittal will be identified as Engineer may require.

1. *Shop Drawings:*
 - a. Submit number of copies specified in the General Requirements.
 - b. Data shown on the Shop Drawings will 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 6.17.D.
 2. *Samples:*
 - a. Submit number of Samples specified in the Specifications.
 - b. 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 6.17.D.
- B. 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. *Submittal Procedures:*
1. Before submitting each Shop Drawing or Sample, Contractor shall have:
 - a. reviewed and coordinated each Shop Drawing or Sample with other Shop Drawings and Samples and with the requirements of the Work and the Contract Documents;
 - b. determined and verified all field measurements, quantities, dimensions, specified performance and design criteria, installation requirements, materials, catalog numbers, and similar information with respect thereto;
 - c. determined and verified the suitability of all materials offered with respect to the indicated application, fabrication, shipping, handling, storage, assembly, and installation pertaining to the performance of the Work; and
 - d. determined and verified all information relative to Contractor's responsibilities for means, methods, techniques, sequences, and procedures of construction, and safety precautions and programs incident thereto.
 2. Each submittal shall bear a stamp or specific written certification that Contractor has satisfied Contractor's obligations under the Contract Documents with respect to Contractor's review and approval of that submittal.
 3. With each submittal, Contractor shall give Engineer specific written notice of any variations that the Shop Drawing or Sample may have from the requirements of the Contract Documents. This notice shall be both a written communication separate from the Shop

Drawings or Sample submittal; and, in addition, by a specific notation made on each Shop Drawing or Sample submitted to Engineer for review and approval of each such variation.

D. *Engineer's Review:*

1. Engineer will provide timely review of Shop Drawings and Samples in accordance with the Schedule of Submittals acceptable to Engineer. 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, conform to the information given in 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 (except where a particular means, method, technique, sequence, or procedure of construction is specifically and expressly called for by the Contract Documents) or to safety precautions or programs incident thereto. The review and approval of a separate item as such will not indicate approval of the assembly in which the item functions.
3. Engineer's review and approval shall not relieve Contractor from responsibility for any variation from the requirements of the Contract Documents unless Contractor has complied with the requirements of Paragraph 6.17.C.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's review and approval shall not relieve Contractor from responsibility for complying with the requirements of Paragraph 6.17.C.1.

E. *Resubmittal Procedures:*

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.

6.18 *Continuing the Work*

- A. Contractor shall carry on the Work and adhere to the Progress Schedule during all disputes or disagreements with Owner. No Work shall be delayed or postponed pending resolution of any disputes or disagreements, except as permitted by Paragraph 15.04 or as Owner and Contractor may otherwise agree in writing.

6.19 *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 and its officers, directors, members, partners, employees, agents, consultants, and subcontractors shall be entitled to rely on representation of Contractor's warranty and guarantee.
- B. Contractor's warranty and guarantee hereunder excludes defects or damage caused by:

1. abuse, modification, or improper 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.
- C. Contractor's obligation to perform and complete the Work in accordance with the Contract Documents shall be absolute. None of the following will constitute an acceptance of Work that is not in accordance with the Contract Documents or a release of Contractor's obligation to perform the Work in accordance with the Contract Documents:
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 or the issuance of a notice of acceptability by Engineer;
 6. any inspection, test, or approval by others; or
 7. any correction of defective Work by Owner.

6.20 *Indemnification*

- A. 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 performance of the Work, provided that any such claim, cost, loss, or damage is attributable to bodily injury, sickness, disease, or death, or to injury 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 6.20.A shall 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.

- C. The indemnification obligations of Contractor under Paragraph 6.20.A shall not extend to the liability of Engineer and Engineer's officers, directors, members, partners, employees, agents, consultants and subcontractors arising out of:
 - 1. the preparation or approval of, or the failure to prepare or approve maps, Drawings, opinions, reports, surveys, Change Orders, designs, or Specifications; or
 - 2. giving directions or instructions, or failing to give them, if that is the primary cause of the injury or damage.

6.21 *Delegation of Professional Design Services*

- A. Contractor will not be required to provide professional design services unless such services are specifically required by the Contract Documents for a portion of the Work or unless such services are required to carry out Contractor's responsibilities for construction means, methods, techniques, sequences and procedures. Contractor shall not be required to provide professional services in violation of applicable law.
- B. If professional design services or certifications by a design professional related to systems, materials or equipment are specifically required of Contractor by the Contract Documents, Owner and Engineer will specify all performance and design criteria that such services must satisfy. Contractor shall cause such services or certifications to be provided by a properly licensed professional, whose signature and seal shall appear on all drawings, calculations, specifications, certifications, Shop Drawings and other submittals prepared by such professional. Shop Drawings and other submittals related to the Work designed or certified by such professional, if prepared by others, shall bear such professional's written approval when submitted to Engineer.
- C. Owner and Engineer shall be entitled to rely upon the adequacy, accuracy and completeness of the services, certifications or approvals performed by such design professionals, provided Owner and Engineer have specified to Contractor all performance and design criteria that such services must satisfy.
- D. Pursuant to this Paragraph 6.21, Engineer's review and approval of design calculations and design drawings will be only for the limited purpose of checking for conformance with performance and design criteria given and the design concept expressed in the Contract Documents. Engineer's review and approval of Shop Drawings and other submittals (except design calculations and design drawings) will be only for the purpose stated in Paragraph 6.17.D.1.
- E. Contractor shall not be responsible for the adequacy of the performance or design criteria required by the Contract Documents.

ARTICLE 7 – OTHER WORK AT THE SITE

7.01 *Related Work at Site*

- A. Owner may perform other work related to the Project at the Site with Owner's employees, or through other direct contracts therefor, or have other work performed by utility owners. If such other work is not noted in the Contract Documents, then:
1. written notice thereof will be given to Contractor prior to starting any such other work; and
 2. if Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in the Contract Price or Contract Times that should be allowed as a result of such other work, a Claim may be made therefor as provided in Paragraph 10.05.
- B. Contractor shall afford each other contractor who is a party to such a direct contract, each utility owner, and Owner, if Owner is performing other work with Owner's employees, proper and safe access to the Site, provide a reasonable opportunity for the introduction and storage of materials and equipment and the execution of such other work, and properly coordinate the Work with theirs. 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. The duties and responsibilities of Contractor under this Paragraph are for the benefit of such utility owners and other contractors to the extent that there are comparable provisions for the benefit of Contractor in said direct contracts between Owner and such utility owners and other contractors.
- C. If the proper execution or results of any part of Contractor's Work depends upon work performed by others under this Article 7, 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.

7.02 *Coordination*

- A. If Owner intends to contract with others for the performance of other work on the Project at the Site, the following will be set forth in Supplementary Conditions:
1. the individual or entity who will have authority and responsibility for coordination of the activities among the various contractors will be identified;
 2. the specific matters to be covered by such authority and responsibility will be itemized; and
 3. the extent of such authority and responsibilities will be provided.
- B. Unless otherwise provided in the Supplementary Conditions, Owner shall have sole authority and responsibility for such coordination.

7.03 *Legal Relationships*

- A. Paragraphs 7.01.A and 7.02 are not applicable for utilities not under the control of Owner.
- B. Each other direct contract of Owner under Paragraph 7.01.A shall provide that the other contractor is liable to Owner and Contractor for the reasonable direct delay and disruption costs incurred by Contractor as a result of the other contractor's wrongful actions or inactions.
- C. Contractor shall be liable to Owner and any other contractor under direct contract to Owner for the reasonable direct delay and disruption costs incurred by such other contractor as a result of Contractor's wrongful action or inactions.

ARTICLE 8 – OWNER'S RESPONSIBILITIES

8.01 *Communications to Contractor*

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

8.02 *Replacement of Engineer*

- A. In case of termination of the employment of Engineer, Owner shall appoint an engineer to whom Contractor makes no reasonable objection, whose status under the Contract Documents shall be that of the former Engineer.

8.03 *Furnish Data*

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

8.04 *Pay When Due*

- A. Owner shall make payments to Contractor when they are due as provided in Paragraphs 14.02.C and 14.07.C.

8.05 *Lands and Easements; Reports and Tests*

- A. Owner's duties with respect to providing lands and easements and providing engineering surveys to establish reference points are set forth in Paragraphs 4.01 and 4.05. Paragraph 4.02 refers to Owner's identifying and making available to Contractor copies of reports of explorations and tests of subsurface conditions and drawings of physical conditions relating to existing surface or subsurface structures at the Site.

8.06 *Insurance*

- A. Owner's responsibilities, if any, with respect to purchasing and maintaining liability and property insurance are set forth in Article 5.

8.07 *Change Orders*

- A. Owner is obligated to execute Change Orders as indicated in Paragraph 10.03.

8.08 *Inspections, Tests, and Approvals*

- A. Owner's responsibility with respect to certain inspections, tests, and approvals is set forth in Paragraph 13.03.B.

8.09 *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.

8.10 *Undisclosed Hazardous Environmental Condition*

- A. Owner's responsibility in respect to an undisclosed Hazardous Environmental Condition is set forth in Paragraph 4.06.

8.11 *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 Documents.

8.12 *Compliance with Safety Program*

- 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 pursuant to Paragraph 6.13.D.

ARTICLE 9 – ENGINEER'S STATUS DURING CONSTRUCTION

9.01 *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 Documents.

9.02 *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 9.09. 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.

9.03 *Project Representative*

- A. If Owner and Engineer agree, Engineer will furnish a Resident Project Representative to assist Engineer in providing more extensive observation of the Work. The authority and responsibilities of any such Resident Project Representative and assistants will be as provided in the Supplementary Conditions, and limitations on the responsibilities thereof will be as provided in Paragraph 9.09. If Owner designates another representative or agent to represent Owner at the Site who is not Engineer's consultant, agent or employee, the responsibilities and authority and limitations thereon of such other individual or entity will be as provided in the Supplementary Conditions.

9.04 *Authorized Variations in Work*

- A. Engineer may authorize minor variations in the Work from the requirements of the Contract Documents which 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. These may be accomplished by a Field Order and will be binding on Owner and also on Contractor, who shall perform the Work involved promptly. If Owner or Contractor believes that a Field Order justifies an adjustment in the Contract Price or Contract Times, or both, and the parties are unable to agree on entitlement to or on the amount or extent, if any, of any such adjustment, a Claim may be made therefor as provided in Paragraph 10.05.

9.05 *Rejecting Defective Work*

- A. Engineer will have authority to reject Work which Engineer believes to be defective, or that Engineer believes will not produce a completed Project that conforms to the Contract Documents or that will prejudice the integrity of the design concept of the completed Project as a functioning whole as indicated by the Contract Documents. Engineer will also have authority to require special inspection or testing of the Work as provided in Paragraph 13.04, whether or not the Work is fabricated, installed, or completed.

9.06 *Shop Drawings, Change Orders and Payments*

- A. In connection with Engineer's authority, and limitations thereof, as to Shop Drawings and Samples, see Paragraph 6.17.

- B. In connection with Engineer's authority, and limitations thereof, as to design calculations and design drawings submitted in response to a delegation of professional design services, if any, see Paragraph 6.21.
- C. In connection with Engineer's authority as to Change Orders, see Articles 10, 11, and 12.
- D. In connection with Engineer's authority as to Applications for Payment, see Article 14.

9.07 *Determinations for Unit Price Work*

- A. 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, subject to the provisions of Paragraph 10.05.

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

- A. Engineer will be the initial interpreter of the requirements of the Contract Documents and judge of the acceptability of the Work thereunder. All matters in question and other matters between Owner and Contractor arising prior to the date final payment is due relating to the acceptability of the Work, and the interpretation of the requirements of the Contract Documents pertaining to the performance of the Work, will be referred initially to Engineer in writing within 30 days of the event giving rise to the question.
- B. Engineer will, with reasonable promptness, render a written decision on the issue referred. If Owner or Contractor believes that any such decision entitles them to an adjustment in the Contract Price or Contract Times or both, a Claim may be made under Paragraph 10.05. The date of Engineer's decision shall be the date of the event giving rise to the issues referenced for the purposes of Paragraph 10.05.B.
- C. Engineer's written decision on the issue referred will be final and binding on Owner and Contractor, subject to the provisions of Paragraph 10.05.
- D. When functioning as interpreter and judge under this Paragraph 9.08, Engineer will not show partiality to Owner or Contractor and will not be liable in connection with any interpretation or decision rendered in good faith in such capacity.

9.09 *Limitations on Engineer's Authority and Responsibilities*

- A. Neither Engineer's authority or responsibility under this Article 9 or under any other provision of the Contract Documents 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 shall 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 Paragraph 14.07.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 9.09 shall also apply to the Resident Project Representative, if any, and assistants, if any.

9.10 *Compliance with Safety Program*

- A. While at the Site, Engineer's employees and representatives shall comply with the specific applicable requirements of Contractor's safety programs of which Engineer has been informed pursuant to Paragraph 6.13.D.

ARTICLE 10 – CHANGES IN THE WORK; CLAIMS

10.01 *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 by a Change Order, or a Work Change Directive. Upon receipt of any such document, Contractor shall promptly proceed with the Work involved which will be performed under the applicable conditions of the Contract Documents (except as otherwise specifically provided).
- B. If Owner and Contractor are unable to agree on entitlement to, or on the amount or extent, if any, of an adjustment in the Contract Price or Contract Times, or both, that should be allowed as a result of a Work Change Directive, a Claim may be made therefor as provided in Paragraph 10.05.

10.02 *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 as provided in Paragraph 3.04, except in the case of an emergency as provided in Paragraph 6.16 or in the case of uncovering Work as provided in Paragraph 13.04.D.

10.03 *Execution of Change Orders*

- A. Owner and Contractor shall execute appropriate Change Orders recommended by Engineer covering:
1. changes in the Work which are: (i) ordered by Owner pursuant to Paragraph 10.01.A, (ii) required because of acceptance of defective Work under Paragraph 13.08.A or Owner's correction of defective Work under Paragraph 13.09, or (iii) agreed to by the parties;
 2. changes in the 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; and
 3. changes in the Contract Price or Contract Times which embody the substance of any written decision rendered by Engineer pursuant to Paragraph 10.05; provided that, in lieu of executing any such Change Order, an appeal may be taken from any such decision in accordance with the provisions of the Contract Documents and applicable Laws and Regulations, but during any such appeal, Contractor shall carry on the Work and adhere to the Progress Schedule as provided in Paragraph 6.18.A.

10.04 *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.

10.05 *Claims*

- A. *Engineer's Decision Required:* All Claims, except those waived pursuant to Paragraph 14.09, shall be referred to the Engineer for decision. A decision by Engineer shall be required as a condition precedent to any exercise by Owner or Contractor of any rights or remedies either may otherwise have under the Contract Documents or by Laws and Regulations in respect of such Claims.
- B. *Notice:* Written notice stating the general nature of each Claim shall be delivered by the claimant to Engineer and the other party to the Contract promptly (but in no event later than 30 days) after the start of the event giving rise thereto. The responsibility to substantiate a Claim shall rest with the party making the Claim. Notice of the amount or extent of the Claim, with supporting data shall be delivered to the Engineer and the other party to the Contract within 60 days after the start of such event (unless Engineer allows additional time for claimant to submit additional or more accurate data in support of such Claim). A Claim for an adjustment in Contract Price shall be prepared in accordance with the provisions of Paragraph 12.01.B. A Claim for an adjustment in Contract Times shall be prepared in accordance with the provisions of Paragraph 12.02.B. Each Claim shall be accompanied by claimant's written statement that the adjustment claimed is the entire adjustment to which the claimant believes it is entitled as a result of said event. The

opposing party shall submit any response to Engineer and the claimant within 30 days after receipt of the claimant's last submittal (unless Engineer allows additional time).

- C. *Engineer's Action:* Engineer will review each Claim and, within 30 days after receipt of the last submittal of the claimant or the last submittal of the opposing party, if any, take one of the following actions in writing:
1. deny the Claim in whole or in part;
 2. approve the Claim; or
 3. notify the parties that the Engineer is unable to resolve the Claim if, in the Engineer's sole discretion, it would be inappropriate for the Engineer to do so. For purposes of further resolution of the Claim, such notice shall be deemed a denial.
- D. In the event that Engineer does not take action on a Claim within said 30 days, the Claim shall be deemed denied.
- E. Engineer's written action under Paragraph 10.05.C or denial pursuant to Paragraphs 10.05.C.3 or 10.05.D will be final and binding upon Owner and Contractor, unless Owner or Contractor invoke the dispute resolution procedure set forth in Article 16 within 30 days of such action or denial.
- F. No Claim for an adjustment in Contract Price or Contract Times will be valid if not submitted in accordance with this Paragraph 10.05.

ARTICLE 11 – COST OF THE WORK; ALLOWANCES; UNIT PRICE WORK

11.01 Cost of the Work

- A. *Costs Included:* The term Cost of the Work means the sum of all costs, except those excluded in Paragraph 11.01.B, necessarily incurred and paid by Contractor in the proper performance of the Work. When the value of any Work covered by a Change Order or when a Claim for an adjustment in Contract Price is determined on the basis of Cost of the Work, the costs to be reimbursed to Contractor will be only those additional or incremental costs required because of the change in the Work or because of the event giving rise to the Claim. Except as otherwise may be agreed to in writing by Owner, such costs shall be in amounts no higher than those prevailing in the locality of the Project, shall not include any of the costs itemized in Paragraph 11.01.B, and shall 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. Such employees shall include, without limitation, superintendents, foremen, and other personnel employed full time on the Work. Payroll costs for employees not employed full time on the Work shall be apportioned on the basis of their time spent on the Work. Payroll costs shall include, but not be limited to, salaries and wages plus the cost of fringe benefits, which shall include social security contributions, unemployment, excise, and payroll taxes, workers' compensation, health and retirement benefits, bonuses, sick leave, vacation and holiday pay applicable thereto. The expenses of performing Work outside of regular working hours, on

Saturday, Sunday, or legal holidays, shall 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 shall accrue to Contractor unless Owner deposits funds with Contractor with which to make payments, in which case the cash discounts shall accrue to Owner. All trade discounts, rebates and refunds and returns from sale of surplus materials and equipment shall 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, who 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 shall be determined in the same manner as Contractor's Cost of the Work and fee as provided in this Paragraph 11.01.
4. Costs of special consultants (including but not limited to engineers, architects, testing laboratories, surveyors, attorneys, and accountants) employed for services specifically related to the Work.
5. Supplemental costs including 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, and hand tools not owned by the workers, 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.
 - c. Rentals of all construction equipment and machinery, and the parts thereof whether rented from Contractor or others in accordance with rental agreements approved by Owner with the advice of Engineer, and the costs of transportation, loading, unloading, assembly, dismantling, and removal thereof. All such costs shall be in accordance with the terms of said rental agreements. The rental of any such equipment, machinery, or parts shall cease when the use thereof is no longer necessary for the 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 property insurance established in accordance with Paragraph 5.06.D), 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 shall include settlements made with the written consent and approval of Owner. No such losses, damages, and expenses shall 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 telegrams, long distance telephone calls, telephone 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 Contractor is required by the Contract Documents to purchase and maintain.

B. *Costs Excluded:* The term Cost of the Work shall not include any of the following items:

- 1. Payroll costs and other compensation of Contractor's officers, executives, principals (of partnerships and sole proprietorships), general managers, safety 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 11.01.A.1 or specifically covered by Paragraph 11.01.A.4, all of which are to be considered administrative costs covered by the Contractor's fee.
- 2. Expenses of Contractor's principal and branch offices other than Contractor's office at the Site.
- 3. Any part of Contractor's capital expenses, including interest on Contractor's capital employed for the Work and charges against Contractor for delinquent payments.
- 4. 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.
- 5. Other overhead or general expense costs of any kind and the costs of any item not specifically and expressly included in Paragraphs 11.01.A.

C. *Contractor's Fee:* When all the Work is performed on the basis of cost-plus, Contractor's fee shall be determined as set forth in the Agreement. When the value of any Work covered by a Change Order or when a Claim for an adjustment in Contract Price is determined on the basis of Cost of the Work, Contractor's fee shall be determined as set forth in Paragraph 12.01.C.

- D. *Documentation:* Whenever the Cost of the Work for any purpose is to be determined pursuant to Paragraphs 11.01.A and 11.01.B, Contractor will establish and maintain records thereof in accordance with generally accepted accounting practices and submit in a form acceptable to Engineer an itemized cost breakdown together with supporting data.

11.02 *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:*

1. Contractor agrees that:

- a. 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
- b. 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 on account of any of the foregoing will be valid.

C. *Contingency Allowance:*

1. Contractor agrees that a 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 on account of Work covered by allowances, and the Contract Price shall be correspondingly adjusted.

11.03 *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. Determinations of the actual quantities and classifications of Unit Price Work performed by Contractor will be made by Engineer subject to the provisions of Paragraph 9.07.
- 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. Owner or Contractor may make a Claim for an adjustment in the Contract Price in accordance with Paragraph 10.05 if:
1. the quantity of any item of Unit Price Work performed by Contractor differs materially and significantly from the estimated quantity of such item indicated in the Agreement; and
 2. there is no corresponding adjustment with respect to any other item of Work; and
 3. Contractor believes that Contractor is entitled to an increase in Contract Price as a result of having incurred additional expense or Owner believes that Owner is entitled to a decrease in Contract Price and the parties are unable to agree as to the amount of any such increase or decrease.

ARTICLE 12 – CHANGE OF CONTRACT PRICE; CHANGE OF CONTRACT TIMES

12.01 Change of Contract Price

- A. The Contract Price may only be changed by a Change Order. Any Claim for an adjustment in the Contract Price shall be based on written notice submitted by the party making the Claim to the Engineer and the other party to the Contract in accordance with the provisions of Paragraph 10.05.
- B. The value of any Work covered by a Change Order or of any Claim for 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, by application of such unit prices to the quantities of the items involved (subject to the provisions of Paragraph 11.03); or
 2. where the Work involved is not covered by unit prices contained in the Contract Documents, by a mutually agreed lump sum (which may include an allowance for overhead and profit not necessarily in accordance with Paragraph 12.01.C.2); or
 3. where the Work involved is not covered by unit prices contained in the Contract Documents and agreement to a lump sum is not reached under Paragraph 12.01.B.2, on the basis of the Cost of the Work (determined as provided in Paragraph 11.01) plus a Contractor's fee for overhead and profit (determined as provided in Paragraph 12.01.C).
- C. *Contractor's Fee:* The Contractor's fee for overhead and profit shall 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 11.01.A.1 and 11.01.A.2, the Contractor's fee shall be 15 percent;
 - b. for costs incurred under Paragraph 11.01.A.3, the Contractor's fee shall be five 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 12.01.C.2.a and 12.01.C.2.b is that the Subcontractor who actually performs the Work, at whatever tier, will be paid a fee of 15 percent of the costs incurred by such Subcontractor under Paragraphs 11.01.A.1 and 11.01.A.2 and that any higher tier Subcontractor and Contractor will each be paid a fee of five percent of the amount paid to the next lower tier Subcontractor;
- d. no fee shall be payable on the basis of costs itemized under Paragraphs 11.01.A.4, 11.01.A.5, and 11.01.B;
- e. the amount of credit to be allowed by Contractor to Owner for any change which results in a net decrease in cost will be the amount of the actual net decrease in cost plus a deduction in Contractor's fee by an amount equal to five percent of such net decrease; and
- f. when both additions and credits are involved in any one change, the adjustment in Contractor's fee shall be computed on the basis of the net change in accordance with Paragraphs 12.01.C.2.a through 12.01.C.2.e, inclusive.

12.02 *Change of Contract Times*

- A. The Contract Times may only be changed by a Change Order. Any Claim for an adjustment in the Contract Times shall be based on written notice submitted by the party making the Claim to the Engineer and the other party to the Contract in accordance with the provisions of Paragraph 10.05.
- B. Any adjustment of the Contract Times covered by a Change Order or any Claim for an adjustment in the Contract Times will be determined in accordance with the provisions of this Article 12.

12.03 *Delays*

- A. Where Contractor is prevented from completing any part of the Work within the Contract Times due to delay beyond the control of Contractor, the Contract Times will be extended in an amount equal to the time lost due to such delay if a Claim is made therefor as provided in Paragraph 12.02.A. Delays beyond the control of Contractor shall include, but not be limited to, acts or neglect by Owner, acts or neglect of utility owners or other contractors performing other work as contemplated by Article 7, fires, floods, epidemics, abnormal weather conditions, or acts of God.
- B. If Owner, Engineer, or other contractors or utility owners performing other work for Owner as contemplated by Article 7, 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 the Contract Price or the Contract Times, or both. Contractor's entitlement to an adjustment of the Contract Times is conditioned on such adjustment being essential to Contractor's ability to complete the Work within the Contract Times.
- C. If Contractor is delayed in the performance or progress of the Work by fire, flood, epidemic, abnormal weather conditions, acts of God, acts or failures to act of utility owners not under the

control of Owner, or other causes not the fault of and beyond control of Owner and Contractor, then Contractor shall be entitled to an equitable adjustment in Contract Times, if such adjustment is essential to Contractor's ability to complete the Work within the Contract Times. Such an adjustment shall be Contractor's sole and exclusive remedy for the delays described in this Paragraph 12.03.C.

- D. Owner, Engineer, and their officers, directors, members, partners, employees, agents, consultants, or subcontractors shall not be liable to Contractor for any claims, costs, losses, or 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) sustained by Contractor on or in connection with any other project or anticipated project.
- E. Contractor shall not be entitled to an adjustment in Contract Price or Contract Times for delays within the control of Contractor. Delays attributable to and within the control of a Subcontractor or Supplier shall be deemed to be delays within the control of Contractor.

ARTICLE 13 – TESTS AND INSPECTIONS; CORRECTION, REMOVAL OR ACCEPTANCE OF DEFECTIVE WORK

13.01 Notice of Defects

- A. Prompt notice of all defective Work of which Owner or Engineer has actual knowledge will be given to Contractor. Defective Work may be rejected, corrected, or accepted as provided in this Article 13.

13.02 Access to Work

- A. Owner, Engineer, their consultants and other representatives and personnel of Owner, independent testing laboratories, and governmental agencies with jurisdictional interests will 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 therewith as applicable.

13.03 Tests and Inspections

- A. Contractor shall give Engineer timely notice of readiness of the Work for all required inspections, tests, or approvals and shall cooperate with inspection and testing personnel to facilitate required inspections or tests.
- B. Owner shall employ and pay for the services of an independent testing laboratory to perform all inspections, tests, or approvals required by the Contract Documents except:
 - 1. for inspections, tests, or approvals covered by Paragraphs 13.03.C and 13.03.D below;
 - 2. that costs incurred in connection with tests or inspections conducted pursuant to Paragraph 13.04.B shall be paid as provided in Paragraph 13.04.C; and
 - 3. as otherwise specifically provided in the Contract Documents.

- 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 and obtaining and shall pay all costs in connection with any inspections, tests, or approvals required for Owner's and Engineer's acceptance of materials or equipment to be incorporated in the Work; or acceptance of materials, mix designs, or equipment submitted for approval prior to Contractor's purchase thereof for incorporation in the Work. Such inspections, tests, or approvals shall be performed by organizations acceptable to Owner and Engineer.
- E. 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.
- F. Uncovering Work as provided in Paragraph 13.03.E shall be at Contractor's expense unless Contractor has given Engineer timely notice of Contractor's intention to cover the same and Engineer has not acted with reasonable promptness in response to such notice.

13.04 *Uncovering Work*

- A. If any Work is covered contrary to the written request of Engineer, it must, if requested by Engineer, be uncovered for Engineer's observation and replaced at Contractor's expense.
- B. If Engineer considers it necessary or advisable that covered Work be observed by Engineer or inspected or tested by others, 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, furnishing all necessary labor, material, and equipment.
- C. If it is found that the uncovered Work is defective, Contractor shall pay 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 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 Owner shall be entitled to an appropriate decrease in the Contract Price. If the parties are unable to agree as to the amount thereof, Owner may make a Claim therefor as provided in Paragraph 10.05.
- D. 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, or both, 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, Contractor may make a Claim therefor as provided in Paragraph 10.05.

13.05 *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, 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 shall 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.

13.06 *Correction or Removal of Defective Work*

- A. Promptly after receipt of written notice, Contractor shall correct all defective Work, whether or not fabricated, installed, or completed, or, if the Work has been rejected by Engineer, remove it from the Project and replace it with Work that is not defective. Contractor shall pay 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 correction or removal (including but not limited to all costs of repair or replacement of work of others).
- B. When correcting defective Work under the terms of this Paragraph 13.06 or Paragraph 13.07, Contractor shall take no action that would void or otherwise impair Owner's special warranty and guarantee, if any, on said Work.

13.07 *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 terms of any applicable special guarantee required by the Contract Documents) or by any specific provision of the Contract Documents, any Work is found to be defective, or if the repair of any damages to the land or areas made available for Contractor's use by Owner or permitted by Laws and Regulations as contemplated in Paragraph 6.11.A is found to be defective, Contractor shall promptly, without cost to Owner and in accordance with Owner's written instructions:
 - 1. repair such defective land or areas; or
 - 2. correct such defective Work; or
 - 3. if the defective Work has been rejected by Owner, remove it from the Project and replace it with Work that is not defective, and
 - 4. satisfactorily correct or repair or remove and replace any damage to other Work, to the work of others or other land or areas resulting therefrom.
- B. If 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. 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 correction or repair or such removal and replacement (including but not limited to all costs of repair or replacement of work of others) will be paid by Contractor.

- C. 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.
- D. Where defective Work (and damage to other Work resulting therefrom) has been corrected or removed and replaced under this Paragraph 13.07, 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.
- E. Contractor's obligations under this Paragraph 13.07 are in addition to any other obligation or warranty. The provisions of this Paragraph 13.07 shall not be construed as a substitute for, or a waiver of, the provisions of any applicable statute of limitation or repose.

13.08 *Acceptance of Defective Work*

- A. If, instead of requiring correction or removal and replacement of defective Work, Owner (and, prior to Engineer's recommendation of final payment, Engineer) prefers to accept it, Owner may do so. Contractor shall pay 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) 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 pursuant to this sentence. If any such acceptance occurs prior to Engineer's recommendation of final payment, a Change Order will be issued incorporating the necessary revisions in the Contract Documents with respect to the Work, and Owner shall be entitled to an appropriate decrease in the Contract Price, reflecting the diminished value of Work so accepted. If the parties are unable to agree as to the amount thereof, Owner may make a Claim therefor as provided in Paragraph 10.05. If the acceptance occurs after such recommendation, an appropriate amount will be paid by Contractor to Owner.

13.09 *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 rejected Work as required by Engineer in accordance with Paragraph 13.06.A, or if Contractor fails to perform the Work in accordance with the Contract Documents, or if Contractor fails to comply with any other provision of the Contract Documents, Owner may, after seven days written notice to Contractor, correct, or remedy any such deficiency.
- B. In exercising the rights and remedies under this Paragraph 13.09, 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, take possession of Contractor's tools, appliances, construction equipment and machinery at the Site, 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 (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) incurred or sustained by Owner in exercising the rights and remedies under this Paragraph 13.09 will be charged against Contractor, and a Change Order will be issued incorporating the necessary revisions in the Contract Documents with respect to the Work; and Owner shall be entitled to an appropriate decrease in the Contract Price. If the parties are unable to agree as to the amount of the adjustment, Owner may make a Claim therefor as provided in Paragraph 10.05. 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 13.09.

ARTICLE 14 – PAYMENTS TO CONTRACTOR AND COMPLETION

14.01 Schedule of Values

- A. The Schedule of Values established as provided in Paragraph 2.07.A will serve as the basis for progress payments and will be incorporated into a form of Application for Payment acceptable to Engineer. Progress payments on account of Unit Price Work will be based on the number of units completed.

14.02 Progress Payments

A. 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. 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 shall also be accompanied by a bill of sale, invoice, or other documentation warranting that Owner has received the materials and equipment free and clear of all Liens and evidence that the materials and equipment are covered by appropriate property insurance or other arrangements to protect Owner's interest therein, all of which must be satisfactory to Owner.
2. Beginning with the second Application for Payment, each Application shall include an affidavit of Contractor stating that all previous progress payments received on account of the

Work have been applied on account to discharge Contractor's legitimate obligations associated with prior Applications for Payment.

3. The amount of retainage with respect to progress payments will be as stipulated in the Agreement.

B. *Review of Applications:*

1. Engineer will, within 10 days after receipt of each Application for Payment, 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 9.07, 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 Documents; 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, or

- b. for the means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or
 - c. for Contractor's failure to comply with Laws and Regulations applicable to Contractor's performance of the Work, or
 - d. to make any examination to ascertain how or for what purposes Contractor has used the moneys paid on account of the Contract Price, 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 14.02.B.2. Engineer may also refuse to recommend any such payment or, because of subsequently discovered evidence or the results of subsequent inspections or tests, revise or revoke any such payment recommendation previously made, to such extent as may be necessary in Engineer's opinion to protect Owner from loss because:
- a. the Work is defective, or completed Work has been damaged, requiring correction or replacement;
 - b. the Contract Price has been reduced by Change Orders;
 - c. Owner has been required to correct defective Work or complete Work in accordance with Paragraph 13.09; or
 - d. Engineer has actual knowledge of the occurrence of any of the events enumerated in Paragraph 15.02.A.

C. Payment Becomes Due:

- 1. Ten days after presentation of the Application for Payment to Owner with Engineer's recommendation, the amount recommended will (subject to the provisions of Paragraph 14.02.D) become due, and when due will be paid by Owner to Contractor.

D. Reduction in Payment:

- 1. Owner may refuse to make payment of the full amount recommended by Engineer because:
 - a. claims have been made against Owner on account of Contractor's performance or furnishing of the Work;
 - b. 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;
 - c. there are other items entitling Owner to a set-off against the amount recommended; or

- d. Owner has actual knowledge of the occurrence of any of the events enumerated in Paragraphs 14.02.B.5.a through 14.02.B.5.c or Paragraph 15.02.A.
2. If Owner refuses to make payment of the full amount recommended by Engineer, Owner will give Contractor immediate written notice (with a copy to Engineer) stating the reasons for such action 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, when Contractor remedies the reasons for such action.
3. Upon a subsequent determination that Owner's refusal of payment was not justified, the amount wrongfully withheld shall be treated as an amount due as determined by Paragraph 14.02.C.1 and subject to interest as provided in the Agreement.

14.03 *Contractor's Warranty of Title*

- A. Contractor warrants and guarantees that title to all Work, materials, and equipment covered by any Application for Payment, whether incorporated in the Project or not, will pass to Owner no later than the time of payment free and clear of all Liens.

14.04 *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 (except for items specifically listed by Contractor as incomplete) and request that Engineer issue a certificate of Substantial Completion.
- 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 tentative certificate of Substantial Completion which shall fix the date of Substantial Completion. There shall be attached to the certificate a tentative list of items to be completed or corrected before final payment. Owner shall have seven days after receipt of the tentative certificate during which to make written objection to Engineer as to any provisions of the certificate or attached list. If, after considering such objections, Engineer concludes that the Work is not substantially complete, Engineer will, within 14 days after submission of the tentative certificate to Owner, notify Contractor in writing, stating the reasons therefor. If, after consideration of Owner's objections, Engineer considers the Work substantially complete, Engineer will, within said 14 days, execute and deliver to Owner and Contractor a definitive certificate of Substantial Completion (with a revised tentative list of items to be completed or corrected) reflecting such changes from the tentative certificate as Engineer believes justified after consideration of any objections from Owner.
- D. At the time of delivery of the tentative certificate of Substantial Completion, Engineer will deliver to Owner and Contractor a written recommendation as to division of responsibilities

pending final payment between Owner and Contractor with respect to security, operation, safety, and protection of the Work, maintenance, heat, utilities, insurance, and warranties and guarantees. Unless Owner and Contractor agree otherwise in writing and so inform Engineer in writing prior to Engineer's issuing the definitive certificate of Substantial Completion, Engineer's aforesaid recommendation will be binding on Owner and Contractor until final payment.

- E. 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 tentative list.

14.05 *Partial Utilization*

- 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. Owner at any time may request Contractor in writing to permit Owner to use or occupy any such part of the Work which Owner believes to be ready for its intended use and 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 14.04.A through D for that part of the Work.
 - 2. Contractor at any time may notify Owner and Engineer in writing that Contractor considers any such part of the Work ready for its intended use and 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 14.04 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 5.10 regarding property insurance.

14.06 *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 is incomplete or defective. Contractor shall immediately take such measures as are necessary to complete such Work or remedy such deficiencies.

14.07 *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, marked-up record documents (as provided in Paragraph 6.12), and other documents, Contractor may make application for final payment following the procedure for progress payments.
2. The final Application for Payment shall be accompanied (except as previously delivered) by:
 - a. all documentation called for in the Contract Documents, including but not limited to the evidence of insurance required by Paragraph 5.04.B.6;
 - b. consent of the surety, if any, to final payment;
 - c. a list of all Claims against Owner that Contractor believes are unsettled; and
 - d. complete and legally effective releases or waivers (satisfactory to Owner) of all Lien rights arising out of or Liens filed in connection with the Work.
3. In lieu of the releases or waivers of Liens specified in Paragraph 14.07.A.2 and as approved by Owner, Contractor may furnish receipts or releases in full and an affidavit of Contractor that: (i) the releases and receipts include all labor, services, material, and equipment for which a Lien could be filed; and (ii) 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.

B. *Engineer's Review of Application and Acceptance:*

1. 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 Documents have been fulfilled, Engineer will, within ten days after receipt of the final Application for Payment, indicate in writing Engineer's recommendation of payment and present the Application for Payment to Owner for payment. At the same time Engineer will also give written notice to Owner and Contractor that the Work is acceptable subject to the provisions of Paragraph 14.09. 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. *Payment Becomes Due:*

1. Thirty days after the presentation to Owner of the Application for Payment and accompanying documentation, the amount recommended by Engineer, less any sum Owner is entitled to set off against Engineer's recommendation, including but not limited to liquidated damages, will become due and will be paid by Owner to Contractor.

14.08 *Final Completion Delayed*

- A. If, through no fault of Contractor, final completion of the Work is significantly delayed, and if Engineer so confirms, Owner shall, upon receipt of Contractor's final Application for Payment (for Work fully completed and accepted) and recommendation of Engineer, and without terminating the Contract, make payment of the balance due for that portion of the Work fully completed and accepted. If the remaining balance to be held by Owner for Work not fully completed or corrected is less than the retainage stipulated in the Agreement, and if bonds have been furnished as required in Paragraph 5.01, the written consent of the surety to the payment of the balance due for that portion of the Work fully completed and accepted shall be submitted by Contractor to Engineer with the Application for such payment. Such payment shall be made under the terms and conditions governing final payment, except that it shall not constitute a waiver of Claims.

14.09 *Waiver of Claims*

- A. The making and acceptance of final payment will constitute:
 1. a waiver of all Claims by Owner against Contractor, except Claims arising from unsettled Liens, from defective Work appearing after final inspection pursuant to Paragraph 14.06, from failure to comply with the Contract Documents or the terms of any special guarantees specified therein, or from Contractor's continuing obligations under the Contract Documents; and
 2. a waiver of all Claims by Contractor against Owner other than those previously made in accordance with the requirements herein and expressly acknowledged by Owner in writing as still unsettled.

ARTICLE 15 – SUSPENSION OF WORK AND TERMINATION

15.01 *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 notice in writing to Contractor and Engineer which will fix the date on which Work will be resumed. Contractor shall resume the Work on the date so fixed. Contractor shall be granted an adjustment in the Contract Price or an extension of the Contract Times, or both, directly attributable to any such suspension if Contractor makes a Claim therefor as provided in Paragraph 10.05.

15.02 *Owner May Terminate for Cause*

- A. The occurrence of any one or more of the following events will 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 established under Paragraph 2.07 as adjusted from time to time pursuant to Paragraph 6.04);
 2. Contractor's disregard of Laws or Regulations of any public body having jurisdiction;
 3. Contractor's repeated disregard of the authority of Engineer; or
 4. Contractor's violation in any substantial way of any provisions of the Contract Documents.
- B. If one or more of the events identified in Paragraph 15.02.A occur, Owner may, after giving Contractor (and surety) seven days written notice of its intent to terminate the services of Contractor:
1. exclude Contractor from the Site, and take possession of the Work and of all Contractor's tools, appliances, construction equipment, and machinery at the Site, and use the same to the full extent they could be used by Contractor (without liability to Contractor for trespass or conversion);
 2. 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
 3. complete the Work as Owner may deem expedient.
- C. If Owner proceeds as provided in Paragraph 15.02.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 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) sustained by Owner arising out of or relating to completing the Work, such excess will be paid to Contractor. If such claims, costs, losses, and damages exceed 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.
- D. Notwithstanding Paragraphs 15.02.B and 15.02.C, Contractor's services will not be terminated if Contractor begins within seven days of receipt of notice of intent to terminate to correct its failure to perform and proceeds diligently to cure such failure within no more than 30 days of receipt of said notice.
- E. 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. Any retention or payment of moneys due Contractor by Owner will not release Contractor from liability.

- F. If and to the extent that Contractor has provided a performance bond under the provisions of Paragraph 5.01.A, the termination procedures of that bond shall supersede the provisions of Paragraphs 15.02.B and 15.02.C.

15.03 *Owner May Terminate For Convenience*

- A. Upon seven 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;
 3. 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) incurred in settlement of terminated contracts with Subcontractors, Suppliers, and others; and
 4. reasonable expenses directly attributable to termination.
- B. Contractor shall not be paid on account of loss of anticipated profits or revenue or other economic loss arising out of or resulting from such termination.

15.04 *Contractor May Stop Work or Terminate*

- A. If, through no act or fault of Contractor, (i) the Work is suspended for more than 90 consecutive days by Owner or under an order of court or other public authority, or (ii) Engineer fails to act on any Application for Payment within 30 days after it is submitted, or (iii) Owner fails for 30 days to pay Contractor any sum finally determined to be due, then Contractor may, upon seven 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 15.03.
- 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, seven 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 15.04 are not intended to preclude Contractor from making a Claim under Paragraph 10.05 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 16 – DISPUTE RESOLUTION

16.01 *Methods and Procedures*

- A. Either Owner or Contractor may request mediation of any Claim submitted to Engineer for a decision under Paragraph 10.05 before such decision becomes final and binding. The mediation will be governed by the Construction Industry Mediation Rules of the American Arbitration Association in effect as of the Effective Date of the Agreement. The request for mediation shall be submitted in writing to the American Arbitration Association and the other party to the Contract. Timely submission of the request shall stay the effect of Paragraph 10.05.E.
- B. Owner and Contractor shall participate in the mediation process in good faith. The process shall be concluded within 60 days of filing of the request. The date of termination of the mediation shall be determined by application of the mediation rules referenced above.
- C. If the Claim is not resolved by mediation, Engineer's action under Paragraph 10.05.C or a denial pursuant to Paragraphs 10.05.C.3 or 10.05.D shall become final and binding 30 days after termination of the mediation unless, within that time period, Owner or Contractor:
 1. elects in writing to invoke any dispute resolution process provided for in the Supplementary Conditions; or
 2. agrees with the other party to submit the Claim to another dispute resolution process; or
 3. gives written notice to the other party of the intent to submit the Claim to a court of competent jurisdiction.

ARTICLE 17 – MISCELLANEOUS

17.01 *Giving Notice*

- A. Whenever any provision of the Contract Documents requires the giving of written notice, it will be deemed to have been validly given if:
 1. delivered in person to the individual or to a member of the firm or to an officer of the corporation for whom it is intended; or
 2. delivered at or sent by registered or certified mail, postage prepaid, to the last business address known to the giver of the notice.

17.02 *Computation of Times*

- A. When any period of time is referred to in the Contract Documents 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.

17.03 *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 Documents. 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.

17.04 *Survival of Obligations*

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

17.05 *Controlling Law*

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

17.06 *Headings*

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

Supplementary Conditions

These Supplementary Conditions amend or supplement the Standard General Conditions of the Construction Contract Edition (No. C-700, 2007 Edition) and other provisions of the Contract Documents as indicated below.

All provisions that are not so amended or supplemented remain in full force and effect. The terms used in these Supplementary Conditions will have the meanings indicated in the General Conditions. Additional terms used in these Supplementary Conditions have the meanings stated below.

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

- A. Owner shall furnish to Contractor up to 2 printed or hard copies of the Drawings and Project Manual. Additional copies will be furnished upon request at the cost of reproduction.

SC-4.02 Reports known to Owner of explorations and tests of subsurface conditions at or contiguous to the Site:

- A. Hand excavated test holes were completed by RTG in the vicinity of the proposed spillway. This data is included in the Contract Documents.

SC-4.06 Delete Paragraphs 4.06.A and 4.06.B in their entirety and insert the following:

- A. The owner has not completed investigations to assess Hazardous Environmental Conditions at the Site.
- B. Not Used.

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

- C. Failure of Owner to demand such certificates or other evidence of full compliance with these insurance requirements or failure of Owner to identify a deficiency from evidence provided shall not be construed as a waiver of Contractor's obligation to maintain such insurance.
- D. By requiring such insurance and insurance limits herein, Owner does not represent that coverage and limits will necessarily be adequate to protect Contractor, and such coverage and limits shall not be deemed as a limitation on Contractor's liability under the indemnities granted to Owner in the Contract Documents.

SC-5.04 Add the following new paragraph immediately after Paragraph 5.04.B:

- C. The limits of liability for the insurance required by Paragraph 5.04 of the General Conditions shall provide coverage for not less than the following amounts or greater where required by Laws and Regulations:
1. Workers' Compensation, and related coverages under Paragraphs 5.04.A.1 and A.2 of the General Conditions:
 - a. State: Statutory
 - b. Applicable Federal (e.g., Longshoreman's) plus USLH & Jones Act Coverage: Statutory
 - c. Employer's Liability: \$500,000
 2. Contractor's General Liability under Paragraphs 5.04.A.3 through A.6 of the General Conditions which shall include completed operations and product liability coverages and eliminate the exclusion with respect to property under the care, custody and control of Contractor:
 - a. General Aggregate \$ 2,000,000
 - b. Products - Completed Operations Aggregate \$ 1,000,000
 - c. Personal and Advertising Injury \$ 1,000,000
 - d. Each Occurrence (Bodily Injury and Property Damage) \$ 1,000,000
 - e. Property Damage liability insurance will provide Explosion, Collapse, and Under-ground coverages where applicable.
 - f. Excess or Umbrella Liability
 - 1) General Aggregate \$ 2,000,000
 - 2) Each Occurrence \$ 2,000,000
 3. Automobile Liability under Paragraph 5.04.A.6 of the General Conditions:
 - a. Bodily Injury:

Each person	\$ 1,000,000
Each Accident	\$ 1,000,000

- b. Property Damage:

Each Accident	\$ 1,000,000
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 - c. Combined Single

Limit of	\$ 1,000,000
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- 4. The Contractual Liability coverage required by Paragraph 5.04.B.4 of the General Conditions shall provide coverage for not less than the following amounts:
 - a. Bodily Injury:

Each Accident	\$ 2,000,000
Annual Aggregate	\$ 2,000,000
 - b. Property Damage:

Each Accident	\$ 2,000,000
Annual Aggregate	\$ 2,000,000

SC-6.06 Add a new paragraph immediately after Paragraph 6.06.G:

- H. Owner or Engineer may furnish to any Subcontractor or Supplier, to the extent practicable, information about amounts paid to Contractor on account of Work performed for Contractor by a particular Subcontractor or Supplier.

SC-6.10 Add a new paragraph immediately after Paragraph 6.10.A:

- B. Owner is exempt from payment of sales and compensating use taxes on all materials to be incorporated onto the Work.
 - 1. Owner will furnish the required certificates of tax exemption to Contractor for use in the purchase of supplies and materials to be incorporated into the Work.
 - 2. Owner's exemption does not apply to construction tools, machinery, equipment, or other property purchased by or leased by Contractor, or to supplies or materials not incorporated into the Work.

SC-6.17 Add the following new paragraphs immediately after Paragraph 6.17.E:

- F. Contractor shall furnish required submittals with sufficient information and accuracy in order to obtain required approval of an item with no more

than three submittals. Engineer will record Engineer's time for reviewing subsequent submittals of Shop Drawings, samples or other items requiring approval and Contractor shall reimburse Owner for Engineer's charges for such time.

- G. In the event that Contractor requests a substitution for a previously approved item, Contractor shall reimburse Owner for Engineer's charges for such time unless the need for such substitution is beyond the control of Contractor.

SC-14.02.C.1 Delete Paragraph 14.02.C.1 in its entirety and insert the following in its place:

1. The Application for Payment with Engineer's recommendations will be presented to the Owner for consideration. The Application will be reviewed by the Owner for approval. If the Application for payment is acceptable, the recommended amount less any reduction under the provisions of Paragraph 14.02.D will become due 30 days after the Application for Payment is presented to the Owner, and the Owner will make payment to the Contractor.

PART 4

TECHNICAL SPECIFICATIONS

DIVISION 1

GENERAL REQUIREMENTS

SECTION 01025
MEASUREMENT AND PAYMENT

PART 1 GENERAL

1.1 ADMINISTRATIVE SUBMITTALS

- A. Application for Payment: Suitable to Owner and as specified herein.
- B. Final Application for Payment: As specified herein.

1.2 APPLICATION FOR PAYMENT

- A. Use separate, detailed Application for Payment Form suitable to Owner for each payment application.
- B. Preparation:
 - 1. List each Change Order and Written Amendment executed prior to date of submission as a separate line item.
 - 2. Submit three (3) copies of Application for Payment Form and such supporting data as may be requested by Owner. Deduct 10 percent retainage unless otherwise agreed to between Owner and Contractor.

1.3 MEASUREMENT - GENERAL

- A. All unit prices that are specified for measurement by the linear foot (LF) shall be measured from the beginning to the termination point of the unit being measured.
- B. Units of measure shown on the Bid Form shall be as follows unless specified otherwise.

<u>Item</u>	<u>Method of Measurement</u>
CY	Cubic Yard, End Area Method by Owner/Engineer
½ DAY	½ DAY, Field Count by Owner/Engineer
EA	EA, Field Count by Owner/Engineer
LS	Lump Sum, Unit is one, no measurement will be made.

1.4 PAYMENT

- A. General: Progress payment requests shall be submitted monthly.
- B. Payment for Lump Sum Work covers all Work necessary to furnish, install and/or complete the following items:

**SECTION 01025
MEASUREMENT AND PAYMENT**

Bid Item No.	Description
1	<u>General Requirements</u> : Bonds, submittals, schedules, meetings, closeout, project management, and Record Drawings.
2	<u>Mobilization</u> : Move in personnel, equipment and materials; and set up and install temporary trailer(s) and utilities as required.
4	<u>Erosion and Sedimentation Controls</u> : Furnish, install, and maintain erosion and sedimentation controls (e.g., silt fence, hay bales, dewatering bags, and floating turbidity barriers) as required, and remove erosion and sediment controls in their entirety at completion.
5	<u>Clearing, Grubbing, and Removal</u> : Provide all labor, equipment, and materials to clear and grub as specified and shown in the Contract Documents.
6	<u>Temporary Flow Bypassing</u> : Provide all labor, equipment, and materials for temporary flow bypassing, including but not limited to the installation of the temporary culverts; and geotextile fabric, bedding stone, and riprap placement as specified and shown in the Contract Documents.
7	<u>Repair and Retrofit Existing Water Control Structure</u> : Provide all labor, equipment, and materials to repair and retrofit the existing water control structure, including but not limited to temporary cofferdams; dewatering; excavation and backfill; cast-in-place concrete work/grout repairs; the pre-cast concrete block wing walls; the galvanized steel trash rack; grating; aluminum pipe railing; the concrete landing; and the aluminum gangway as specified and shown in the Contract Documents.
8	<u>Slip Line Existing CMP</u> : Provide all labor, equipment, and materials to slip line the existing CMP, including but not limited to temporary cofferdams; dewatering; HDPE pipe installation; grouting; and geotextile fabric, bedding stone, and riprap placement as specified and shown in the Contract Documents.
9	<u>New Spillway Structure</u> : Provide all labor, equipment, and materials to furnish and install a new spillway structure, including but not limited to temporary cofferdams; dewatering; excavation and backfill; cast-in-place concrete work; the installation of the pre-cast concrete culvert; the installation of the pre-cast concrete wing walls/end sections; and geotextile fabric, bedding stone, and riprap placement as specified and shown in the Contract Documents.
10	<u>Site Restoration</u> : Provide all labor, equipment, and materials to restore the site, including but not limited to furnishing and installing Select Backfill, Granular Backfill, and Crushed Stone; furnishing and installing geotextile fabric; furnishing and installing Bedding Stone for Modified Riprap, Bedding Stone for Intermediate Riprap, Modified Riprap, and Intermediate Riprap; furnishing and installing Topsoil; and furnishing and installing seed as specified and shown in the Contract Documents.
12	<u>Demobilization and Cleanup</u> : Move out personnel, equipment, and unused material; clean the entire site occupied during the work; and remove all rubbish and debris.

**SECTION 01025
MEASUREMENT AND PAYMENT**

C. Payment for unit price items covers all Work necessary to furnish, install, and/or complete the following items.

Bid Item No.	Description
3A	<u>Grain Size Through No. 200 Sieve</u> : Perform Grain Size Testing in accordance with ASTM D422.
3B	<u>Moisture Density Relationship - Granular Materials</u> : Perform Moisture Density Tests in accordance with ASTM D1557.
3C	<u>Dry Density and As-Placed Moisture Content</u> : Perform Dry Density and As-Placed Moisture Testing in accordance with ASTM D2922 and D3017.
3D	<u>Concrete Compressive Strength</u> : Provide a laboratory technician to collect, cure, and test concrete cylinders in accordance with ASTM C31 and C39.
11	<u>Over-Excavation and Replacement</u> : Provide all labor, equipment, and materials to over-excavate and remove soft sediment/soils that may be encountered on the upstream and/or downstream side of the existing 18-inch-diameter CMP and replace the over-excavated material as specified and shown in the Contract Documents. The Per CY Bid Price shall include over-excavation, removal, transportation, disposal, and replacement of the soft sediment/soils with compacted crushed stone.

D. Payment for alternate lump sum and/or unit price items covers all Work necessary to furnish, install, and/or complete the following items.

Add Alternate	Description
--	Not Used.

E. Payment for equipment, materials and labor for items not included on the Bid or described in Article PAYMENT, herein, shall be considered incidental and no separate payment will be made.

1.5 NONPAYMENT FOR REJECTED OR UNUSED PRODUCTS

A. Payment will not be made for following:

1. Loading, hauling, and disposing of rejected material.
2. Quantities of material wasted or disposed of in a manner not called for under the Contract Documents.
3. Rejected loads of material, including material rejected after Contractor has placed it.
4. Material not unloaded from transporting vehicle.
5. Defective Work not accepted by the Owner/Engineer.

SECTION 01025
MEASUREMENT AND PAYMENT

6. Material remaining on hand after completion of Work.

1.6 PARTIAL PAYMENT FOR STORED MATERIALS AND EQUIPMENT

A. Final Payment: Shall be made only for materials incorporated into the Work in the Contract; no partial payments shall be made for equipment or materials delivered to the site but not used, unless otherwise agreed to be the Owner.

1.7 FINAL APPLICATION FOR PAYMENT

A. Reference the Owner's Contract, and as may otherwise be required in the Plans and Technical Specifications.

B. Prior to submitting final application, make acceptable delivery of required documents.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

* * * * *

SECTION 01040
COORDINATION AND SITE CONDITIONS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Requirements for coordinating and sequencing the work under the Contract and with other Contracts, and requirements regarding existing site conditions.

1.2 JOBSITE COORDINATION

- A. Coordination with Other Work: The project work shall be coordinated with the following work:
1. The regularly scheduled maintenance and use of the Edward Garrison Park by the Owner.

1.3 SITE CONDITIONS

A. Information on Site Conditions:

1. General: Other information obtained by the Owner/Engineer regarding the site conditions, topography, subsurface information, groundwater elevations, existing construction of site facilities as applicable, and similar data will be available for inspection at the office of the Owner.
2. Topographic maps were used in the project design. Topographic and bathymetric maps are included in the Drawings.
3. Profile Elevations:
 - a. Existing ground profiles shown on the Drawings were taken from a topographic map drawn with a contour interval of 1-foot with supplementary spot elevations to the nearest 0.1 foot.
 - b. See Drawings for topographic and bathymetric data and methods.
4. Control Points: The Owner/Engineer has performed Supplemental survey work and has established vertical and horizontal survey control points on structures and improvements located in the vicinity of the work. The location of vertical and horizontal survey control points is shown on the Drawings.

B. Existing Utilities:

1. There are no known public utilities below ground in the project area.
2. Contractor's Responsibilities:
 - a. Where Contractor's operations could cause damage or inconvenience to railway, telephone, fiber optic, television, power, oil, gas, water, sewer,

**SECTION 01040
COORDINATION AND SITE CONDITIONS**

or irrigation systems, the Contractor shall make arrangements necessary for the protection of these utilities and services. Replace existing utilities removed or damaged during construction, unless otherwise provided for in these Plans and Technical Specifications.

- b. Notify utility offices that are affected by construction operations at least 48 hours in advance. Under no circumstances shall the Contractor expose any utility without first obtaining permission from the appropriate utility. Once permission has been granted, locate, expose, and provide temporary support for the utilities.
- c. The Contractor shall relocate power poles as required for the performance of the work.
- d. The Contractor shall be solely and directly responsible to Owner and Operator of such properties for damage, injury, expense, loss, inconvenience, delay, suits, actions, or claims of any character brought because of injuries or damage which may result from construction operations under this Contract.
- e. Neither Owner nor its officers or agents shall be responsible to Contractor for damages as a result of Contractor's failure to protect utilities encountered in the work.
- f. In event of interruption to domestic water, sewer, storm drain, or other utility services as a result of accidental damage due to construction operations, promptly notify the proper authority. Cooperate with said authority in restoration as promptly as possible and pay for repair. Prevent interruption of utility service unless granted by the utility owner.
- g. In the event Contractor encounters water service lines that interfere with trenching, obtain prior approval of the water utility, cut the service, dig through, and restore service to previous conditions using equal materials.

3. Utility Contact: Mr. Steve Guay/Highway Foreman.

4. Contractor shall not perform work or occupy any part of the Owner's property without prior authorization.

C. Interfering Structures:

1. Protect and take necessary precautions to prevent damage to existing structures whether on the surface, aboveground, or underground. An attempt has been made to show major structures on the Drawings. While the information has been compiled from the best available sources, its completeness and accuracy cannot be guaranteed.

D. Field Relocation:

SECTION 01040
COORDINATION AND SITE CONDITIONS

1. During construction, minor relocations of proposed facilities and structures may be necessary. Make such relocations only by directive of the Owner/Engineer. If existing structures are encountered that prevent construction as shown, notify the Owner/Engineer before continuing with work so that Owner/Engineer may make necessary field revisions.

E. Monuments and Markers:

1. Protect survey monuments and markers throughout construction. If damage occurs or removal becomes necessary, immediately notify Owner/Engineer and restore or replace monument or marker in accordance with applicable State of Connecticut regulations.

F. Easements:

1. It is not anticipated that easements will be required to perform this work.

1.4 PROJECT MEETINGS

- A. See Section 01200, PROJECT MEETINGS.

1.5 TIME OF WORK:

- A. In accordance with the Standard Workweek established by the Owner.
- B. Night work may be scheduled by the Contractor when absolutely necessary and with the written permission of Owner. Such written permission, however, may be revoked at any time if Contractor fails to properly execute and control nighttime work.
- C. Overtime Notice: If Contractor for convenience should desire to carry on work at night or outside regular hours, submit written notice 1 day in advance of performing the work to the Engineer and allow ample time for satisfactory arrangements to be made for inspecting work in progress.

1.6 HEALTH, SAFETY, ACCIDENT PREVENTION, AND TRAINING

A. GENERAL:

1. It shall be the Contractor's responsibility to provide a complete and working Safety Activity Plan prior to starting to work.

1.7 PERMITS

- A. As part of this project, the Owner has obtained the following permits:

1. CTDEEP IWRD Dam Construction Permit.

SECTION 01040
COORDINATION AND SITE CONDITIONS

- 2. U.S. Army Corps of Engineers PGP Category I
- B. Copies of the above subject permits, as well as relevant supporting documentation, are provided in Exhibit B.
- C. The Contractor shall be responsible for adhering to the conditions of the permits and relevant supporting documentation.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

* * * * *

EXHIBIT B
Permits



Connecticut Department of
**ENERGY &
ENVIRONMENTAL
PROTECTION**

79 Elm Street • Hartford, CT 06106-5127

www.ct.gov/deep

Affirmative Action/Equal Opportunity Employer

William H. Rose, IV
Town of Chaplin
495 Phoenixville Road
Chaplin, CT 06235

Application No.: DS-201400565
Town: Chaplin
Waters: Darling Pond & Darling Pond Brook
Permit type: Dam Safety
Project: Darling Pond Dam, 2402, Hazard Class A (Low Hazard)

Dear Mr. Rose:

The Commissioner of the Department of Energy and Environmental Protection (DEEP) has approved your application to conduct certain regulated activities. Your attention is directed to the conditions of the enclosed permit. You should read your permit carefully. Construction and other work must conform to that which is authorized. Please pay particular attention to items 15 and 16, which states conditions specific to dam safety and conditions related to Natural Diversity Database species found at the site, respectively.

Do not file the permit on the municipality's Land Records.

If you have not already done so, you should contact your local Planning and Zoning Office and the U. S. Army Corps of Engineers to determine local and federal permit requirements on your project, if any. Write the Corps' New England District, Regulatory Branch, 696 Virginia Road, Concord, MA 01742-2751; <http://www.nae.usace.army.mil/> or call 1-800-343-4789.

If you have any questions concerning your permit, please contact the Inland Water Resources Division at 860-424-3019.

7/9/2014
DATE

Kartik Parekh
Kartik Parekh, Civil Engineer 2
Inland Water Resources Division

COPIES FURNISHED TO:
James Russell-RT Group, Inc.
Shari Smith-Chaplin Town Clerk
DEEP Fisheries via email (Steve.Gephard@ct.gov & Peter.Aarrestad@ct.gov)



PERMIT

Permittee: Town of Chaplin
495 Phoenixville Road
Chaplin, CT 06235

Attention: William H. Rose, IV

Permit No: DS-201400565

Town: Chaplin

Project: Darling Pond Dam (DEEP ID #2402; Hazard Class A, Low Hazard)

Waters: Darling Pond Brook

Pursuant to Connecticut General Statutes Section 22a-403, the Commissioner of Energy and Environmental Protection (“Commissioner”) hereby grants a permit to the Town of Chaplin (“the Permittee”) to conduct regulated activities associated with the Darling Pond Dam modification. The purpose of said activities is to repair an existing dam.

AUTHORIZED ACTIVITY

Specifically, the permittee is authorized to do the following: re-grade the embankments; slip-line a 14-inch HDPE into an existing 18-inch CMP that will serve as the new low level outlet; extend the new 14-inch HDPE to the new toe of dam; place standard riprap at the outlet of the new 14-inch HDPE; install an 8’x2.5’ box culvert to serve as the new primary spillway; construct the spillway’s downstream riprap channel; place modified riprap on the upstream slope; and construct a blanket drain at the new toe of dam.

The activities proposed will impact Darling Pond and Darling Pond Brook.

All activities shall be conducted in accordance with plans entitled: “*Darling Pond Dam Improvements Project*” dated Dec. 2013. Sheets 8, 9, 10, 11, 12, 15, 16, & 19 of 20 have a revised date of 5-22-14. Sheets 2, 3, & 18 of 20 have a revised date of 4-16-14. These plans were submitted as a part of the application.

This authorization constitutes the licenses and approvals required by Section 22a-403 of the Connecticut General Statutes.

This authorization is subject to and does not derogate any present or future property rights or other rights or powers of the State of Connecticut, conveys no property rights in real estate or material nor

any exclusive privileges, and is further subject to any and all public and private rights and to any federal, state, or local laws or regulations pertinent to the property or activity affected thereby.

The permittee's failure to comply with the terms and conditions of this permit shall subject the permittee, including the permittee's agents or contractor(s) to enforcement actions and penalties as provided by law.

This authorization is subject to the following conditions:

CONDITIONS:

1. **Expiration.** This permit shall expire on or before three years following the date of issue unless this permit is specifically renewed.
2. **Construction Commencement and Completion.** If construction of any structures or facilities authorized herein is not completed within three years of issuance of this permit or within such other time as may be provided by this permit, or if any activity authorized herein is not commenced within three years of issuance of this permit or within such other time as may be provided by this permit, this permit shall expire three years after issuance or at the end of such time as may be authorized by the Commissioner.
3. **Notification of Project Initiation.**
 - a. The permittee shall notify the Commissioner in writing no less than seven (7) days prior to commencement of permitted activities and no less than seven (7) days following completion of permitted activities.
 - b. The permittee shall, pursuant to Section 22a-377(b)-1(a)(16)C of the Regulations of Connecticut State Agencies, notify the Commissioner and any potentially affected water company in writing at least seven (7) days prior to the lowering of Darling Pond for the purpose of undertaking permitted activities.
 - c. The Department of Energy and Environmental Protection shall be notified at least forty-eight (48) hours prior to drawdown of the impoundment, in accordance with Section 26-138 of the Connecticut General Statutes. Such notification shall be made to the Inland Fisheries Division, 79 Elm Street, Hartford, CT 06106-5127, telephone no. 860-424-3474.
4. **De minimis Alteration.** The permittee may not make any alterations, except de minimis alterations, to any structure, facility, or activity authorized by this permit unless the permittee applies for and receives a modification of this permit. A de minimis alteration means a change in the design, construction or operation authorized under this permit that does not increase environmental impacts or substantively alter the construction of the project as permitted.

5. **Maintenance of Structures.** All structures, facilities, or activities constructed, maintained, or conducted pursuant hereto shall be consistent with the terms and conditions of this permit, and any structure, facility or activity not specifically authorized by this permit, or exempted pursuant to section 22a-377 of the General Statutes or section 22a-377(b)-1 of the Regulations of Connecticut State Agencies, or otherwise exempt pursuant to other General Statutes, shall constitute a violation hereof which may result in modification, revocation or suspension of this permit or in the institution of other legal proceedings to enforce its terms and conditions.
6. **Accuracy of Documentation.** In issuing this permit, the Commissioner has relied on information provided by the permittee. If such information was false, incomplete, or misleading, this permit may be modified, suspended or revoked and the permittee may be subject to any other remedies or penalties provided by law.
7. **Best Management Practices & Notification of Adverse Impact.** In constructing or maintaining any structure or facility or conducting any activity authorized herein, the permittee shall employ best management practices to control storm water discharges, to prevent erosion and sedimentation, and to otherwise prevent pollution of wetlands and other waters of the State. Best Management Practices include, but are not limited, to practices identified in the *Connecticut Guidelines for Soil Erosion and Sediment Control* as revised, *2004 Connecticut Stormwater Quality Manual*, Department of Transportation's *ConnDOT Drainage Manual* as revised, and the Department of Transportation Standard Specifications as revised.

The permittee shall immediately inform the Commissioner of any adverse impact or hazard to the environment which occurs or is likely to occur as the direct result of the construction, maintenance, or conduct of structures, facilities, or activities authorized herein.

Drawdown of Darling Pond shall be limited in extent and duration to that necessary to complete the permitted activities.

8. **Reporting of Violations.** The permittee shall, no later than 48 hours after the permittee learns of a violation of this permit, report same in writing to the Commissioner. Such report shall contain the following information:
 - a. the provision(s) of this permit that has been violated;
 - b. the date and time the violation(s) was first observed and by whom;
 - c. the cause of the violation(s), if known
 - d. if the violation(s) has ceased, the duration of the violation(s) and the exact date(s) and times(s) it was corrected;

- e. if the violation(s) has not ceased, the anticipated date when it will be corrected;
- f. steps taken and steps planned to prevent a reoccurrence of the violation(s) and the date(s) such steps were implemented or will be implemented;
- g. the signatures of the permittee and of the individual(s) responsible for actually preparing such report, each of whom shall certify said report in accordance with condition 12 of this permit.

9. **Material Storage in the Floodplain.** The storage of any materials at the site which are buoyant, hazardous, flammable, explosive, soluble, expansive, radioactive, or which could in the event of a flood be injurious to human, animal or plant life, below the elevation of the five-hundred (500) year flood is prohibited. Any other material or equipment stored at the site below said elevation by the permittee or the permittee's contractor must be firmly anchored, restrained or enclosed to prevent flotation. The quantity of fuel stored below such elevation for equipment used at the site shall not exceed the quantity of fuel that is expected to be used by such equipment in one day.
10. **Permit Transfer.** This permit is not transferable without the prior written consent of the Commissioner.
11. **Contractor Notification.** The permittee shall give a copy of this permit to the contractor(s) who will be carrying out the activities authorized herein prior to the start of construction and shall receive a written receipt for such copy, signed and dated by such contractor(s). The permittee's contractor(s) shall conduct all operations at the site in full compliance with this permit and, to the extent provided by law, may be held liable for any violation of the terms and conditions of this permit.
12. **Certification of Documents.** Any document, including but not limited to any notice, which is required to be submitted to the Commissioner under this permit shall be signed by the permittee or a responsible corporate officer of the permittee, a general partner of the permittee, and by the individual or individuals responsible for actually preparing such document, each of whom shall certify in writing as follows:
- “I have personally examined and am familiar with the information submitted in this document and all attachments thereto and I certify that based on reasonable investigation, including my inquiry of the individuals responsible for obtaining the information, the submitted information is true, accurate and complete to the best of my knowledge and belief. I understand that a false statement in the submitted information may be punishable as a criminal offense in accordance with Section 22a-6 of the General Statutes, pursuant to Section 53a-157b and in accordance with any other applicable statute.”

- 13. Submission of Documents.** Any document or notice required to be submitted to the Commissioner under this permit shall, unless otherwise specified in writing by the Commissioner, be directed to:

Director, Inland Water Resources Division
Department of Energy and Environmental Protection
79 Elm Street
Hartford, CT 06106-5127

The date of submission to the Commissioner of any document required by this permit shall be the date such document is received by the Commissioner. The date of any notice by the Commissioner under this permit, including but not limited to notice of approval or disapproval on any document or other action, shall be the date such notice is personally delivered or the date three days after it is mailed by the Commissioner, whichever is earlier. Except as otherwise specified in this permit, the word "day" means any calendar day. Any document or action which is required by this permit to be submitted or performed by a date which falls on a Saturday, Sunday or legal holiday shall be submitted or performed by the next business day thereafter.

- 14. Rights.** This permit is subject to and does not derogate any rights or powers of the State of Connecticut, conveys no property rights or exclusive privileges, and is subject to all public and private rights and to all applicable federal, state, and local law. In constructing or maintaining any structure or facility or conducting any activity authorized herein, the permittee may not cause pollution, impairment, or destruction of the air, water, or other natural resources of this State. The issuance of this permit shall not create any presumption that this permit should be renewed.

15. Dam Safety Conditions.

- a. This permit and a copy of the approved plans and specifications shall be kept at the project site and made available to the Commissioner at any time during the construction of permitted activities.
- b. Permitted activities shall be performed under the supervision of an engineer who is licensed to practice in the State of Connecticut and who is familiar with dam construction. Said engineer shall, upon completion of the permitted activities, certify to the Commissioner in writing that the permitted activities have been completed according to the approved plans and specifications.
- c. Within thirty (30) days of completion of the permitted activities, permittee shall submit to the Commissioner record drawings depicting the dam construction as completed, including any deviations from the approved plans and specifications. Said drawings shall be prepared and sealed by the engineer who oversaw the

construction. In addition, the permittee shall arrange for submission of an electronic copy of the final record drawings in Adobe Acrobat "pdf" format.

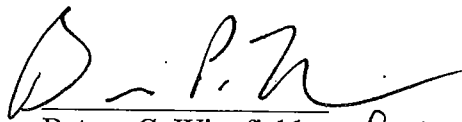
- d. Nothing in this chapter and no order, approval or advice of the Commissioner, shall relieve any owner or operator of {a dam} from his legal duties, obligations and liabilities resulting from such ownership or operation. No action for damages sustained through the partial or total failure of any structure or its maintenance shall be brought or maintained against the state, the Commissioner of Energy and Environmental Protection, or his employees or agents.

16. Additional Conditions

- a. Work shall be conducted outside of the American Bittern's breeding season (April through July). If the work must be conducted during this breeding season, then a minimum of a 100' buffer shall be delineated around the nest. If the nest is within 100' of the project site, then work shall be halted until after the breeding season.
- b. If work is going to be conducted between December and March, and if Long-eared owls are found on site, the roosting area shall be maintained intact, and a 600' buffer area shall be delineated around the roost site.
- c. Silt fence shall be installed around the work area prior to conducting regulated activities.
- d. After silt fencing is installed and prior to work being conducted, a sweep of the work area shall be conducted to look for wood turtles.
- e. Workers shall be apprised of the possible presence of wood turtles and provided a description of the species:
http://www.ct.gov/deep/cwp/view.asp?a=2723&q=473472&depNav_GID=1655.
- f. Any wood turtles that are discovered shall be moved, unharmed, to an area immediately outside of the fenced area, and positioned in the same direction that it was walking.
- g. Work conducted during early morning and evening hours shall occur with special care not to harm basking or foraging wood turtles.
- h. All silt fencing shall be removed after work is completed and soils are stable.

Issued by the Commissioner of Energy and Environmental Protection on:

7/9/14
Date

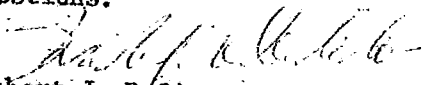

Betsey C. Wingfield
Bureau Chief
Water Protection and Land Reuse

1/9/14

We received your Connecticut General Permit (GP) Appendix IA form indicating that you plan to conduct work in our jurisdiction under Category I of the GP. We have assigned this file number NAE-2014-62. Please reference this number in any future correspondence with us.

It has been recorded as permittee self-certification of Category I compliance in our database with no review required by the Corps of Engineers. You are responsible for ensuring the work meets the terms and conditions of the General Permit.

Please contact me if you have any questions.


Robert J. DeSista
Chief, Permits & Enforcement Branch
978-318-8879

TOWN OF CHAPLIN
DARLING POND DAM IMPROVEMENTS
CHAPLIN CT 06235

US ARMY CORPS OF ENGINEERS
REGULATORY DIV BR B
696 VIRGINA RD
CONCORD MA 01742-2751

METER CODE 450 - CENAR-R

WM ROSE
FIRST SELECTMAN
TOWN OF CHAPLIN
495 PHOENIXVILLE RD
CHAPLIN CT 06235

SECTION 01200
PROJECT MEETINGS

PART 1 GENERAL

1.1 REQUIREMENTS

- A. The Owner/Engineer shall schedule and administer the Pre-Construction Conference. The Owner/Engineer shall:
1. Prepare the agenda for the meeting.
 2. Notify all parties required to attend the meeting.
 3. Make physical arrangements for the meeting.
 4. Preside at the meeting.
 5. Record the minutes, including significant proceedings and decisions.
 6. Reproduce and distribute copies of minutes within seven (7) calendar days after the meeting to participants in the meeting and other parties affected by decisions made at the meeting.
- B. The Owner/Engineer shall schedule and administer progress meetings at least once every week throughout the progress of the work. The Owner/Engineer shall:
1. Prepare agenda for the meetings.
 2. Make physical arrangements for the meetings.
 3. Preside at the meetings.
 4. Record the minutes, including significant proceedings and decisions.
 5. Reproduce and distribute copies of minutes within seven (7) calendar days after each meeting to participants in the meeting and other parties affected by decisions made at the meeting.
- C. Representatives of Contractors, Subcontractors, and suppliers attending meetings shall be qualified and authorized to act on the behalf of the entity each represents.

1.2 PRE-CONSTRUCTION CONFERENCE

- A. Attendance:
1. Owner and/or representative.
 2. Resident project representative.

SECTION 01200
PROJECT MEETINGS

3. Contractor's superintendent.
 4. Major Subcontractors.
 5. Major suppliers.
 6. Others as appropriate.
- B. Suggested Agenda:
1. Distribution and discussion of
 - a. List of major Subcontractors and suppliers.
 - b. Projected construction schedules.
 2. Critical work sequencing.
 3. Major equipment deliveries and priorities.
 4. Project coordination.
 - a. Designation of responsible personnel.
 5. Procedures and processing of:
 - a. Field decisions.
 - b. Proposal requests.
 - c. Submittals.
 - d. Change orders.
 - e. Applications for payment.
 6. Adequacy of and distribution of Plans and Technical Specifications.
 7. Procedures for maintaining record documents.
 8. Use of premises:
 - a. Office, work and storage areas.
 - b. Owner's requirements.
 9. Construction facilities, controls and construction aids.
 10. Temporary utilities.
 11. Safety and first-aid procedures.
 12. Security procedures.

SECTION 01200
PROJECT MEETINGS

- 13. Housekeeping procedures.
- 14. Place, date, and time for regular progress meetings.

1.3 PROGRESS MEETINGS

- A. Conduct regularly scheduled progress meetings at place, dates, and times agreed upon at Pre-Construction Conference.
- B. Conduct additional meetings as progress of the work dictates.
- C. Attendance:
 - 1. Owner.
 - 2. Engineer.
 - 3. Contractor's superintendent.
 - 4. Subcontractors as appropriate to the agenda.
 - 5. Suppliers as appropriate to the agenda.
 - 6. Others.
- D. Suggested Agenda:
 - 1. Review approval of minutes of previous meeting.
 - 2. Review of work progress since previous meeting.
 - 3. Field observations, problems, and conflicts.
 - 4. Problems which impede construction schedule.
 - 5. Review of off-site fabrication, delivery schedules.
 - 6. Corrective measures and procedures to regain projected schedule.
 - 7. Revisions to construction schedule.
 - 8. Progress schedule during succeeding work period.
 - 9. Maintenance of quality standards.
 - 10. Pending changes and substitutions.
 - 11. Coordination of schedules.
 - 12. Review submittal schedules; expedite as required.
 - 13. Review proposed changes for:
 - a. Effect on construction schedule and on completion date.
 - b. Effect on subcontracts of the project.
 - 14. Other business.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

SECTION 01340
SUBMITTALS

PART 1 GENERAL

1.1 REQUIREMENTS

- A. This section specifies procedural requirements for non-administrative submittals including shop drawings, product data, samples and other miscellaneous work-related submittals. Shop drawings, product data, samples and other work-related submittals are required to amplify, expand and coordinate the information contained in the Plans and Technical Specifications.
1. Refer to other Division-1 sections and other sections for specifications on administrative, non-work-related submittals. Such submittals include, but are not limited to the following items:
 - a. Permits.
 - b. Written consents.
 - c. Manifests
 - d. Payment applications.
 - e. Performance and payment bonds.
 - f. Insurance certificates.
 - g. Inspection and test reports.
 - h. Progress reports.
 - i. Listing of Subcontractors.
 - j. Construction schedules.
- B. Shop drawings are technical drawings and data that have been specially prepared for this project, including but not limited to the following items:
1. Fabrication and installation drawings.
 2. Coordination drawings (for use on-site).
 3. Schedules.
- C. Product data includes standard printed information on manufactured products that has not been specially-prepared for this project, including but not limited to the following items:
1. Manufacturer's product specifications/installation instructions.
 2. Catalog cuts.
- D. Samples are physical examples of work, including but not limited to the following items:
1. Partial sections of manufactured or fabricated work.
 2. Small cuts or containers of materials.
- E. Miscellaneous submittals are work-related, non-administrative submittals that do not fit in the three previous categories, including, but not limited to the following:

**SECTION 01340
SUBMITTALS**

1. Specially-prepared and standard printed warranties.
 2. Project photographs.
 3. Testing and certification reports.
 4. Record drawings.
 5. Field measurement data.
 6. Keys and other security protection devices.
- F. A summary of key submittals anticipated for this project is presented in Exhibit B. This list is not intended to be all inclusive. Refer to the individual Specification Sections and the Contract Documents for a complete and comprehensive listing.

1.2 SUBMITTAL PROCEDURES

- A. Coordinate the preparation and processing of submittals with the performance of the work. Coordinate each separate submittal with other submittals and related activities such as testing, purchasing, fabrication, delivery and similar activities that require sequential activity.
1. Coordinate the submittal of different units of interrelated work so that one submittal will not be delayed by the Owner's/Engineer's need to review a related submittal. The Owner/Engineer reserves the right to withhold action on any submittal requiring coordination with other submittals until related submittals are forthcoming.
- B. In each appropriate administrative submittal, such as the progress schedule, show the principal work-related submittals and time requirements for coordination of submittal activity with related work.
- C. Prepare and transmit each submittal to the Owner/Engineer sufficiently in advance of the scheduled performance of related work and other applicable activities. Transmit different kinds of submittals for the same unit of work so that processing will not be delayed by the Owner's/Engineer's need to review submittals concurrently for coordination.
- D. Allow sufficient time so that installation will not be delayed as a result of the time required to properly process submittals, including time for re-submittal, if necessary. Advise the Owner/Engineer on each submittal, as to whether processing time is critical to the progress of the work, and if the work would be expedited if processing time could be shortened.
1. Allow ten (10) calendar days for the Owner's/Engineer's initial processing of each submittal. Allow a longer time period where processing must be delayed for coordination with subsequent submittals. The Owner/Engineer will advise the Contractor promptly when it is determined that a submittal being processed must be delayed for coordination.
 2. Allow seven (7) calendar days for reprocessing each submittal.

SECTION 01340
SUBMITTALS

3. No extension of time will be authorized because of the Contractor's failure to transmit submittals to the Owner/Engineer sufficiently in advance of the work.
- E. Mark each submittal with a permanent label for identification. Provide the following information on the label for proper processing and recording of action taken.
1. Project name.
 2. Date.
 3. Name and address of Owner.
 4. Name and address of Contractor.
 5. Name and address of supplier.
 6. Name of manufacturer.
 7. Number and title of appropriate specification section.
 8. Drawing number and detail references, as appropriate.
 9. Similar definitive information as necessary.
 10. Provide a space on the label for the Contractor's review and approval markings, and a space for the Owner's/Engineer's "Action" marking.
- F. Package each submittal appropriately for transmittal and handling. Transmit three (3) copies, plus the number of copies the Contractor wants returned to it, after review of each submittal from the Contractor to the Owner/Engineer, and to other destinations as required, by use of a transmittal form. Prepare a separate transmittal form for each division of work and identify each submittal by specification section number on the transmittal form. Submittals received from sources other than the Contractor will be returned to the sender "without action".
1. Record relevant information and requests for data on the transmittal form. On the transmittal form, or on a separate sheet attached to the form, record deviations from the requirements of the Contract Documents, if any, including minor variations and limitations.
 2. No submittals will be accepted by the Owner/Engineer if transmitted via FAX machine.
 3. Include the Contractor's signed certification stating that the information submitted complies with the requirements of the Plans and Technical Specifications.
 4. Sequentially number the transmittal forms; re-submittals to have original number with an alphabetic suffix.
- G. Contractor Review: Stamp of approval indicates to Owner and Engineer that all quantities, dimensions, field construction criteria, materials, catalog numbers, and similar data have been determined and verified, and that each submittal has been reviewed or coordinated with the requirements of the Work.

**SECTION 01340
SUBMITTALS**

- H. No portion of Work requiring shop drawings shall be started or any materials be fabricated, delivered to site, or installed prior to approval of such items. Fabrication performed, materials purchased or on-site construction accomplished which does not conform to approved shop drawings and data shall be at Contractor's risk. Owner will not be liable for any expense or delay due to corrections or remedies required for conformity.
- I. Project work, materials, fabrications, and installation shall conform to approved shop drawings.

1.3 SPECIFIC SUBMITTAL REQUIREMENTS**A. Miscellaneous Submittals:**

1. Inspection and Test Reports: Classify each inspection and test report as being either "shop drawings" or "product data" depending on whether the report is specially prepared for the project, or a standard publication of workmanship control testing at the point of production. Process inspection and test reports accordingly.
2. Survey Data: Provide copies of all survey data in electronic form and hard copy, in a format compatible with the Owner's software, that is collected for property surveys, field measurements, and quantitative records of actual work, damage surveys and similar data required by the individual sections of these specifications. None of the specified copies will be returned.
3. Standards: Where submittal of a copy of standards is indicated, and except where copies of standards are specified as an integral part of a "Product Data" submittal, submit a single copy of standards for the Owner's/Engineer's use. Where workmanship, whether at the project site or elsewhere, is governed by a standard, furnish additional copies of the standard to installers, Owner's field representative, and others involved in the performance of the work.
4. Closeout Submittals: Refer to individual sections of these specifications for specific submittal requirements of project closeout information, materials, tools, and similar items.
 - a. Record Documents: Furnish one set of original and reproducible documents as maintained on the project site.
5. General Distribution: Provide additional distribution of submittals to Subcontractors, suppliers, fabricators, installers, governing authorities and others as necessary for the proper performance of the work. Include such additional copies of submittals in the transmittal to the Engineer where the submittals are required to receive "Action" marking before final distribution. Record distributions on transmittal forms.

1.4 OWNER'S/ENGINEER'S ACTION

SECTION 01340
SUBMITTALS

- A. General: Except for submittals for the record and similar purposes, where action and return on submittals is required or requested, the Owner/Engineer will review each submittal, mark with appropriate "Action", and where possible return within fourteen (14) calendar days of receipt. Where the submittal must be held for coordination, the Owner/Engineer will so advise the Contractor without delay.
 - 1. Action Stamp: The Owner/Engineer will stamp, sign, and date each submittal copy to be returned to Contractor and indicate disposition of each submittal.
- B. Owner/Engineer Review:
 - 1. Owner's/Engineer's review of submitted drawings and data will cover only general conformity to drawings and specifications, external connections, and dimensions which affect layout.
 - 2. Owner's/Engineer's review does not indicate thorough review of all dimensions.
 - 3. Owner's/Engineer's review of submittals does not relieve Contractor's responsibility for errors, omissions, or deviations, nor of responsibility for compliance with the Plans and Technical Specifications.

1.5 RESUBMISSION REQUIREMENTS

- A. Make any corrections or changes in the submittals required by the Owner/Engineer and resubmit until they are denoted "Approved as Submitted" or "Approved as Noted" by the Owner/Engineer. Resubmission requirements specified in individual specification sections, which differ from these requirements, will take precedence over these requirements.
- B. Shop Drawings and Product Data:
 - 1. Revise initial drawings or data, and resubmit as specified for the initial submittal.
 - 2. Indicate any changes which have been made other than those requested by the Owner/Engineer.
- C. Samples: Submit new samples as required for initial submittal.

1.6 DISTRIBUTION

- A. Distribute reproductions of shop drawings and copies of product data which carry the Owner/Engineer stamp denoting "No Exception Taken" or "Make Corrections Noted" to:
 - 1. Job site file.
 - 2. Record documents file.

SECTION 01340
SUBMITTALS

- 3. Subcontractors.
- 4. Supplier or fabricator.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

* * * * *

EXHIBIT C
Key Submittal Log

The Key Submittal Log will be provided to the successful Contractor at the Pre-Construction Conference.

SECTION 01400
QUALITY CONTROL

PART 1 GENERAL

1.1 WORK INCLUDED

- A. Quality Control that the Contractor will perform during the performance of this work.

1.2 SUBMITTALS

- A. Submit a Quality Control Plan to the Owner/Engineer at least twenty one (21) calendar days before starting work which includes the following information:
 - 1. Statement and description of Contractor's overall Quality Control (QC) program as described below. Each Sub-contractor shall submit a separate QC program applicable to their scope of work to the Contractor.
 - 2. Procedures to be used in obtaining field samples of materials except where required for submittal under other sections.
 - 3. Name, qualifications, and prior experience of inspection and testing laboratories that Contractor proposes for Owner's/Engineer's consideration.

1.3 QUALITY CONTROL (QC) PROGRAM

- A. Formulation, Submission, Details and Acceptance of Plan:
 - 1. The plan shall identify personnel, and establish procedures, instructions, records, and forms to be used. If Contractor fails to submit an acceptable QC Plan, the Owner/Engineer will refuse to allow construction to start.
 - 2. The Contractor's QC Plan shall include as a minimum, the following:
 - a. A description of the Contractor's QC organization, including a chart showing lines of authority, and acknowledgement that the Contractor's QC staff shall conduct inspections for all aspects of the work specified.
 - b. The name, qualifications, responsibilities, and authority of each person assigned to the Contractor's QC function.
 - c. Procedures for scheduling and managing submittals, including those of Subcontractors, fabricators, suppliers, and purchasing agents.
 - d. Control procedures to be promulgated.
 - e. Control testing procedures for each specific test, including field sampling.
 - f. Reporting procedures including proposed reporting formats.

**SECTION 01400
QUALITY CONTROL**

3. Acceptance of Plan: Acceptance of the Contractor's plan by the Owner/Engineer is required prior to the start of construction. Acceptance is conditional, and its continuation will depend on satisfactory performance by the Contractor during construction. The Owner/Engineer reserves the right to require the Contractor to make changes in the Contractor's QC Plan and operations as necessary to obtain the quality specified, at no additional cost to the Owner.
 4. Notification of Changes: After acceptance of the Contractor's QC Plan, the Contractor shall notify the Owner/Engineer in writing of any proposed change. The proposed changes will be subject to acceptance by the Owner/Engineer.
- B. Implementation of QC Plan:
1. General:
 - a. Comply with the highest industry standards except when specified requirements indicate more rigid standards, or more precise workmanship is required.
 - b. Provide personnel to produce work of specified quality.
 - c. Secure, protect, and maintain products and Work completed or in progress from damage during the progress of remaining Work.
 2. Preparatory Inspection: This shall be performed prior to beginning any segment of Work. It shall include a review of Contract requirements; a check to assure that all materials and or equipment are on hand, and have been tested, samples submitted and approved; a check to assure that provisions have been made to do required control testing; examination of the work has been completed; and a physical examination of materials, equipment and sample work to assure that they conform to approved shop drawings or submittal data. Contractor shall instruct each Subcontractor contributing work as to the acceptable level of workmanship required in the Contractor's QC Plan in order to meet Specifications.
 3. Initial Inspection: This shall be performed as soon as a representative portion of a particular segment of Work has been accomplished, and shall include an examination of the quality of workmanship and materials, a review of control testing for compliance with Contract requirements, and inspection for omissions and dimensional requirements.
 4. Follow-up Inspections: These shall be performed regularly to assure continuing compliance with Contract requirements, including control testing, until Completion. Final follow-up inspections shall be conducted and deficiencies corrected prior to final acceptance of segments of Work.

**SECTION 01400
QUALITY CONTROL**

5. Tests: Provide a list of QC tests, and the frequency of their performance, which the Contractor understands it is to perform.
6. Prompt turn-around is required for all analyses, so as not to jeopardize the project schedule. Verbal turn-around time on soil samples is not to exceed 72 hours and written turn-around time is not to exceed 120 hours.
7. The Contractor shall submit the list of tests, and the frequency of their performance, as a part of the Contractor's QC Plan, to the Engineer. The list shall give the test name, Specification Paragraph containing the test requirements, and the personnel and laboratory responsible for each type of test. The Contractor shall perform the following activities:
 - a. Verify that testing procedures comply with Contract requirements.
 - b. Verify that facilities and testing equipment are available and comply with testing standards.
 - c. Check instrument calibration data against certified standards.
 - d. Verify that recording forms, including all of the test documentation requirements, have been prepared.
8. Testing for Laboratory Capability:
 - a. Capability Check: Owner/Engineer shall have the right to check laboratory equipment in proposed laboratories for compliance with testing procedures.
 - b. Capability Rechecks: If the selected laboratory fails the capability check the Contractor shall be assessed actual costs to reimburse the Owner/Engineer for each succeeding recheck of the laboratory or the checking of a subsequently-selected laboratory.
9. Documentation:
 - a. The Contractor shall maintain records of QC operations, activities and tests performed including the Work of suppliers and Subcontractors. These records shall be on an acceptable form and shall include a description of the trades working on the project, the number of personnel working, weather conditions encountered, and delays encountered, and acknowledgement of deficiencies noted along with corrective actions taken on current or previous deficiencies. Additionally, these records shall include evidence that required activities or tests have been performed, including but not limited to the following:
 1. Type and number of control activities and tests performed.

**SECTION 01400
QUALITY CONTROL**

2. Results of control activities or tests, including nature of any defects, causes for rejection, and other information related to deficient features.
 3. Proposed remedies and accomplished corrections.
- b. These records shall cover both conforming and defective features, and shall include a statement that supplies and materials incorporated in the Work comply with the Contract requirements. Legible copies of these records shall be submitted to the Owner/Engineer.
 - c. Notification of Noncompliance: Owner/Engineer will notify the Contractor or the designated representative of any observed noncompliance with requirements of this Section. If the Contractor fails or refuses to comply promptly, the Owner/Engineer may issue an order stopping all or part of the Work until satisfactory corrective action has been taken.

1.4 WEIGHTS AND MEASURES

- A. The Contractor shall weigh and measure its own materials.
- B. Give one copy of each delivery's weight or measurement to Owner/Engineer prior to stockpiling or storage.

1.5 REFERENCE STANDARDS

- A. Where reference to an industry standard does not include a date of issue, conform to issue current as of date of Contract Documents.
- B. Where reference to an industry standard includes a date of issue, conform to issue current as of the date specified.

1.6 INSPECTION AND TESTING LABORATORIES

- A. Independent testing laboratories shall perform inspections, tests, and other services specified in individual specification sections and the Contractor's Quality Control Plan.
- B. Reports and test results shall be submitted by the independent testing laboratory directly to the Owner/Engineer, indicating observations and results of tests and indicating compliance or noncompliance with the requirements of the specifications within the time period specified herein.
- C. Contractor shall provide access to the work and fully cooperate with laboratory firms. Notify Owner/Engineer at least 48 hours prior to expected time when work is ready for inspection, sampling, or testing, if not otherwise specified for the particular work to be tested.

**SECTION 01400
QUALITY CONTROL**

- D. Retesting required due to nonconformance to the specified requirements shall be performed by the same independent testing laboratories on instructions from the Owner/Engineer. Retesting costs shall be borne by the Contractor and will not be applied to any unit price items.

PART 2 PRODUCTS

2.1 MATERIALS

- A. See Section 02200, EARTHWORK for the types of soil and rock used on this project.
- B. See Section 03200, REINFORCING STEEL AND 03310, CONCRETE for the types of reinforcing steel and concrete to be used on this project.
- C. See other applicable Specification Sections for other types of material and equipment used on this project.

PART 3 EXECUTION

3.1 PRECONSTRUCTION TESTING

- A. All material evaluation tests shall be performed by the independent testing laboratory retained by the Contractor and approved for use by the Owner/Engineer.

3.2 CONSTRUCTION TESTING

- A. Document all tests. Some or all of the following tests shall be performed in the evaluation of the in place properties of soil, rock, bituminous, and concrete materials.

- | | |
|-----------------|--|
| 1. ASTM D422 | Particle Size Analysis |
| 2. ASTM D1557 | Moisture/Density Relationship |
| 3. ASTM D2216 | Moisture Content |
| 4. ASTM D2488 | Unified Soils Classification |
| 5. AASHTO T-245 | Marshall Density |
| 6. ASTM D854 | Specific Gravity |
| 7. ASTM D1556 | Density of Soil in Place by Nuclear Methods |
| 8. ASTM D2216 | Laboratory Determination of Water Content |
| 9. ASTM D2922 | Density of Soil in Place by Nuclear Methods |
| 10. ASTM D3017 | Water Content of Soil in Place by Nuclear Methods |
| 11. ASTM 31 | Making and Curing Concrete Cylinders |
| 12. ASTM 39 | Compressive Strength of Cylindrical Concrete Specimens |

- B. Further material testing may be necessary if alternative sources of material are required during construction or, if based on visual inspection during delivery to the site, it appears that a material change (color, grain size, plasticity, etc.) as occurred. Additional source testing due to change of material shall be borne by the Contractor and will not be applied to any unit price items.

SECTION 01400
QUALITY CONTROL

- C. Nuclear density methods shall be used for all density testing due to the ease of testing and the relatively large number of tests which can be run in a specified period of time. Check the moisture content with at least two samples and correct Nuclear Gauge moisture readings if appropriate.
- D. Questions concerning the accuracy of any single test shall be addressed by retesting the same or another similar location. Perform periodic checks using the sand-cone method at the direction of the Engineer to verify the nuclear density results. Wherever a conflict exists, sand-cone results shall be accepted over nuclear density results.
- E. At locations where the field testing indicates densities below the requirements of the specifications, rework and recompact the location.

3.3 QC TESTING FREQUENCY

- A. All QC testing shall be conducted in accordance with the Contractor's QC Plan. Documentation and reporting of test results shall be the responsibility of the Contractor.
- B. Testing frequencies for material evaluation and construction quality evaluation are presented in Table 1 of this section.
- C. Sampling locations shall be approved by the Engineer.
- D. A special testing frequency shall be used at the discretion of the Engineer when visual observations of construction performance indicate a potential problem. Additional testing for suspected areas shall be considered when:
 - 1. Rollers slip during rolling operations.
 - 2. Lift thickness appears greater than specified.
 - 3. Fill appears to be at improper and/or variable moisture content.
 - 4. Dirt-clogged rollers are used to compact the material.
 - 5. Rollers may not have used optimum ballast.
 - 6. Materials appear substantially different from those specified.
 - 7. The degree of compaction is doubtful.
 - 8. Directed by the Engineer.
- E. During construction, the frequency of testing may also be increased in the following situations.
 - 1. Adverse weather conditions.
 - 2. Breakdown of equipment.
 - 3. At the start and finish of grading.
 - 4. Material fails to meet specification.
 - 5. The work area is reduced.

SECTION 01400
QUALITY CONTROL

3.4 QA TESTING FREQUENCY

- A. If required, QA testing will be performed by the Owner/Engineer at a frequency equal to about 10 percent of the QC testing frequency or as directed by the Owner/Engineer.

3.5 QA TESTING FREQUENCY

- A. If a defect is discovered, the Contractor shall immediately determine the extent and nature of the defect.
 - 1. If the defect is indicated by unsatisfactory test results, the Contractor shall determine the extent of the deficient area by additional tests, observations, a review of records, or other means that the Contractor deems appropriate. Costs for additional testing shall be borne by the Contractor and not applied to any unit price items.
 - 2. If the defect is related to adverse site conditions, such as overly wet soils or surface desiccation, the Contractor shall define the limits and nature of the defect.
- B. After determining the extent and nature of a defect, the Contractor shall notify the Engineer and schedule for defect repair and retesting.
- C. The Contractor shall correct the deficiency to the satisfaction of the Engineer. If the project specification criteria cannot be met, or if unusual weather conditions hinder work, then the Contractor shall develop and present to the Engineer suggested solutions for his approval.
- D. All retests by the Contractor must verify that the defect has been corrected before any additional work is performed by the Contractor in the area of the deficiency. The Contractor shall also verify that all installation requirements are met and that all required submittals are provided.

* * * * *

Table 1
Schedule of Quality Control Testing
Darling Pond Dam Improvements
Town of Chaplin, CT

Material	Situation	Test	Minimum Frequency
Crushed Stone, Bedding Stone, and Riprap	Source Investigation	Grain Size through 0.002 mm	1 per source
	During Placement	Grain Size through 0.002 mm	1 per 100 tons
Select Backfill/ Granular Backfill	Source Investigation	Grain Size through 0.002 mm Moisture Density Relationship	1 per source 1 per source
	During Placement	Grain Size through 0.002 mm Moisture Density Relationship	1 per 100 tons 1 per 100 tons
	As-Placed	Dry Density and As-Placed Moisture	1 per compacted lift per 1,500 SF
Concrete	As-Placed	Compressive Strength and Air Entrainment	4 cylinders per each 5 CY pour (break 1 @ 7 days and 3 @ 28 days)

SECTION 01500
TEMPORARY CONSTRUCTION FACILITIES

PART 1 GENERAL

1.1 REQUIREMENTS

A. Furnish, install, and maintain temporary construction facilities as required for construction, and remove at the completion of work. This Section includes but is not limited to requirements for:

1. Field Offices.
2. Miscellaneous construction facilities.
3. Temporary utility connections.

1.2 REQUIREMENTS OF REGULATORY AGENCIES

- A. Comply with National Electric Code.
- B. Comply with Federal, State and Local Codes, Laws, Ordinances, and Regulations and with utility company requirements.

1.3 SUBMITTALS

A. Submit drawings within ten (10) calendar days of starting work to Owner/Engineer for approval, showing layout, furnishings, and facilities of field office trailers and information concerning how Contractor proposes to furnish utilities.

1.4 JOB CONDITIONS

- A. Scheduled Uses: Provide temporary construction facilities at time first needed at the site; and maintain, expand, and modify facilities as needed throughout construction period.
- B. Conditions of Use: Operate, maintain, control, and protect support facilities in a manner which will prevent fire, hazardous exposures, health problems, unsanitary conditions, pollution, contamination, discomfort to users, flooding, freeze-up, interference with construction work, public nuisances, and similar deleterious effects.
- C. The Owner is not responsible for damage to any facilities due to severe natural occurrences, vandalism, or negligence on the part of the Contractor. The Contractor shall take all necessary precautions to protect and deter potential theft and vandalism within the construction site.

1.5 COSTS

A. Include all costs associated with furnishing, installing and removing Contractor's field offices, and providing all utilities, equipment, furnishings, waste disposal

**SECTION 01500
TEMPORARY CONSTRUCTION FACILITIES**

receptacles, services, maintenance, and removal as part of lump sum bid for Mobilization/Demobilization.

- B. Include all costs for providing continuous electric, water, sewer, heating/air conditioning, and telephone services to offices throughout construction period.

PART 2 PRODUCTS

2.1 GENERAL

- A. Materials may be new or used, but must be adequate in capacity for the required usage, must not create unsafe conditions, and must not violate requirements of applicable codes and standards.
- B. Coordinate interruptions of permanent utilities with utility companies and affected users.

2.2 FIELD OFFICES

A. Contractor's Field Office:

1. The Contractor shall provide its own field offices and such other temporary housing as it may need for storage or fabrication purposes and completely remove at the completion of the work.
2. Provide storage space for all shop drawing submittals, project samples, field laboratory test data and analyses, and other project-related information.
3. Store all documents in fireproof, lockable cabinets.
4. The Contractor and Subcontractors shall arrange for and have installed a telephone or provide mobile telephones for the use of their own field offices and personnel.

2.3 MISCELLANEOUS CONSTRUCTION FACILITIES

A. Storage Sheds:

1. General: Install individual storage sheds as required to accommodate the work; sized, furnished and equipped properly. Sheds are defined to include both open shelters and fully enclosed spaces.

PART 3 EXECUTION

3.1 INSTALLATION OF SUPPORT FACILITIES

- A. General: Use qualified tradesmen for installation of support facilities. Locate facilities where they will serve the total project construction work adequately, and

**SECTION 01500
TEMPORARY CONSTRUCTION FACILITIES**

result in minimum interference with the performance of the work. Relocate, modify and extend facilities as required during course of the work, to properly accommodate entire work of project. Locate field offices for easy access to construction work, and position so that the windows give the best possible view of construction activities. Provide a reasonably neat and uniform appearance in support facilities, acceptable to Engineer, and to Owner.

- B. Maintain and operate temporary utility systems to assure continuous service.
- C. Modify and extend temporary utility systems as work progress requires.

3.2 INSTALLATION

A. Contractor's Office:

1. Install office at or near site of work as required to complete the work. Office to be headquarters of authorized representative to receive drawings, instruction or other communication or articles.
2. Contractor to keep copies of drawings, specifications and other Contract Documents at office at site of work and make readily available for Engineer's or Owner's use at all times.
3. Toilet facilities are not available at the project site. The Contractor shall provide portable his/her toilets for the duration of the work.

B. Engineer's Office:

1. To be provided by Owner.

- #### C. Connect field offices to temporary utilities as required. Include backfill to connect telephone, electric, water and sewer utility lines; if applicable, insulate and heat the water and sewer lines to the extent necessary to prevent freezing. All sewer, water, electric, and telephone services shall be continuously connected and in proper working order.

3.3 MAINTENANCE

- A. The inside and outside of the Contractor's field offices shall be maintained in a clean condition.

3.4 REMOVAL OF TEMPORARY CONSTRUCTION FACILITIES

- A. Completely remove temporary materials and equipment when their use is no longer required.

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TEMPORARY CONSTRUCTION FACILITIES

- B. Upon completion of work of all trades and before final acceptance of entire project, each trade shall remove, at its own expense, all wiring, appurtenances, and accessories used in performance of its respective work.
- C. Temporary sheds, utilities, barricades, signs, and other appurtenances related to prosecution of the work and not incorporated in the permanent construction shall be completely removed from the site prior to acceptance of work by Owner.

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SECTION 01510
TEMPORARY UTILITIES

PART 1 GENERAL

1.1 REQUIREMENTS

- A. Furnishing, installing, and maintaining temporary utilities to support construction including:
1. Electric and Lighting.
 2. Heating and Ventilation.
 3. Water.
 4. Sanitary Facilities.

1.2 TEMPORARY ELECTRICITY AND LIGHTING

- A. Electrical power is not available at the project site.
- B. Install circuit and branch wiring, with area distribution boxes located so that power and lighting is available throughout construction by use of construction-type power cords.
- C. Provide artificial lighting for areas of work when natural light is not adequate for work, and for areas accessible to public.
- D. Furnish all extension cords, sockets, lamps, motors and accessories for work. Ground all outlets.
- E. All temporary wiring, service equipment, and accessories thereto installed shall be removed at the expense of the Contractor after serving its purpose.
- F. Contractor is required to pay for replacement of all lamps broken and/or removed from premises during construction period and until date of substantial completion of work and written acceptance by Owner.

1.3 TEMPORARY HEATING AND VENTILATION

- A. Provide temporary heating when temperature falls below 50 deg. F and as otherwise required to:
1. Maintain working conditions acceptable to Owner/Engineer.
 2. Protect all work, materials, and equipment against damage from dampness or cold.
 3. Dry out structures.
 4. Maintain proper conditions for installation and curing of materials.

SECTION 01510
TEMPORARY UTILITIES

- B. Ensure that heating equipment and fuels are compatible for the intended purpose and include safety devices in accordance with industry standards.
- C. Do not use combustion type heaters without proper venting nor in areas where such equipment might introduce a hazard.
- D. Ensure that all enclosed areas are ventilated (using forced-draft equipment when necessary) as required to maintain proper conditions for personnel and work, and to avoid any accumulation of hazardous dust or fumes.
- E. Pay costs associated with furnishing, installing, maintaining, operating, and removing of heating and ventilation equipment.

1.4 TEMPORARY WATER

- A. Furnish all water required for and in connection with work to be done under this Contract.
- B. Pay costs associated with furnishing, installing, maintaining, operating, and removing of water-related equipment.

1.5 TEMPORARY SANITARY FACILITIES

- A. Toilet facilities are not available at the project site.
- B. If the Contractor elects to provide chemical toilets, ensure that these facilities are:
 - 1. Of a capacity acceptable to Owner/Engineer.
 - 2. Maintained throughout construction period.
 - 3. Obscured from public view to the greatest extent possible and secured to prevent vandalism.
- C. Enforce use of such sanitary facilities by all personnel at site.
- D. Pay costs associated with furnishing, installing, maintaining, operating and removing sanitary facilities.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

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SECTION 01560
TEMPORARY CONTROLS

PART 1 GENERAL

1.1 REQUIREMENTS

- A. Controlling Contractor's operations and work.
- B. Furnishing, installing and operating temporary controls during construction for:
 - 1. Noise
 - 2. Dust
 - 3. Surface Water
 - 4. Pollution
 - 5. Debris and Clean Up
 - 6. Air Pollution
 - 7. Public Safety

1.2 PRIVATE LAND

- A. The Contractor shall not enter or occupy private land outside of easements, except by written permission of the property owner. Furnish Owner/Engineer copies of all side agreements the Contractor has with property owners to enter or occupy private lands.

1.3 OPEN EXCAVATIONS

- A. All open excavations shall be adequately safeguarded by providing temporary barricades, caution signs, lights and other means to prevent accidents to persons, and damage to property.

1.4 CARE AND PROTECTION OF PROPERTY

- A. The Contractor shall be responsible for the preservation of all public and private property, and shall use every precaution necessary to prevent damage thereto. If any direct or indirect damage is done to public or private property by or on account of any act, omission, neglect, or misconduct in the execution of the work on the part of the Contractor, such property shall be restored by the Contractor, at its expense, to a condition similar or equal to that existing before the damage was done, or it shall make good the damage in other manner acceptable to the Owner/Engineer.

1.5 PROTECTION OF EXISTING STRUCTURES AND UTILITIES

- A. The Contractor shall assume full responsibility for the protection of all buildings, structures, and utilities, public or private, including poles, signs, services to buildings, utilities in the street, gas pipes, water pipes, hydrants, sewers, drains, electric and telephone cables, and cesspools adjacent to trench excavations, whether or not they are shown on the Drawings. The Contractor shall carefully support and protect all such structures and utilities from injury of any kind. Any

**SECTION 01560
TEMPORARY CONTROLS**

damage resulting from the Contractor's operations shall be repaired by it at its expense, to the damaged items original condition.

1.6 PROTECTION OF WORK

- A. The Contractor shall at all times protect excavations, trenches, new construction, old construction, all job materials, apparatus and fixtures from rain, wind, snow, ice, dust, dirt, mud, groundwater, back-up or leakage of sewers, drains, or other piping, and from water of any other origin, and shall remove promptly any accumulation of the above. The Contractor shall provide and operate all pumps, piping and other equipment necessary to this end at no additional cost to Owner.
- B. Thoroughly protect all completed work and all stored materials.
- C. Replace or rectify work or materials damaged by workmen, by the elements or by any other cause, to the satisfaction of the Owner/Engineer and at no additional expense to the Owner.
- D. Repair streets, curbs, sidewalks, poles, grass, shrubs, trees, or other existing site features, if disturbed by building operations. Leave them in as good condition as they were before being disturbed.
- E. Do not allow workmen, including those of any Subcontractor or supplier, to mark finish surfaces with marking pens or other such devices that are not readily erasable.

1.7 SECURITY

- A. The Contractor shall take all precautions necessary to prevent loss or damage caused by vandalism, theft, burglary, pilferage, or unexplained disappearance of property of the Owner or Contractor, whether or not forming part of the work, located within the limits of work. The Contractor shall have full responsibility for the security of such property located in such areas and shall reimburse the Owner for any such loss, damage, or injury, except such as may be directly caused by agents or employees of the Owner.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION

3.1 GENERAL

- A. Suitable signs, lights and such required items to direct traffic shall be furnished and maintained by the Contractor.
- B. The Contractor must keep streets and premises free from unnecessary obstructions, debris and all other materials. The Owner/Engineer may, at any time, order all equipment, materials, surplus from excavations, debris and all other materials lying

**SECTION 01560
TEMPORARY CONTROLS**

outside that length of working space promptly removed, and should the Contractor fail to remove such material within 24 hours after notice to remove the same, the Owner/Engineer may cause any part or all of such materials to be removed by such persons as it may employ, at the Contractor's expense, and may deduct the cost thereof from payment which may be or may become due to the Contractor under the contract. In special cases, where public safety urgently demands it, the Engineer may cause such materials to be removed without prior notice.

3.2 INTERFERENCE WITH EXISTING STRUCTURES

- A. Whenever it may be necessary to cross or interfere with existing culverts, drains, water pipes or fixtures, guardrails, fences, or other structures needing special care, due notice shall be given to the Owner/Engineer and to the various public and private agencies or individuals responsible for the utility or structure that is interfered with. Whenever required, all objects shall be strengthened to meet any additional stress that the work herein specified may impose upon it, and any damage caused shall be thoroughly repaired. The entire work shall be the responsibility of the Contractor and the work shall be performed at no additional expense to the Owner. All damaged items of work or items required to be removed and replaced due to construction shall be replaced or repaired by the Contractor to the complete satisfaction of the property Owners and/or the Owner/Engineer at no additional expense to the Owner.

3.3 NOISE CONTROL

- A. The Contractor shall employ all reasonable measures to avoid unnecessary noise and ensure that noise is appropriate for normal ambient sound levels in the work area during working hours. Where required by agencies having jurisdiction, certain noise - producing work may have to be performed during specified periods only. Noise control measures during normal work hours shall include but not be limited to:
1. Operate machinery in a manner to cause least noise consistent with efficient performance of work.
 2. Equip all construction machinery and vehicles with sound-muffling devices.
 3. During construction adjacent to occupied buildings, erect screens or barriers as required to reduce noise in building to limits in accordance with applicable codes. Conduct operations in such a manner as to avoid unnecessary noise that might interfere with activities of building occupants.
- B. When the Contractor's work extends beyond normal working hours the Contractor shall incorporate to the complete satisfaction of the Owner and Engineer, adequate noise prevention measures to insure minimum noise impact on the surrounding areas. Noise prevention measures shall include, but not be limited to:
1. Insulated enclosures.

SECTION 01560
TEMPORARY CONTROLS

2. Hospital grade silencers or mufflers.
 3. Equipment modification.
 4. Special equipment, as necessary to meet local noise guidelines.
 5. Any other noise prevention measures.
- C. Should at any time the Owner and/or Engineer determine that noise prevention measures are inadequate, the Contractor shall suspend all such work in question until acceptable measures are incorporated. Suspension of work due to inadequate noise prevention shall not be a cause for additional cost to the Owner.
- D. Prior to the start of any work outside normal work hours, the Contractor shall submit a Noise Control plan to the Owner and Engineer for review. Noise Control plans shall be submitted for:
1. Night work.
 2. All Pumping operations and work which extend beyond normal workday.
 3. Any other work as determined by the Engineer that warrants special noise prevention measures.
- E. All costs associated with noise control measures shall be considered part of the bid price for appropriate work being completed.
- 3.4 ODOR CONTROL
- A. During the work, the Contractor shall implement controls and take all necessary steps to prevent odors from becoming a nuisance to surrounding areas.
- 3.5 SURFACE WATER CONTROL
- A. Provide for drainage of storm water and such water as may be applied or discharged on site in performance of work.
- B. Ensure that drainage facilities are adequate to prevent damage to work, site, and adjacent property.
- 3.6 POLLUTION CONTROL
- A. Prevent pollution of drains and watercourses by sanitary wastes, sediment, debris, and other substances resulting from construction activities.
1. In order to protect Darling Pond and its tributaries from hazardous materials releases by the construction equipment involved in this project, equipment must be in good condition and inspected for leaks daily; spill control and cleanup equipment shall be stored on site; and the Contractor shall be responsible for all cleanup and remediation of hazardous materials releases.

**SECTION 01560
TEMPORARY CONTROLS**

All hydraulic equipment operating adjacent to Darling Pond and its tributaries shall utilize non-toxic, biodegradable hydraulic oil.

2. Do not allow sanitary wastes to enter any drain or watercourse other than sanitary sewers or onsite septic systems.
3. Do not allow sediment, debris, or other substances to enter sanitary sewers and take measures to prevent such materials from entering any drain or watercourse.
4. All moving of equipment, water control, and other operations likely to create silting, shall be planned and conducted so as to avoid pollution of the Darling Pond and its tributaries. Water used for any purpose that has become contaminated with oil, bitumen, salt, or other pollutants shall be discharged so as to avoid affecting nearby waters. Under no circumstances shall pollutants be discharged directly into the Darling Pond and its tributaries.

3.7 DEBRIS AND CLEANUP

- A. Keep all premises free at all times from accumulation of waste materials and rubbish.
 1. Immediately after unpacking, remove and dispose of all packing materials, case lumber, excelsior, wrapping, or other rubbish from site.
- B. Provide trash receptacles about site, and empty containers daily.
- C. Neatly stack construction materials, such as concrete forms and scaffolding, when not in use.
- D. Promptly remove splattered concrete, asphalt, oil, paint, corrosive liquids, and cleaning solution from surfaces to prevent marring or other damage to satisfaction of Owner/Engineer.
- E. Ensure that wastes are not buried or burned on site or disposed into storm drains, sanitary sewers, streams, or waterways.
 1. Remove all wastes from site and dispose in a manner complying with local ordinances and anti-pollution laws.
 2. Store volatile wastes in covered metal containers and remove daily.
- F. Cleanup as determined by Owner/Engineer will be a condition for recommendation of progress payment application.
 1. Contractor shall have full responsibility for cleaning up during and immediately upon completion of work. Remove all rubbish, waste, tools, equipment, and

SECTION 01560
TEMPORARY CONTROLS

appurtenances caused by and used in execution of work, leaving site clean, free of debris and in condition acceptable to Owner/Engineer.

- 2. Equipment or material shall not be left within any work area after acceptance of Contract without written permission of Owner/Engineer. Do not abandon any material at or near site regardless of its value.

3.8 PUBLIC SAFETY

- A. At all times until final acceptance of Work by Owner, the Contractor shall protect Work and shall take all precautions of preventing injuries to persons or damage to property on or about site.
- B. Contractor shall comply with all applicable laws, ordinances, rules, and regulations regarding safety of persons or property or with regard to protecting them from damage, injury, or loss and shall not load or permit any part of work to be placed so as to endanger safety of work.
- C. Conduct work such that abutters shall have reasonable access to their property.

3.9 REMOVAL OF TEMPORARY CONTROLS

- A. Completely remove temporary materials and equipment when their use is no longer required.
- B. Upon completion of work of all trades and before final acceptance of entire project, each trade shall remove, at it's own expense, all wiring, appurtenances and accessories used in performance of its respective work
- C. Temporary sheds, utilities, barricades, signs, and other appurtenances related to the prosecution of the work and not incorporated in the permanent construction shall be completely removed from the site prior to acceptance of work by Owner.

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SECTION 01720
PROJECT RECORD DOCUMENTS

PART 1 GENERAL

1.1 REQUIREMENTS

- A. Maintain at the site for the Owner one record copy of
 - 1. Drawings
 - 2. Specifications
 - 3. Addenda
 - 4. Change orders and other modifications to the contract
 - 5. Engineer field orders or written instructions
 - 6. Reviewed shop drawings, product data and samples
 - 7. Field test records
- B. The Contractor will be required to furnish, at no additional expense to the Owner, the services of a surveyor and/or Engineer registered in the state where the project is located and under whose direction shall be obtained and recorded all surveys, measurements and such other data required for the determination of the as-built records of the construction of all site work.

1.2 MAINTENANCE OF DOCUMENTS AND SAMPLES

- A. Store documents and samples in Contractor's field office apart from documents used for construction.
- B. Provide locked file cabinet for storage of documents.
- C. Provide locked cabinet space for storage of samples.
- D. File documents and samples in accordance with CSI/CSC format.
- E. Maintain documents in a clean, dry, legible condition and in good order. Do not use record documents for construction purposes.
- F. Make documents and samples available at all times for inspection by Engineer and Owner.

1.3 MARKING DEVICES

- A. Provide felt tip marking pens for recording information in a color code approved by Owner/Engineer.

SECTION 01720
PROJECT RECORD DOCUMENTS

1.4 RECORDING

- A. Label each document "Project Record" in neat large printed letters.
- B. Record information concurrently with construction progress.
- C. Do not conceal any work until required information is recorded.
- D. Drawings: Principal dimensions, elevations and other data, as required, shall be recorded for all work, such as:
 - 1. Deviations of any nature made during construction.
 - 2. Location of underground utilities.
 - 3. Field changes of dimension and detail.
 - 4. Changes made by field order or by change order.
 - 5. Details not on original contract drawings.
- E. The marked-up prints shall be inspected periodically by the Owner/Engineer and shall be corrected immediately if found either inaccurate or incomplete.
- F. Specifications and Addenda: Legibly mark each section to record:
 - 1. Manufacturer, trade name, catalog number, and supplier of each product and item of equipment actually installed.
 - 2. Changes made by field order or by change order.

1.5 FINAL MEASUREMENTS

- A. The Contractor shall provide qualified personnel and equipment for taking final measurements for quantities and record documents.

1.6 RECORD DRAWINGS

- A. At the completion of the project, the record prints shall be submitted to the Owner/Engineer for final review and comment.
- B. The Contractor shall correct, amplify, and do all other work as may be required by the Owner/Engineer to complete the Drawings in a manner satisfactory to the Owner/Engineer and at no additional cost to the Owner.
- C. Upon approval, the Contractor shall provide a final record drawing set to the Owner.

SECTION 01720
PROJECT RECORD DOCUMENTS

1.7 SUBMITTAL

- A. At contract closeout, deliver record documents to Owner.
- B. Accompany submittal with transmittal letter in duplicate, containing:
 - 1. Date
 - 2. Project title and number
 - 3. Contractor's name and address
 - 4. Title and number of each record document
 - 5. Signature of Contractor or his authorized representative

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

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DIVISION 2

SITE WORK

SECTION 02005
MOBILIZATION / DEMOBILIZATION

PART 1 GENERAL

1.1 WORK INCLUDED

- A. This section covers the work necessary to move in personnel and equipment; set up Contractor's temporary offices, buildings, facilities, and utilities; prepare the site for construction; and demobilize complete.

1.2 GENERAL

- A. The Contractor's Work Limits are shown on the Drawings.
- B. The limits of the Owner's property are shown on the Drawings.
- C. In the event additional space is required for the Contractor's operations, the Contractor shall make its own arrangements and pay for such additional space.

PART 2 PRODUCTS

2.1 SECURITY FENCE

- A. Construct temporary security fence or other suitable enclosures as required for the protection of the Contractor's materials, tools, and equipment. Maintain fencing/enclosures during construction.

2.2 PARKING FACILITIES

- A. Parking is available onsite within the Contractor's Staging Area shown on the Drawings.

PART 3 EXECUTION

3.1 LAYOUT

- A. Set up construction facilities in a neat and orderly manner within the Contractor's Staging Area and/or at a location acceptable to the Owner/Engineer. Accomplish all required work in accordance with applicable portions of these Specifications. Confine operations within the general work limits shown.

3.2 DEMOBILIZATION

- A. At the completion of the work, and immediately prior to final inspection, clean the entire project area occupied by the Contractor during the work. Remove all unused material, debris, soil, and rubbish, unless otherwise specified. Disposal of material shall be in accordance with Federal, State, and local laws and regulations.
 - 1. Should Contractor not remove rubbish or debris or not clean the facilities and site as specified above, the Owner reserves the right to have final cleaning done by others at the sole expense of the Contractor.

SECTION 02005
MOBILIZATION / DEMOBILIZATION

B. The Contractor shall:

1. Employ experienced workers or professional cleaners for final cleaning.
2. Conduct final inspection of concealed spaces in preparation for Contract completion.
3. Remove from the property temporary structures and materials, equipment, and appurtenances not required as part of, or appurtenant to, the completed work.
4. Leave watercourse, gutters, and ditches open and in a condition satisfactory to Owner/Engineer.

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SECTION 02050
DEMOLITION AND REMOVAL

PART 1 GENERAL

1.1 WORK INCLUDED

- A. This section covers the work associated with demolition and removal as specified and shown on the Drawings.

1.2 GENERAL

- A. The Contractor shall submit to the Owner/Engineer a schedule for removal and stockpiling.

PART 2 PRODUCTS

2.1 GENERAL

- A. The Contractor shall provide all materials and equipment in suitable and adequate quantity to accomplish the work shown and specified.

PART 3 EXECUTION

3.1 GENERAL

- A. Remove existing concrete, steel, and other deteriorated materials as required to complete the work under this Contract.

3.2 DISPOSAL

- A. No burning of combustible materials will be permitted.
- B. Dispose of all demolition related material offsite, in accordance with all local, State, and Federal Laws and Regulations.

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**SECTION 02110
CLEARING, GRUBBING, AND STRIPPING**

PART 1.00 GENERAL**1.1 WORK INCLUDED**

- A. This section covers the work necessary to remove all interfering or objectionable material from the designated areas of work as shown on the Drawings or designated in the Specifications.
- B. This work shall also include the preservation from injury or defacement of all vegetation, and existing objects designated to remain, as shown or as specified herein.
- C. The Contractor shall stake the limits of clearing, grubbing, and stripping. The Engineer shall review the location, limits, and methods to be used prior to commencing the work under this section.

PART 2.00 PRODUCTS**2.1 GENERAL**

- A. The Contractor shall provide all materials and equipment in suitable and adequate quantity as required to accomplish the work shown, specified herein, and as required to complete the project.

PART 3.00 EXECUTION**3.1 CLEARING**

- A. Definition: Clearing shall consist of cutting, removing, and disposing of trees, snags, stumps, shrubs, brush, limbs, and other vegetative growth, and shall be performed in such a manner as to remove all evidence of their presence from the surface and shall be inclusive of sticks and branches greater than 1 inch in diameter or thickness. Clearing shall also include the removal and disposal of trash piles, rubbish, and fencing; and the preservation of trees, shrubs, and vegetative growth, which are designated to remain.
- B. Cutting Timber: In the cutting of timber growth, cuts shall be made such that all trees are felled into the area to be cleared. Exercise care when clearing near the clearing limits so as not to damage existing trees, vegetation, structures, or utilities which are outside of the clearing limits. Flush cut all stumps not designated for grubbing by cutting to within 6 inches of the ground surface.

3.2 PRESERVATION OF TREES, SHRUBS, AND OTHER VEGETATION

- A. Protect trees, shrubbery, and other vegetation not designated for removal from damage resulting from the work. Cut and remove tree branches only where such

SECTION 02110
CLEARING, GRUBBING, AND STRIPPING

cutting is necessary to effect construction operations as approved by the Engineer and/or Owner. Remove branches other than those required to affect the work to provide a balanced appearance of any tree, as approved prior to removal. All pruning performed shall be in accordance with the latest version of the International Society of Arboriculture standards.

3.3 GRUBBING

- A. Definition: Grubbing shall consist of the removal and disposal of wood or root matter below the ground surface remaining after clearing and shall include stumps, trunks, roots, or root systems greater than 1 inch in diameter or thickness to a depth of 6 inches below the ground surface, unless otherwise shown on the Drawings.
- B. Areas requiring clearing and grubbing are shown on the Drawings.

3.4 DISPOSAL OF CLEARING AND GRUBBING DEBRIS

- A. Material shall be promptly removed from the site, unless otherwise shown on the Drawings, and disposed of in accordance with all local laws, codes, and ordinances. The Contractor shall bear full responsibility for lawful and safe disposal of all cleared and grubbed material.

3.5 STRIPPING

- A. Definition: Stripping shall include the removal of all organic sod, Plantable Soil, Organic Muck, grass, and grass roots, remaining after clearing and grubbing.
- B. Disposal of Stripping: Plantable Soil and Organic Muck from stripping operation which meets the specified requirements shall be stockpiled for later use. All other material will be disposed of offsite at the Contractor's expense.

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SECTION 02200
EARTHWORK

PART 1 GENERAL

1.1 WORK INCLUDED

- A. This section covers the work necessary for the earthwork, complete.

1.2 DEFINITIONS

- A. Relative Compaction: The ratio, in percent, of the as-compacted field dry density to the laboratory maximum dry density as determined by ASTM D1557. Corrections for oversize material may be applied to either the as-compacted field dry density or the maximum dry density, as determined by the Engineer.
- B. Optimum Moisture Content: Determined by the ASTM standard specified to determine the maximum dry density for relative compaction.
- C. Relative Density: As defined by ASTM D4253 or D4254.
- D. Prepared Ground Surface: The ground surface after clearing, grubbing, stripping, excavation, and scarification and/or compaction.
- E. Completed Course: A course or layer that is ready for the next layer or next phase of the work.
- F. Well-Graded: A mixture of particle sizes that has no specific concentration or lack thereof of one or more sizes. Well-graded does not define any numerical value that must be placed on the coefficient of uniformity, coefficient of curvature, or other specific grain size distribution parameters. Well-graded is used to define a material type that, when compacted, produces a strong and relatively incompressible soil mass free from detrimental voids.
- G. Influence Area: The area within planes sloped downward and outward at an angle of 60 degrees from the horizontal from (a) 1 foot outside the outermost edge at the base of foundations or slabs; or (b) 1 foot outside the outermost edge at the surface of roadways or shoulder; or (c) 0.5 foot outside the exterior edge at the spring line of pipes and culverts.
- H. Unclassified Excavation: The nature of materials to be encountered has not been identified or described herein.
- I. Imported Material: Material obtained by the Contractor from sources off the site.
- J. Excess Material: Material generated during this project that is not suitable for reuse as determined by the Owner/Engineer.
- K. Boulder: Rock material greater than 1 cubic yards in volume that cannot be removed with a standard backhoe or excavator without significant effort.

SECTION 02200
EARTHWORK

- L. Rock: Rock material in beds, ledges, un-stratified masses, and conglomerate deposits and boulders of rock material exceeding 1 cubic yards that cannot be removed by rock excavating equipment and systematic drilling, ram hammering, ripping or hydraulic splitting.

1.3 EXISTING UTILITIES

- A. While there are no known utilities at the project site, call Dig Safe **1-888-DIG-SAFE (1-888-344-7233)** 72 hours before commencing with any excavation, in order that all pertinent utility companies become informed of such work. Coordinate with the Owner for locating their onsite utilities.

1.4 SUBMITTALS

- A. Provide the following submittals:
 - 1. Certification, test results, source, and samples for all imported earth materials.
 - 2. Catalog and manufacturer's data sheets for compaction equipment.
 - 3. Manufacturer's certificate of compliance attesting that geotextile/geogrid meets the requirements of these specifications. Provide mill certificates stating the length and width of fabric/geogrid contained on each roll.

1.5 IMPORTED MATERIAL ACCEPTANCE

- A. All imported earth materials specified in this section are subject to the following requirements:
 - 1. All tests necessary for the Contractor to locate acceptable sources of imported material shall be made by the Contractor. Certification that the material conforms to the Specification requirements along with copies of the test results from a qualified commercial testing laboratory shall be submitted to the Owner/Engineer for approval at least 14 calendar days before the material is required for use. All material samples shall be a minimum mass required by ASTM D75 and furnished by the Contractor at the Contractor's sole expense. Samples shall be representative and be clearly marked to show the source of the material and the intended use on the project. Sampling of the material source shall be done by the Contractor in accordance with ASTM D75. Tentative acceptance of the material shall be based on an inspection of the source by the Owner/Engineer and/or the certified test results submitted by the Contractor to the Owner/Engineer at the Owner's/Engineer's discretion. No imported materials shall be delivered to the site until the proposed source and materials tests have been tentatively accepted in writing by the Owner/Engineer. Final acceptance will be based on Quality Control and Quality Assurance tests made on samples of material taken from the completed and compacted course.
 - 2. Gradation tests by the Contractor shall be made on samples taken at the place

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of production prior to shipment. Samples of the finished product for gradation testing shall be taken as specified in Section 01400, QUALITY CONTROL, or more often as directed by the Owner/Engineer if variation in gradation is occurring, or if the material appears to depart from the Specifications. Verbal test results shall be forwarded to the Owner/Engineer within 72 hours of testing, and written results within 120 hours.

3. If tests conducted by the Contractor or the Owner/Engineer indicate that the material does not meet Specification requirements, material placement will be terminated until corrective measures are taken. Material that does not conform to the Specification requirements and is placed in the work shall be removed and replaced at the Contractor's sole expense. Retesting of material that does not meet specification requirements shall be performed at the Contractor's sole expense.

1.6 EXCAVATION SAFETY

- A. The Contractor shall be solely responsible for making all excavations in a safe manner, in accordance with any Federal, State, local, and/or Owner safety standards. Provide appropriate measures to retain excavation side slopes and prevent earth slides to ensure that persons working in or near the excavation are protected.

1.7 CODES, ORDINANCES, AND STATUS

- A. The Contractor shall familiarize itself with, and comply with, all applicable codes, ordinances, statues, and bear sole responsibility for the penalties imposed for noncompliance.

1.8 TOLERANCES

- A. All material limits shall be constructed within a vertical tolerance of 0.1 foot and a horizontal tolerance of 1 foot except where dimensions or grades are shown or specified as minimum. All grading shall be performed to maintain slopes and drainage as shown. No reverse slopes will be permitted.

PART 2 PRODUCTS

2.1 MATERIALS

- A. Select Backfill shall be as shown on the Drawings.
- B. Granular Backfill shall be as shown on the Drawings.
- C. Crushed Stone shall be as shown on the Drawings.
- D. Bedding Stone for Modified Riprap shall be as shown on the Drawings.

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- E. Bedding Stone for Intermediate Riprap shall be as shown on the Drawings.
- F. Modified Riprap shall be as shown on the Drawings.
- G. Intermediate Riprap shall be as shown on the Drawings.
- H. Water for compaction shall be furnished by the Contractor. Water for compaction from sources other than potable sources shall be as approved by the Engineer.
- I. Geotextile Fabric shall be nonwoven and needle punched pervious sheets of polyester, polyethylene, nylon, or polypropylene filaments formed into a uniform pattern. Geotextile fabric shall be Mirafi 1160N or approved equal. The geotextile fabric shall have the following minimum properties when measured in accordance with the referenced standards.

Test	Method	Specified
Mass per Unit Area (oz/yd ²)	ASTM D-3776	--
Grab Tensile Strength (lbs)	ASTM D-4632	380
Puncture Strength (lbs)	ASTM D-6241	1,000
Elongation at Required Strength (%)	ASTM D-4642	50
UV Resistance	ASTM D-4355	70% at 500 hr.
Equivalent Opening (US Standard Sieve)	ASTM D-4751	100
Permittivity (sec ⁻¹)	ASTM D-4491 with 60 mm Falling Head	0.7
Water Flow Rate (gal/min/ft ²) at 50 mm Constant Head	(2)	51.8

- (1) All numerical values represent minimum/maximum average roll values (i.e., the average of minimum test results on any roll in a lot should meet or exceed the minimum specified values).
- (2) Water flow rate in gal/min/ft² shall be determined by multiplying permittivity in sec⁻¹ as determined by ASTM D-4491 by a conversion factor of 74.

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PART 3 EXECUTION

3.1 GENERAL

- A. Unsuitable or excess materials shall be stripped from areas of new construction or re-grading. Materials suitable for reuse shall be stored onsite in approved locations near the work in progress that will not interfere with construction operations. All excess and unsuitable earth materials shall be stockpiled in the Contractor's staging area.
- B. In general, earth excavation is unclassified and shall include the excavation, removal and satisfactory disposal of all materials of whatever nature encountered from within the limits indicated or specified or as directed in writing. It shall include, but not be limited to, earth materials such as peats, organic or inorganic silts, clay, sand and gravel, cobbles and boulders less than or equal to 1 cubic yards in volume, soft or disintegrated rock which, in the opinion of the Owner/Engineer, can be removed without drilling and splitting, pavement, and all obstructions not specifically included in another section.
- C. All excavations shall be backfilled as specified.

3.2 REMOVAL OF WATER

- A. Provide sump pumping as required if water is encountered and adequate sedimentation controls prior to discharge into a nearby watercourse.

3.3 STOCKPILE OPERATION

- A. See Drawings.

3.4 BACKFILL

- A. The Contractor shall inform the Owner/Engineer in writing a minimum of 48 hours prior to starting any backfill operation. The information shall include the location to be filled, the amount of fill to be placed, and the material to be placed.
- B. Prior to placing any backfill, remove all trash, debris, and/or any other unsuitable material from areas where backfill is to be placed. Do not place frozen backfill. Do not place backfill on frozen ground or in areas where standing water is present.
- C. Backfill around and adjacent to concrete structures only after the concrete has attained 2/3 of the specified compressive strength or as approved by the Owner/Engineer.
- D. Do not operate earth-moving or other heavy equipment within a distance that will cause damage to new or existing structures. Compact backfill adjacent to and on top of existing and new structures, utilities, and concrete walls with hand-operated vibratory compactors or other acceptable equipment. Compaction shall be

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performed in a manner, which will not damage new or existing structures and utilities.

3.5 SELECT BACKFILL/GRANULAR BACKFILL

- A. Place Select Backfill/Granular Backfill in previously excavated areas. Do not exceed loose lifts of 10 inches. Compact each lift to not less than 95 percent relative compaction.

3.6 CRUSHED STONE

- A. Place Crushed Stone as shown on the Drawings. Do not exceed loose lifts of 8 inches. Compact each lift with at least three (3) passes of a vibratory plate compactor until there is no apparent stone settlement. The plate compactor shall have a minimum base plate width of 20 inches, provide a minimum force of 5,400 lb., and achieve 4,980 VPM (min.).

3.7 PLACING BEDDING AND RIPRAP STONE

- A. Place Bedding for Riprap as shown on the Drawings. The bed for Bedding and Riprap shall be properly trimmed and shaped. Riprap shall be placed by mechanical means that will produce a completed job within reasonable tolerances of the typical sections shown on the Drawings. The top surface of the Riprap shall conform to a true and even plane with a tolerance of plus or minus 3 inches. The Contractor shall hand work riprap, placing tightly together, filling large voids and correcting segregated areas to minimize movement.
- B. Placement of Riprap shall be from the base of the slope upward. The Owner/Engineer shall determine height of free fall of riprap, but in no case shall this height exceed one foot.

3.8 GEOTEXTILE FABRIC

- A. The area shall be graded smooth and all stones, roots, sticks, or other foreign material which would interfere with the fabric being completely in contact with the soil shall be removed prior to placing the fabric. The surfaces to accept geotextiles shall be compacted to not less than 95 percent relative compaction.
- B. The fabric shall be placed loosely and the machine direction of the fabric laid parallel with the Spillway. Pinning or stapling may be required to hold the geotextile in place. Separate pieces of fabric shall be joined by overlapping or sewing. The fabric in the overlapped joints shall be placed with a minimum overlap of 24 inches. When required, overlaps in the downstream direction shall be laid (i.e., shingled) to shed water. After placement, the fabric shall be exposed no longer than 48 hours prior to covering.
- C. Damaged areas shall be covered with a patch of fabric/grid using a three-foot overlap in all directions.

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3.9 MOISTURE CONTROL

- A. During the compacting operations, the moisture content of the material shall be within the range necessary to obtain the specified compaction, as determined by laboratory testing.
- B. Maintain moisture content throughout the lift. Insofar as practicable, add water to the material at the site of excavation. Supplement, if required, by sprinkling the material.
- C. Do not compact material that contains excessive moisture. Aerate material by blading, discing, harrowing, or as approved, to hasten the drying process.

3.10 COMPACTION TESTING

- A. The Contractor shall make all necessary excavations and preparations for testing in accordance with Section 01400, QUALITY CONTROL. Excavations for density tests shall be backfilled with material similar to that excavated, and compacted to the specified density by the Contractor. Failure of the backfill material to achieve the specified density will be just cause for rejection of any or all portions of the excavation section tested. The Contractor will not be granted an extension of time or additional compensation for testing or repair of backfill ordered by the Owner/Engineer.

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SECTION 02270
EROSION AND SEDIMENT CONTROL

PART 1 GENERAL

1.1 WORK INCLUDED

- A. Work covered under this Section shall include all work for erosion and sediment control.

1.2 SUBMITTALS

- A. Provide the following submittals:
 - 1. Location, dimensions, and details for erosion and sediment control devices.
 - 2. Manufacturer's certificate of compliance for geotextiles.

PART 2 PRODUCTS

2.1 MATERIALS

- A. Haybale and/or Silt Fence shall be provided as required during the work to prevent sediment from entering Darling Pond.
- B. Dewatering Bags shall be as manufactured by Dandy Dewatering Bag (Contact 800-591-2284) and sized in accordance with the Contractor's Water Control Plan.
- C. Floating turbidity barriers shall be of sufficient size and strength for the intended work and shall be secured to prevent loss of containment. Turbidity barriers shall be as manufactured by Siltdam Containment Barriers as supplied by Brockton Equipment/Spilldam, Inc. (Contact 508-583-7850).

PART 3 EXECUTION

3.1 GENERAL

- A. The Contractor shall maintain haybales, silt fence, dewatering bags, and floating turbidity barriers in good condition and remove in their entirety upon completion of the work.
- B. The Contractor shall remove accumulated sediment trapped within the haybales, silt fence, and dewatering bags, periodically and as directed by the Owner/Engineer.
- C. Floating turbidity barriers shall be deployed as required during the work. The barriers shall be of sufficient length and shall protect against escape of sediment during both ebb and flood tides. The Contractor shall familiarize itself with the current velocities and anchoring conditions at the waterfront.

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**SECTION 02300
TEMPORARY COFFERDAMS**

PART 1 GENERAL**1.1 WORK INCLUDED**

- A. The work covered in this section includes the installation, maintenance, and removal of temporary cofferdams.

1.2 RESPONSIBILITY

- A. Cofferdams shall be of sufficient strength to safely sustain all loads from the sides of the excavations together with all water pressure and reasonable surcharge.
1. The Cofferdam types and limits shown on the Drawings are for information only and the Contractor shall be responsible for the final selection, layout, and design of the cofferdams required to perform the work.
 2. The Contractor shall, at all times, be entirely responsible for the adequacy of cofferdams used to permit the satisfactory and safe installation and construction of the work.
 2. The Contractor shall, at all times, provide adequate protection against damage to all existing utilities, structures and completed portions of the work, and shall prevent injury to persons.

1.3 SUBMITTALS**A. Drawings:**

1. At least fourteen (14) calendar days prior to the start of cofferdam installation submit for review by the Engineer:
 - a. Drawings
 - b. Sections
 - c. Details and other pertinent information
2. The data shown shall include:
 - a. An overall time schedule for the construction of cofferdams.
 - b. A description of the anticipated sequence of construction.
 - c. Complete details of methods, equipment and materials proposed to be used at each work location.
 - d. Any other pertinent data required for review by the Engineer.

B. Design Computations:

SECTION 02300
TEMPORARY COFFERDAMS

1. The Contractor shall also submit complete computations for the design of the cofferdams proposed to be installed. The design shall be in accordance with sound engineering practice and modern accepted principles of soil mechanics. It shall include the effects of all surcharge which may be reasonably anticipated.
 2. The minimum factor of safety for each of the cofferdam systems shall be 1.50.
 3. All drawings and computations shall be made or sealed by a registered Professional Engineer licensed to practice in the State of Connecticut. Drawings and computations shall bear the stamp of the Engineer.
- C. Submittal Review by Engineer:
1. The design and layout will be reviewed by the Engineer as to type and suitability, providing that the arrangements presented by the Contractor are satisfactory, but such review will not relieve the Contractor of the sole responsibility for the adequacy of the system nor shall it be construed as a guarantee that the Contractor's proposed equipment, materials, and cofferdam methods will be adequate for the work required at the locations of and for the work required by this contract.

PART 2 PRODUCTS

2.1 STEEL SHEETING

- A. The shapes, sizes, and lengths of steel sheeting to be utilized are at the Contractor's option, unless otherwise shown on the Drawings. Sheets shall be satisfactory to withstand all driving and construction stresses. Sheeting shall be driven in continuous interlock and adhere to ASTM A328.

2.2 WATER-INFLATED DAMS

- A. The shapes, sizes and lengths of water-inflated dams to be utilized are at the Contractor's option, unless otherwise shown on the Drawings. Water inflated dams shall be satisfactory for the intended purpose as manufactured by Aqua-Barrier or approved equal (Contact 800-245-0199).

2.3 PORT-A-DAMS

- A. The shapes, sizes and lengths of Port-A-Dams to be utilized are at the Contractor's option unless otherwise shown on the Drawings. Port-A-Dams shall be satisfactory for the intended purpose as manufactured by Port-A-Dam (Contact 800-346-4793).

2.4 SAND BAGS

- A. Sandbags, if utilized to construct temporary cofferdams, shall be 35 inch x 35 inch x

**SECTION 02300
TEMPORARY COFFERDAMS**

38 inch jumbo sandbags suitable for reuse and constructed to maintain their shape after filling. Completely fill sandbags with well graded sand suitable for the intended application. The in-situ unit weight of the sand fill shall be 82 pcf (min) for a total bag weight of 2,200 pounds (min).

2.5 PLASTIC LINER

- A. Plastic liner shall be 10 mil polyethylene liner (min). Overlap liner a minimum of 4 feet at all seams and secure with standard sandbags.

2.5.1 SUPPORTS

- A. Bracing and other supports whether of steel, timber, or other materials shall be of the strength and dimensions necessary to satisfactorily withstand the loads to which they will be subjected. All bracing and other supports shall be free from any defects which might impair this strength.

2.7 OTHER MATERIALS

- A. The Contractor may propose other suitable materials to construct the cofferdams including but not limited to jumbo sand bags plastic lined concrete block enclosures and shall provide all necessary hardware and fastenings necessary for the satisfactory installation of all cofferdams.

PART 3 EXECUTION

3.1 GENERAL

- A. The Contractor shall take all precautions necessary to prevent lateral or inward movement of material along the sides or the bottoms of excavations.
 - 1. It is expressly understood and agreed that whenever cofferdams are used, it shall not relieve the Contractor of the sole responsibility for any damages or injury due to the installation or failure of the cofferdams or bracing, or the settling of the backfill, pipelines, or of the adjacent ground, structures, utilities or other work.

3.2 INSTALLATION

- A. Where cofferdams are used they shall be installed ahead of all excavation operations.
 - 1. Install cofferdams to maintain sufficient restraint of the adjacent soil and to prevent movement of the cofferdams, excessive inflow of water, and intrusion of soils into or instability of the bottom of the excavations.
 - 2. If voids occur behind the cofferdams, they shall be filled immediately with selected materials from earth excavation to the satisfaction of the Engineer.

SECTION 02300
TEMPORARY COFFERDAMS

3.3 OBSTRUCTIONS DURING STEEL SHEETING DRIVING

- A. Where obstructions are encountered that result in a sudden, unexpected increase in penetration resistance and deviation from acceptable tolerances, the Contractor may be required to perform one of the following options:
 - 1. Removal of the obstruction.
 - 2. Extraction, repositioning, and re-driving.
 - 3. Addition of extra piling.
- B. Pursue the course of action selected by the Engineer. If, in the Engineer's opinion, the obstruction could not have been reasonable anticipated by the Contractor, work done under this Section, will be considered for payment in accordance with the General Conditions.

3.4 INSPECTION

- A. The Contractor shall provide inspection prior to and during its operations of all existing utilities, structures and other facilities which might be disturbed by cofferdam installation.
 - 1. The Contractor shall monitor and control its construction operations to prevent damage to the existing adjacent utilities, structures and completed portions of the work.

3.5 REMOVAL

- A. Cofferdams shall be removed as backfilling is done, and removal shall be conducted in such a manner so as to avoid any damage to the permanent structure or to other members of the cofferdam. Impact loading on the permanent structure or on members of cofferdam structure will not be allowed.
- B. During backfilling, temporary support elements shall not be removed until alternative support is available, such as substituted struts, backfill, or ability of cofferdam to act as cantilever without detrimental deflection. All voids left by removal of cofferdams shall be immediately filled.
- C. All cofferdams shall be removed at completion unless otherwise shown on the Drawings.

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SECTION 02400
DEWATERING, CONTROL, AND DIVERSION OF WATER

PART 1 GENERAL

1.1 WORK INCLUDED

- A. Work covered under this section consists of the Dewatering, Control, and Diversion of Water as required to perform the work.

1.2 SUBMITTALS

A. Drawings:

1. At least fourteen (14) calendar days prior to the start of flow bypassing and/or dewatering submit a Water Control Plan for review by the Engineer that includes:
 - a. Drawings
 - b. Sections
 - c. Details and other pertinent information
2. The data show shall include:
 - a. An overall schedule for dewatering, control, and diversion of water.
 - b. The location and proposed installation details for bypass and diversion structures.
 - c. Complete details of methods, equipment, and materials proposed to be used.
 - d. Any other pertinent data required for review by the Engineer.
 - e. The Contractor shall coordinate this submittal with submittal requirements specified in Section 02270, EROSION AND SEDIMENT CONTROL.

B. Submittal Review by Engineer:

1. The Water Control Plan will be reviewed by the Engineer as to type and suitability, providing that the arrangements presented by the Contractor are satisfactory, but such review will not relieve the Contractor of the sole responsibility for the adequacy of the system nor shall it be construed as a guarantee that the Contractor's proposed equipment, materials, and water control methods will be adequate for the work required at the locations of and for the work required by this contract.

PART 2 PRODUCTS

2.1 MATERIALS AND EQUIPMENT

- A. The Contractor shall provide all materials and equipment including, but not limited to pipe, fittings, valves, pumps, tools, fuel, and other appurtenances in suitable and adequate quantities as required to control water.

SECTION 02400
DEWATERING, CONTROL, AND DIVERSION OF WATER

PART 3 EXECUTION

3.1 SURFACE DRAINAGE

- A. The Contractor shall intercept and divert surface drainage away from the work sites by the use of dikes, curb walls, ditches, sumps or other means. The Contractor shall design surface drainage systems so that they do not cause erosion on or off the site. Surface runoff shall be controlled to prevent entry of water into excavations. The Contractor shall remove drainage systems when no longer needed.

3.2 WATER CONTROL IN EXCAVATIONS

- A. The Contractor shall use water control methods, which are appropriate to the ground conditions, the construction operations, and the requirements of these Contract Documents. The methods shall involve the removal of water within the excavation and may involve the removal of water outside the excavation or construction of facilities to control water movement into the excavation.
- B. Water control measures shall minimize adverse effects of elevated or reduced water pressure on the work, the surrounding ground, and adjacent facilities and structures. The water control measures shall be designed and operated so as to prevent the removal of in-situ materials, or loosening or softening of in-situ materials within the excavation. The Contractor shall control groundwater and surface water such that construction operations will be performed without adverse effects of water, and to prevent hydrostatic uplift pressures until construction has been completed.
- C. Water shall be controlled and maintained 2 feet below the lowest working elevation during periods when the sub-grade is being compacted, when earth materials are being placed, when geotextiles, geo-grids, grout, and/or concrete (except tremie concrete) are being placed, and at such other times as is necessary for the safe execution of the work. If the Contractor encounters large amounts of water entering the excavation, immediate action shall be taken to control the water inflow. A large amount of inflow requiring control shall be defined as that which adversely affects the performance of the work or has the potential of causing loss or damage to adjacent property or structures.

3.3 TEMPORARY FLOW BYPASSING

- A. The plans show two (2) 24-inch-diameter culverts for bypassing flows during the work. The culverts have an estimated hydraulic capacity of 52.4 cfs at a pool elevation of 354.5 feet and are expected to be adequate to pass a 10-year storm flow.
- B. The Contractor submit drawings, sections, and details as noted under Item 1.2.A.1 indicating how the culverts will be installed, including backfill, compaction, and anti-seepage requirements.

SECTION 02400
DEWATERING, CONTROL, AND DIVERSION OF WATER

- C. Should the Contractor believe that an alternate arrangement of culverts would be preferable or that additional hydraulic capacity is required to complete the work, it shall address such changes under Item 1.2.A.1 as noted above.
- D. The Contractor shall implement contingencies as shown on the plans to protect work in progress for storm flows greater than that shown above.
- E. If the flow bypass requirements are not satisfied, the Contractor shall preform such work as may be required to restore damaged structures and foundation soils at no additional expense to the Owner.

3.4 PROPERTY LOSSES FROM REMOVAL OR DISTRUBANCE OF GROUNDWATER

- A. Any structure, including but not limited to buildings, bridges, streets, and utilities that become unstable or vulnerable to settlement due to removal or disturbance of groundwater will be supported immediately by the Contractor. Support shall include but not be limited to bracing, underpinning, or compaction grouting.
- B. All loss or damage arising from removal or disturbance of groundwater, including but not limited to claims for subsidence and the loss of structure support, that may occur in the prosecution of the work shall be sustained and borne by the Contractor.

If the Contractor needs to correct the damage resulting from his operations, the Owner may, 30 days after notifying the Contractor in writing, proceed to repair, rebuild or otherwise restore such damaged property as may be deemed necessary, and the cost thereof shall be deducted from compensation which may be or become due the Contractor under this Contract.

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SECTION 02724
PIPING

PART 1 GENERAL

1.1 WORK INCLUDED

- A. This section covers the work necessary to furnish and install piping and fittings, complete.

1.2 SUBMITTALS

- A. Provide the following submittals:
 - 1. Catalog information confirming that the pipe and fittings conform to the requirements of the PRODUCTS section of this Specification.

PART 2 PRODUCTS

2.1 FLEXIBLE COUPLINGS

- A. Flexible couplings, if required, shall be as manufactured by Fernco of approved equal.
- B. Size and model shall be as approved by the Engineer.

2.2 HDPE PIPING

- A. As noted on the plans.

PART 3 EXECUTION

3.1 GENERAL

- A. The method of joining pipe sections shall be such that the ends are fully entered and the inner surfaces are reasonably flush and even. Pipe shall be inspected before any backfill is placed. Any pipe determined by the Engineer to be out of alignment, unduly settled, or damaged shall be taken up and relaid or replaced at no additional cost to Owner.

3.2 TRANSPORTATION

- A. Care shall be taken during transportation of the pipe such that it is not cut, kinked, or otherwise damaged.

3.3 STORAGE

- A. Pipes shall be stored on level ground, preferably turf or sand, free of sharp objects, which could damage the pipe. Stacking of polyethylene pipe shall be limited to a height that will not cause excessive deformation of the bottom layers of pipes under anticipated temperature conditions. Where necessary due to ground conditions, the pipe shall be stored on wooded sleepers, spaced suitably and of such widths as not to allow deformation of the pipe at the point of contact with

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PIPING

the sleeper or between supports.

3.4 HANDLING PIPE

- A. The handling of the joined pipeline shall be in such a manner that the pipe is not damaged by dragging it over sharp and cutting objects. Ropes, fabric, or rubber-protected slings and straps shall be used when handling pipes. Chains, cables, or hooks inserted into the pipe ends shall not be used. Two slings spread apart shall be used for lifting each length of the pipe. Pipe or fittings shall not be dropped onto rocky or unprepared ground. Sections of the pipes with cuts and gouges exceeding 10 percent of the pipe wall thickness or kinked sections shall be removed and the ends of the pipeline rejoined.

3.5 TRENCH EXCAVATION AND BACKFILL

- A. General: Care shall be exercised when lowering pipe into the trench to prevent damage or twisting of the pipe.
- B. Pipe Base: The trench bottom shall be carefully shaped to conform to the shape of the pipe and fittings for the bottom one-quarter of the pipe. The prepared trench bottom shall be free of stumps, large stones or boulders, rocks, and similar objects.
- C. Excavation and Backfill for Piping: Excavation and backfill shall be as specified in Section 02200, EARTHWORK and shall be performed in accordance with that section. Carefully backfill and compact on both sides of the pipe to assure that the pipe is properly supported prior to backfilling above it.
- D. Provide adequate cover and equipment such that no damage occurs to the piping during the compaction of overlying layers. The Engineer may require that sections (2' wide and 6' long) of piping be excavated or exposed during the placement of overlying layers in order to inspect for damage. The Contractor shall cooperate with the Engineer during these inspections and provide personnel and equipment as required. The Contractor shall assume a maximum of 2 pipe excavations for the purpose of his bid. If damage is discovered, the cost of excavation will be borne by the Contractor and is not to be considered as one of the 2 pipe excavations assumed for bidding, excavate to determine the extent of pipe damage or crushing, and perform repairs as necessary, at no additional cost to the Owner.

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SECTION 02900
LANDSCAPING

PART 1 GENERAL

1.1 WORK INCLUDED

- A. This section covers the work necessary for finish grading and grass establishment, complete, including furnishing and delivery of material, seeding, and maintenance of grass.

1.2 SUBMITTALS

- A. Provide certifications of performance for mulch products and analysis of proposed seed products that have been tested by a recognized laboratory for seed testing. Do not use seed that has become wet or moldy.
- B. Provide catalog cut sheets for the proposed bio-degradable jute netting.

PART 2 PRODUCTS

2.1 TOPSOIL

- A. Topsoil may be available from stockpiles on the site from the Contractor's stripping. If more topsoil is needed than has been stockpiled, supply imported topsoil at the Contractor's sole expense.
- B. Topsoil shall conform to Item M.13.01 of the Standard Specifications.

2.2 pH CONTROL

- A. The following amendments shall be included in soils where required by the soils analysis tests:
 - 1. Soil sulfur
 - 2. Commercially packaged gypsum
 - 3. Ground dolomitic limestone

2.3 LIME

- A. Ground dolomitic limestone not less than 85 percent total carbonates and magnesium, ground so that 50 percent passes the 100-mesh sieve and 90 percent the 20-mesh sieve. Coarser material will be acceptable provided the specified rates of application are increased proportionately on the basis of quantities passing the 100-mesh sieve.

2.4 FERTILIZER

- A. Commercial Fertilizer: A complete plant food containing 16 percent nitrogen, 6 percent available phosphoric acid, and 6 percent potash, conforming to applicable

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state fertilizer laws, availability of plant nutrients conforming to standards of the Association of Official Agricultural Chemist (AOAC), uniform in composition, dry free-flowing, and delivered in original, unopened containers bearing manufacturer's guaranteed analysis.

- B. Superphosphate: Ammonium phosphate (16-20-0) containing 1.4 percent sulfur; granular, dry, free-flowing delivered in original bags.

2.5 TEXTURAL SOIL AMENDMENTS

- A. Peat: A natural residue formed by decomposition of reeds, sedges, or mosses from fresh-water site, free from lumps, roots, and stones, absorbing at least four times its dry weight of water, organic matter not less than 90 percent on a dry weight basis. The maximum moisture content at time of delivery shall be 65 percent by weight.
- B. Sand: Clean, coarse, well-graded material meeting all of the requirements of ASTM C33 for fine aggregate.

2.6 MULCH

- A. Straw Mulch: Threshed straw of oats, wheat, or rye, free from seed of obnoxious weeds or clean salt hay.

2.7 NETTING

- A. Jute Netting: Heavy, twisted bio-degradable jute netting, weighing 1 pound per square yard. Openings between strands approximately 1-inch square.

2.8 SEED

- A. General: Certified, blue tag, clean delivered in original, unopened packages and bearing an analysis of the contents, guaranteed 95 percent pure and to have a minimum germination rate of 85 percent, within 1 year of test.
- B. General Seed Mix: General seed mix shall conform to Item M.13.04 of the Standard Specifications.
- C. Temporary Protective Seed: Annual rye grass applied at rate of 120 pounds/acre.
- D. Inoculate: Pure culture of nitrogen-fixing bacteria prepared specifically for the legume species. A mixing medium as recommended by the manufacturer shall be used to bond the inoculate to the seed.

2.9 CHEMICAL SOILS TESTS

**SECTION 02900
LANDSCAPING**

- A. Submit samples of Subgrade Soil to the County or State Soil Testing Service for chemical analysis of soil after completion of rough grading to determine lime and/or superphosphate requirements.

2.10 MECHANICAL SOILS TEST

- A. Have mechanical analysis of topsoil performed by a soil analyst or Engineer to determine conformance to specified physical properties in accordance with AASHTO T 88-72, Mechanical Analysis of Soils.

PART 3 EXECUTION**3.1 SEEDING SCHEDULE**

- A. Within twenty (20) calendar days of the date specified for commencement of seeding work, submit to the Engineer a proposed time schedule indicating dates for beginning and completion of the following operations:
 - 1. Delivery of materials.
 - 2. Preparation of seedbed.
 - 3. Planting grass.
 - 4. Maintenance.

3.2 CONSTRUCTION METHODS

- A. Preparation of Subgrade: After rough grading is completed and before loam is spread, apply lime and/or superphosphate as determined by chemical analysis, and thoroughly scarify ground to a minimum depth of 4 inches with an excavator bucket by running in two directions at right angles over the entire surface to be planted.
- B. Spreading of Topsoil: Spread topsoil and textural soil amendments over the prepared rough grade to provide a finished topsoil thickness of 6 inches.
- C. Liming and Fertilizing:
 - 1. Apply lime uniformly at the rate determined from soil test.
 - 2. Apply commercial fertilizer at the rate of 40 lbs per 1,000 sf distributing uniformly with a mechanical spreader, or at rate determined from soil test.
- D. Finish Grading:
 - 1. Rake the topsoil area to a uniform grade so that all areas drain, as indicated on the Plans.
 - 2. Lightly compact with a cultipacker before planting grass.

**SECTION 02900
LANDSCAPING**

3. Remove all trash and stones exceeding 2 inches in diameter from area to a depth of 2 inches prior to preparation and planting grass.

E. Seeding:

1. Time of Seeding: Conduct seeding under favorable weather conditions during seasons which are normal for such work as specified in the Standard Specifications.
2. Inoculating Seed: Inoculate shall be stored as recommended by manufacturer and shall not be used later than the date indicated on the container or as otherwise specified. Inoculation of legumes shall be done within 48 hours before seeding.
3. Mechanical Seeding: Plant grass seed only when temperature and moisture conditions are suitable for work of this nature. Sow grassed areas evenly with a mechanical spreader at rate of 3 lbs per 1,000 sf, roll with cultipacker to cover seed, and water with fine spray. Method of seeding may be varied at discretion of Contractor on his own responsibility to establish a smooth, uniformly grassed area.
4. Hydroseeding:
 - a. Seeding shall be done within 10 days following soil preparation at rate of 3 pound seed per 1,000 sf.
 - b. Proceed with seeding operation on moist soil, but only after free surface water has drained away.
 - c. Exercise due care to prevent drift and displacement of mixture into other areas.
5. Winter Protective Seeding: If seeding has not occurred by October 15, apply winter protective seed at a rate of 120 pounds per acre to all areas that are bare or incomplete. Remobilize to complete seeding in the spring.

F. Mulching and Protection:

1. Mulch all areas by spreading a uniform light cover of straw mulch over the seeded area at a rate of 2 ½ tons per acre no later than 2 days after seeding has been performed and tackify if required at a rate of 5 gallons per 1,000 sf.
2. Mulch all areas with a slope steeper than 20 percent as described and place jute netting in strips paralleling the slope to completely cover newly seeded areas. Pin jute netting and mulch to the ground with 6-inch long wire staples at 5-foot intervals immediately after seeding.

SECTION 02900
LANDSCAPING

3.3 MAINTENANCE

- A. Maintenance Period: Begin maintenance immediately after each portion of grass is planted and continue for 8 weeks after all grass planting is completed.
- B. Maintenance Operations: Water to keep surface soil moist. Repair washed out areas by filling with Plantable Soil, liming, fertilizing, and seeding. Replace mulch on banks when washed or blown away. Mow frequently enough to keep grass from exceeding 6 inches. Weed by hand only after first planting season.

3.4 GUARANTEE

- A. If, at the end of the 8-week lawn maintenance period, a satisfactory stand of grass has not been produced, the Contractor shall renovate and reseed the grass or unsatisfactory portions thereof immediately, or, if after October 15, during the next planting season. If a satisfactory stand of grass develops by July 1 of the following year, it will be accepted. If it is not accepted, a complete replanting will be required during the planting season.
- B. A satisfactory stand is defined as grass or section of grass of 1,000 square feet or larger that has:
 - 1. No bare spots larger than 3 square feet and not more than 10 percent of total area with bare spots larger than 1 square foot.
 - 2. Not more than 15 percent of total area with bare spots larger than 6 inches square.

3.3 INSPECTION FOR ACCEPTANCE

- A. Eight weeks after the start of maintenance on the last section of completed grass and on written notice from the Contractor, the Engineer will, within 15 days of such written notice, make an inspection to determine if a satisfactory stand has been produced. If a satisfactory stand has not been established, another inspection will be made after written notice from the Contractor that the grass is ready for inspection following the next growing season.

* * * * *

DIVISION 3

CONCRETE

**SECTION 03200
REINFORCING STEEL**

PART 1 GENERAL**1.1 WORK INCLUDED**

- A. Furnish and install steel reinforcement and associated items required for cast-in-place concrete, complete.

1.2 REFERENCES

- A. The latest editions of the following American Concrete Institute (ACI) publications shall be used as reference standards:

1. ACI SP-66 ACI Detailing Manual
2. ACI 301 Specifications for Structural Concrete for Buildings
3. ACI 318 Reinforced Concrete

- B. The latest editions of the following American Society for Testing and Materials (ASTM) publications shall be used as reference standards:

1. ASTM A497 Specification for Steel Welded Wire Fabric, Deformed, for Concrete Reinforcement
2. ASTM A775 Specifications for Deformed and Plain Billet. Steel Bars for Concrete Reinforcement

1.3 SUBMITTALS

- A. Submit the following:

1. Mill test reports for each shipment of reinforcement. Identify reports with specific lots in shipments and submit prior to use of reinforcement in work.
2. Chemical composition of reinforcing steel. Ladle analysis to identify percentage of carbon, phosphorous, manganese and sulfur present in steel.
3. Welder's certification in accordance with AWS D1.4 prior to welding, when welding is indicated or specified.
4. Shop and placement drawings to the Owner/Engineer for review prior to fabrication, which show:
 - a. All construction and expansion joints.
 - b. Reinforcement detailed in conformance with ACI SP-66.
 - c. Support bars and details of bar supports including type, size and spacing.
 - d. Marking for each reinforcement item.

**SECTION 03200
REINFORCING STEEL****1.4 PRODUCT HANDLING****A. Protection:**

1. Use all means necessary to protect reinforcing steel before, during, and after installation and to protect the installed work and materials of all other trades.
2. Store in a manner to prevent excessive rusting and fouling with dirt, grease, and other bond-breaking coatings.
3. Use all necessary precautions to maintain identification after the bundles are broken.

B. Replacements:

1. In the event of damage, immediately make all repairs and replacements necessary to the approval of the Owner/Engineer and at no additional cost to the Owner.

PART 2 PRODUCTS**2.1 REINFORCING STEEL**

- A. All reinforcing steel shall be new, free from rust, and comply with ASTM A-615, grade 60.
- B. Welded wire fabric shall be Wire Size No. W4.0 with 4" center-to-center spacing and shall comply with ASTM A-497, grade 60.
- C. Where epoxy coated rebar is shown or specified, repair damaged or cut ends with a touch-up field kit prior to pouring concrete.

2.2 EPOXY GROUT

- A. Epoxy grout shall be HILTI HIT_HY 150 MAX-SD Adhesive or approved equal. Drill holes and install reinforcing steel/anchors in accordance with HILTI's Instructions.

2.3 OTHER MATERIALS

- A. All other materials not specifically described but required for a complete and proper installation of reinforcing steel, shall be as selected by the Contractor subject to the approval of the Owner/Engineer.

PART 3 EXECUTION**3.1 SURFACE CONDITIONS**

**SECTION 03200
REINFORCING STEEL**

A. Inspection:

1. Prior to installation of the work of this Section, carefully inspect the installed work of all other trades and verify that all such work is complete to the point where this installation may properly commence.
2. Verify that reinforcing steel may be installed in strict accordance with all pertinent codes and regulations, the approved Shop Drawings, and the original design.

B. Discrepancies:

1. In the event of discrepancy, immediately notify the Owner/Engineer.
2. Do not proceed with installation in areas of discrepancy until all such discrepancies have been fully resolved.

3.2 BENDING

A. General:

1. Fabricate all reinforcement in strict accordance with the approved Shop Drawings.
2. Do not use bars with kinks or bends not shown on the Drawings or on the approved Shop Drawings.
3. Do not bend or straighten steel in a manner that will damage the material.

B. Design:

1. All bends shall be in accordance with ACI 318. Bend all bars cold.

3.3 PLACING

A. General:

Before the start of concrete placement, accurately place all reinforcing steel, positively securing and supporting by concrete blocks, metal chairs or spacers, or by metal hangers.

B. Splicing:

1. Horizontal Bars:

- a. Place bars in horizontal members with minimum laps at splices sufficient to

SECTION 03200
REINFORCING STEEL

develop the strength of the bars in accordance with ACI 318.

- b. Bars may be wired together at laps except at points of support of the member, at which points preserve the clear space described above.
- c. Wherever possible, stagger the splices of adjacent bars.

2. Other Splices:

Make only those other splices that are indicated on the approved Shop Drawings or specifically approved by the Owner/Engineer.

3. Dowels:

Place all required steel dowels and securely anchor them into position before the concrete is placed. Dowels placed into existing concrete shall be securely anchored with high strength epoxy as indicated on the Drawings. Drilling and cleaning of dowel holes shall be in accordance with manufacturer's recommendations.

4. Obstructions:

In the event conduits, piping, inserts, sleeves, or any other items interfere with placing reinforcement as indicated on the Drawings or as otherwise required, immediately consult the Engineer and obtain approval of new procedure before placing concrete.

5. Use pre-cast concrete bar support blocks for foundation mats.

3.4 MINIMUM COVER

A. Unless otherwise shown on the Drawings, provide the following minimum cover:

	Minimum Cover
Concrete cast against and permanently exposed to earth (e.g. footings)	3"
Stirrups, ties, and spirals	1 1/2"
All other bars	2"

3.5 CLEANING REINFORCEMENT

A. Steel reinforcement, at the time concrete is placed around it, shall be free from rust scale, loose mill scale, oil, paint, and all other coatings which will destroy or reduce the bond between steel and concrete.

* * * * *

SECTION 03310
CONCRETE

PART 1 GENERAL

1.1 WORK INCLUDED

- A. The work covered under this Section includes, but is not limited to, the furnishing of all plant, labor, equipment, appliances and materials including all joint fillers and sealants, and performing all operations in connection with providing cast-in-place concrete in accordance with these specifications and in close conformity with the lines and grades shown.

1.2 QUALITY CONTROL

- A. As the work progresses, the Contractor shall be required to perform tests and/or engage a testing laboratory in order to confirm that the quality of the concrete will be in conformance with these Specifications. Concrete shall be sampled in accordance with Section 01400, QUALITY CONTROL.
- B. Compression test specimens will be made by the Engineer and cured according to ASTM C31. Four (4) specimens will be collected for each pour at a structure and one (1) samples tested at 7 days and three (3) samples tested at 28 days.
- C. If the concrete is found to be substandard as a result of the initial testing, then any additional work for replacement or removal of the substandard concrete or retesting shall be at the Contractor's expense.

1.3 SUBMITTALS

- A. Submit the following:
 - 1. Batch plant details giving the location, layout, capacity, and type of batch plant and the method of transporting concrete from the batch plant to the work location. The Contractor shall provide documentation that all requirements of local authorities and regulations have been met.
 - 2. Notification to the Owner/Engineer of concrete deliveries, a minimum of 24 hours in advance of the scheduled delivery. Include within this notification, class and quantity of concrete, frequency of trucks, and ordered slump.
 - 3. Description of methods for cold-weather and hot weather batching, mixing and delivery.
 - 4. Concrete Mix Designs:
 - i. Submit concrete mix designs to the Owner/Engineer within a minimum of fourteen (14) calendar days prior to placement. Include a complete list of materials including admixtures, applicable reference specifications, and copies of test reports showing the mix has been successfully tested to

SECTION 03310
CONCRETE

produce the properties specified.

- ii. For each design mix, provide:
 - a. Certifications by the concrete supplier that ingredients conform to the specified requirements.
 - b. Certifications by the concrete supplier that design mix conforms to specified strength, unit weight, maximum size aggregate, air entrainment, slump and to be free of soluble chloride content.
 - c. Coarse aggregate gradation, specific gravity, and dry rodded unit weight.
 - d. Identify admixtures, and planned dosage rate.
5. Compression test results.

PART 2 PRODUCTS

2.1 CONCRETE

- A. Concrete shall conform to Item M.03.01 of the Standard Specifications, Class F, $f'_c = 4,000$ psi.

2.2 Mortars/Grouts

- A. Cement Mortar (grout) for use with Precast Concrete shall be Sika® Armorex® Construction Grout or as recommended by the sluice gate manufacturer.
- B. Grout for use with sealing the sluice gate to existing concrete shall be Sika® Armorex® Construction Grout or as recommended by the sluice gate manufacturer.
- C. Repair Grout for formed and poured repairs shall be a Self-Consolidating Concrete (SCC) mix such as Sikacrete® 211 SCC Plus, as manufactured by Sika® or approved equal.

2.3 Bonding Agents

- A. Bonding agent shall be SIKAFLEX-Armatec® 110 EpoCem®, as manufactured by SIKA or approved equal. Apply in accordance with the manufacturer's instructions.

PART 3 EXECUTION

3.1 PREPARATION OF EQUIPMENT AND PLACE OF DEPOSIT

- A. Before placement, all equipment for mixing and transporting the concrete shall be

**SECTION 03310
CONCRETE**

cleaned, and all debris and ice shall be removed from the places to be occupied by the concrete. Forms shall be thoroughly wetted (except in freezing weather) or oiled. The reinforcement shall be thoroughly cleaned of ice, dirt, rust scale or other deleterious coatings.

3.3 PLACING CONCRETE

- A. Concrete shall be placed only when the Owner/Engineer is present.
- B. Concrete work shall be in accordance with ACI 318 Building Code Requirements for Reinforced Concrete or latest edition.
- C. Concrete shall be deposited as nearly as practicable in its final position to avoid segregation due to re-handling or flowing. The placing of concrete shall be carried on at such a rate that concrete is at all times plastic and flows readily. No concrete that has been contaminated by foreign material shall be used nor shall re-tempered concrete be used.
- D. Concrete delivery trucks shall not have aluminum chutes. All chutes shall be round-bottomed.
- E. When placing is started, it shall be carried on as a continuous operation until placement is completed.
- F. All concrete shall be thoroughly consolidated by suitable means during placement. It shall be thoroughly worked around embedded fixtures and into the corners of the forms.

3.4 COLD WEATHER REQUIREMENTS

- A. Conform to the requirements of Section 6 of the Standard Specifications.

3.5 HOT WEATHER REQUIREMENTS

- A. The Contractor shall submit Hot Weather Requirements when temperatures exceed 90 degrees (F).

3.6 FORMS

- A. Forms shall conform to shapes, lines and dimensions of the members as called for on the Drawings and shall be sufficiently tight to prevent leakage of concrete. They shall be properly braced or tied together so as to maintain position and shape.
- B. Forms shall be removed in such a manner as to ensure the complete safety of the structure. In no case shall supporting forms or shoring be removed until members have acquired sufficient strength to support their weight and imposed loads safely.

SECTION 03310
CONCRETE

3.7 CURING

- A. Concrete curing shall be performed in accordance with Section 6 of the Standard Specifications. All exposed surfaces shall be wet cured. The Forms-In-Place method may be used for formed and poured concrete.

3.8 EXPOSED EDGES

- A. All exposed edge and reentrant corners not otherwise detailed on the Drawings shall have a minimum 3/4" chamfer.

3.9 FINISH

- A. The concrete extension at the low-level outlet structure shall receive a smooth form finish as follows:
 - 1. Use form facing materials that will produce a smooth, hard, and uniform texture on the concrete.
 - 2. Arrange facing materials in an orderly, symmetrical manner, with a minimum number of seams.
 - 3. Limit form face deflection.
 - 4. Avoid the use of defective or damaged materials that will impair the concrete surface texture.
 - 5. Patch all tie holes and defects using epoxy grout or approved equal, match existing concrete color and texture.
 - 6. Remove all fins to provide a uniform surface.
- B. The smooth form finish shall provide a neat and uniform appearance, provide a smooth and non-abrasive surface, and if done properly shall not require a smooth rubbed finish.

* * * * *

SECTION 03399
PRECAST CONCRETE STRUCTURES

PART 1 GENERAL

1.1 WORK INCLUDED

1. This section covers the work necessary to design, furnish and install precast concrete structures, complete.

1.2 DESIGN INFORMATION

- A. The Contractor shall be responsible for the design of the precast concrete structures. Box Culverts and flared end sections shall be designed to resist the soil and groundwater loads shown on the Drawings and an HS-25 Live Load. Design shall be by a Professional engineer registered in the state of Connecticut (Contact: Mr. Lannie D'Amico, Rotondo Precast, (508) 336-7600).
- B. All dimensional information provided on the Drawings is the minimum requirements. Final thickness and dimensions of members shall be determined by the Contractor.
- C. Prior to fabrication of any precast concrete units, the Contractor shall submit for approval, detailed and complete design calculations, shop drawings, and setting plans, stamped by a Professional Engineer and such other data as the Engineer may require.
- D. The shop drawings shall bear the Contractor's certification that the work has been coordinated with other related items of construction.

1.3 SHOP DRAWINGS

- A. The shop drawings shall show the setting plans, exact profile of each unit, openings required, all inserts and other items which are to be embedded in the units, including:
 1. Attachments, type, size and location of all reinforcing steel.
 2. Connection and anchoring methods.
 3. All other construction requirements necessary for the proper fitting of the contract work and for receiving the work of other trades.
 4. Details for joints between all precast concrete units sections, to provide a watertight structure.
 5. A detailed listing if all material and installation techniques to be employed to assure watertight joints.

1.4 COOPERATION WITH OTHER TRADES

**SECTION 03399
PRECAST CONCRETE STRUCTURES**

- A. The Contractor shall be responsible for coordinating the work of other trades with the work under this section to avoid interferences and unnecessary cutting of the work, and to permit the proper and satisfactory installation of the contract work.

1.5 TEST REPORTS AND CERTIFICATES OF CONFORMANCE

- A. In addition to other requirements specifies herein, the Contractor shall furnish to the Engineer the precast concrete manufacture's notarized test reports and methods of test to show compliance with all specification requirements.

1.6 SERVICES OF MANUFACTURES' REPRESENTATIVES

- A. If required by the Engineer, the Contractor shall furnish at no additional expense to the Owner, the services of the respective manufacturers' representatives of the precast concrete units, for such lengths of time as many be necessary to properly instruct the Contractor's personnel in the proper handling, installation, and jointing of the precast concrete units in accordance with the printed recommendations of the manufacturer. This service will not be required if all erection of the precast concrete units is performed by the manufacturer.

PART 2 PRODUCTS

2.2 MATERIALS

- A. Cement shall be Portland cement conforming to the requirements of ACI 350, Chapter 3, Section 3.1.2 - Sulfate Resistant Cement.
- B. Aggregates shall conform to the requirements of ACI 350, Chapter 3, Section 3.4.1- Aggregates for Watertight, Chemical Resistant Concrete.
- C. Water shall be clean and free injurious and deleterious substances.
- D. Concrete shall have a minimum strength of 5,000 psi at 28 days and strength of 3,000 psi at time of form release.
 - 1. During the process of manufacturing of the units, not less than two (2) test cylinders shall be tested at time of release of the form, and to (2) at age 28 days.
 - 2. All compression test cylinders shall be made, cured, and stored in accordance with ASTM C31. Cylinders shall be tested in accordance with ASTM C39.
 - 3. All concrete shall contain 5-7 percent air entrainment.
- E. Admixtures shall only be used after approval of the Engineer.

**SECTION 03399
PRECAST CONCRETE STRUCTURES**

- F. All reinforcing bars shall be epoxy coated and conform to the requirements of ASTM A615, Grade 60.
- G. Welded wire fabric shall be epoxy coated and conform to the requirements of ASTM A185.
- H. All joint sealants shall be polyurethane base and compatible with the waterproofing membrane system.
- I. All joint fillers shall be preformed non-expansive, non-extruding type and appropriate for the intended use.
- J. Cement Mortar (grout) shall be as specified in 03310, CONCRETE.
- K. All anchors and lifting hooks engineered in concrete shall be stainless steel.

PART 3 EXECUTION

3.1 GENERAL

- A. All precast concrete units shall be stored, handled, protected and erected in accordance with the printed recommendations of the manufacturer and in a manner to prevent overstressing, marring or damaging of the units.
- B. The work shall be performed by workers experienced in this type of work.
- C. Installation shall be true to the lines and grades indicated on the drawings.
- D. In addition to all other requirements specified, all precast concrete units shall be adequately designed and fabricated to safely withstand all handling stresses without damage and to adequately and safely support all loads imposed by the work of other trades which might affect construction.

3.2 ERECTION

- A. Preparation:
 - 1. All units shall be erected true to line and grade, and in the proper sequence as outlined on the approved shop drawings.
 - 2. To avoid damage and stress concentration, lifting devices shall be designed for 100 percent impact loading and shall be sufficiently ductile to insure obvious deformation before failure.

SECTION 03399
PRECAST CONCRETE STRUCTURES

B. Installation:

1. The concrete units shall be set on clean and properly prepared bearing surfaces, free from any conditions that would interfere with the proper setting of the concrete units.
2. All anchoring and fastening devices shall be provided for the proper and satisfactory installation of the units.
3. Anchoring and fastening devices to be embedded in other work shall be built-in as the work progresses.
4. No cracked, wrapped, or broken units, or units which, in the opinion of the Engineer, show defects that might adversely affect serviceability of the units, shall be used in the work. Defective units shall be removed from the site and shall be replaced by the Contractor with new and sound units at no additional expense to the Owner.
5. Joints between precast sections and units shall be made in an approved manner to provide a leak-proof, watertight joint. Joint designs incorporating O-rings and cement grout will not be accepted. Joint filler shall be provided, as required and joint sealant shall be installed on both the interior and exterior sides of the joints.

C. Erection Tolerances:

1. All connections shall be done in accordance with the shop drawings and shall be in accordance with the previously mentioned codes and accepted industry standards and best-accepted practice.

D. Backfilling shall be performed in accordance with Section 02200, EARTHWORK, with Select Backfill or Granular Backfill material.

1. Backfilling shall not be permitted until proper installation of the waterproofing membrane system has been inspected and approved.
2. The Contractor shall continue dewatering methods during backfilling and compaction.

3.3 PATCHING

- A. Where patching is permitted by the Owner, the patches shall be made using the same materials as used in the units being patched and using a 2-part epoxy compound of a type to produce proper bonding of the patch to the units.
- B. Patching of imperfections at the plant shall require the Owner's approval before the units are shipped from the manufacturer's plant.

SECTION 03399
PRECAST CONCRETE STRUCTURES

3.4 CURING

- A. Units shall be cured by suitable heating, moisture, or steam curing units the required strength for release or handling is obtained. During this time, no surface shall be exposed to direct sunlight or direct wind.

3.5 MARKING

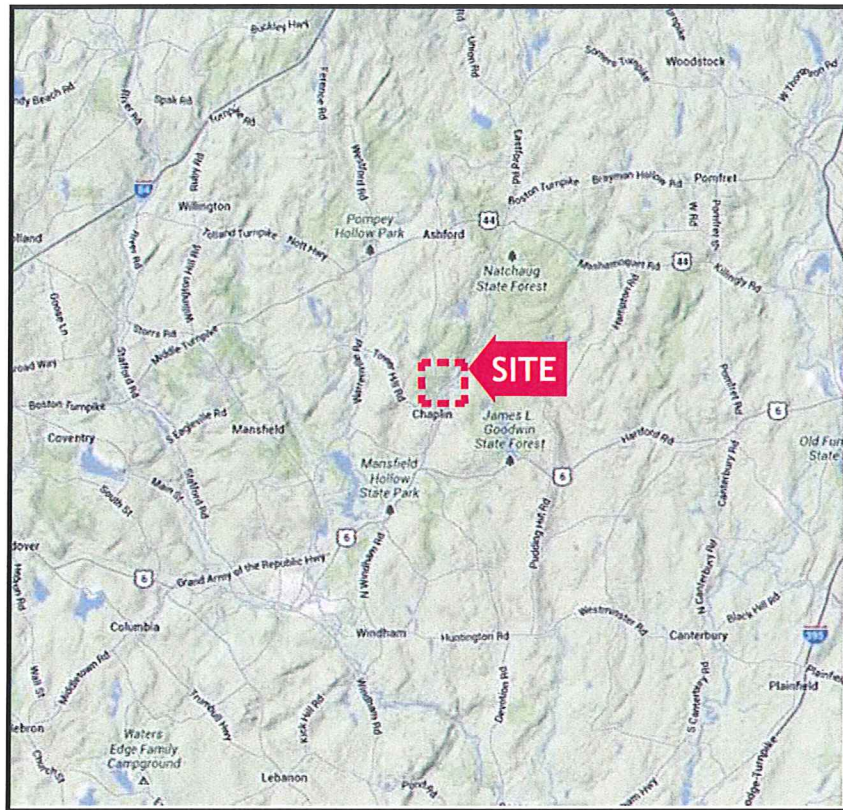
- A. Each precast concrete unit shall be marked in accordance with the marking and identifying procedure designed on the approved shop drawings and setting plans.

* * * * *

PART 5
DRAWINGS

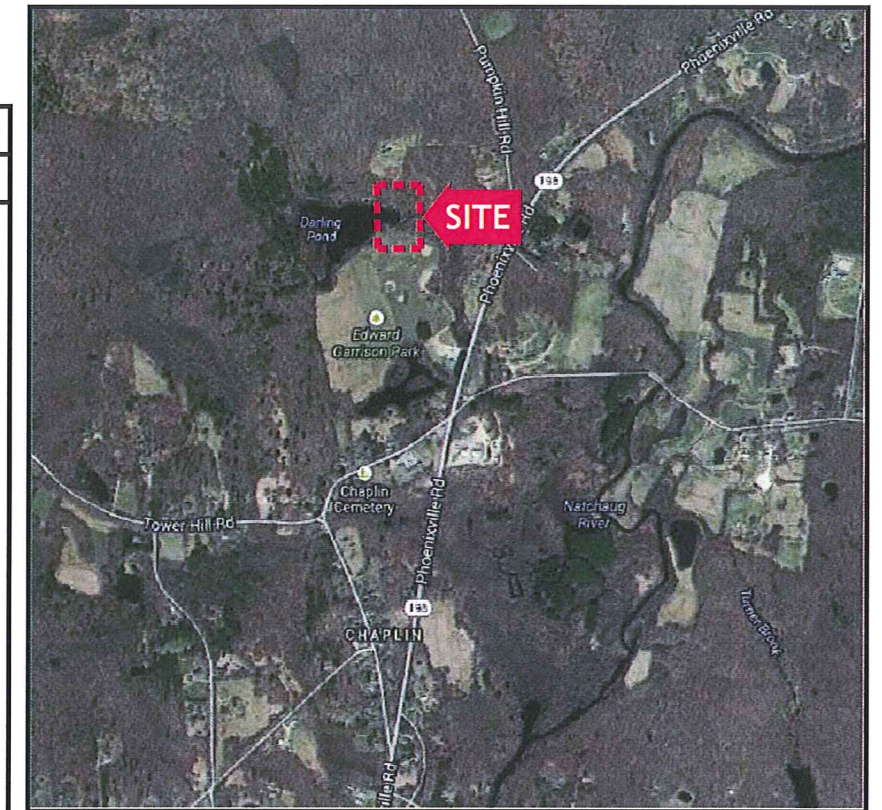
DARLING POND DAM IMPROVEMENTS PROJECT

CHAPLIN, CONNECTICUT



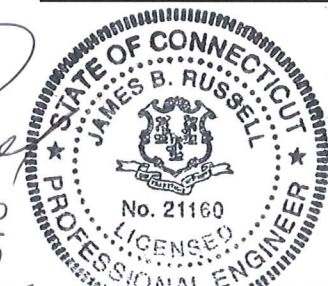
SITE VICINITY MAP

INDEX OF DRAWINGS				
CATEGORY	SHEET	DRAWING	TITLE	
GENERAL	1	G-01	TITLE, INDEX OF DRAWINGS, LOCATION AND VICINITY MAPS	
	2	G-02	LEGEND, ABBREVIATIONS, AND GENERAL CONSTRUCTION NOTES	
CIVIL	3	G-03	GENERAL CONSTRUCTION NOTES CONTINUED	
	4	C-01	SITE ACCESS PLAN	
	5	C-02	OVERALL SITE PLAN	
	6	C-03	EXISTING CONDITIONS PLAN	
	7	C-04	CLEARING, GRUBBING, AND REMOVAL PLAN	
	8	C-05	PROPOSED SITE PLAN	
	9	C-06	WETLAND DISTURBANCE PLAN	
	10	C-07	SUGGESTED PHASING PLAN	
	SECTIONS	11	S-01	TYPICAL SECTIONS - 1
		12	S-02	TYPICAL SECTIONS - 2
13		S-03	SECTIONS - 1	
14		S-04	SECTIONS - 2	
DETAILS	15	D-01	LOW-LEVEL OUTLET DETAILS - 1	
	16	D-02	LOW-LEVEL OUTLET DETAILS - 2	
	17	D-03	SUGGESTED PIPE REHABILITATION SEQUENCING - 1	
	18	D-04	SUGGESTED PIPE REHABILITATION SEQUENCING - 2	
	19	D-05	SPILLWAY DETAILS	
	20	D-06	CONTINGENCY DETAILS	



SITE LOCATION MAP

James B. Russell
 Sheets 1-20
 20-20
 7-9-2015



ISSUED FOR BIDDING
NOT FOR CONSTRUCTION
 THIS DRAWING IS HALF SIZE

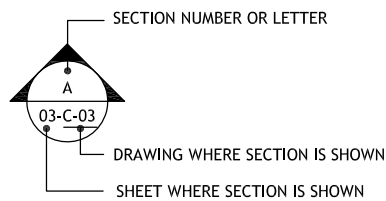


CIVIL LEGEND

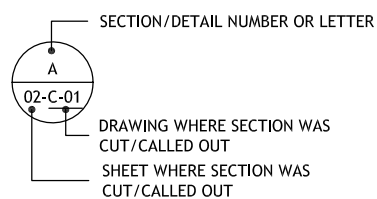
EXISTING	PROPOSED	
		CONTOUR LINE
		EDGE OF POND/STREAM
		STONE WALL
		LIMITS OF WETLAND
		WETLAND FLAG
		WETLANDS AREA
		TREE
		STUMP
		DEWATERING PUMP (QUANTITY AND LOCATION MAY VARY)
		DEWATERING BAG
		LIMITS OF DISTURBANCE
		LIMITS OF CLEARING, GRUBBING, AND STRIPPING AVAILABLE SOIL
		TURBIDITY BARRIER
		SILT FENCE/BALED HAY
		PROJECT BASELINE
		RIP-RAP LIMITS
		RTG CONTROL POINT
		DAM CREST
		DAM TOE

ABBREVIATIONS

ALUM.	ALUMINUM
APPROX.	APPROXIMATE
CFS	CUBIC FEET PER SECOND
CMP	CORRUGATE METAL PIPE
CONC.	CONCRETE
EL.	ELEVATION
EPC	EPOXY COATED
F&I	FURNISH AND INSTALL
FT	FEET
GALV.	GALVANIZED
LOD	LIMITS OF DISTURBANCE
MAX.	MAXIMUM
MIN.	MINIMUM
NO.	NUMBER
O.C.	ON CENTER
O.D.	OUTER DIAMETER
PSI	POUNDS PER SQUARE INCH
PT	PRESSURE TREATED
R&D	REMOVE AND DISPOSE
S.S.	STAINLESS STEEL
TYP.	TYPICAL



SECTION / DETAIL



DETAIL AND SECTION DESIGNATION

GENERAL NOTES:

1. THE CONTRACTOR SHALL BE SOLELY AND COMPLETELY RESPONSIBLE FOR THE CONDITIONS OF THE JOB SITE, INCLUDING THE SAFETY OF ALL PERSONS AND PROPERTY DURING THE PERFORMANCE OF THE WORK. SAFETY PROVISIONS SHALL COMPLY WITH OSHA AND OTHER APPLICABLE FEDERAL, STATE, AND LOCAL LAWS AND REGULATIONS. THESE REQUIREMENTS SHALL APPLY CONTINUOUSLY AND SHALL NOT BE LIMITED TO NORMAL WORKING HOURS.
2. STANDARD SPECIFICATIONS, WHEN REFERENCED IN THESE DRAWINGS, SHALL MEAN THE STATE OF CONNECTICUT DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROADS, BRIDGES, AND INCIDENTAL CONSTRUCTION (1995 ED.). PARTS OF THE STANDARD SPECIFICATIONS THAT ARE SPECIFICALLY REFERENCED SHALL BECOME PART OF THESE DRAWINGS AS THOUGH STATED HEREIN IN FULL. IN CASE OF A DISCREPANCY BETWEEN THE STANDARD SPECIFICATIONS AND THE REQUIREMENTS STATED WITHIN THE DRAWINGS, THE REQUIREMENTS STATED WITHIN THE DRAWINGS SHALL PREVAIL.
3. THIS PROJECT IS MUNICIPALLY OWNED AND FUNDED. THEREFORE, SOME OF THE REFERENCES AND TERMINOLOGY OF THE STANDARD SPECIFICATIONS MAY SEEM OUT OF PLACE. THE OWNER IS THE TOWN OF CHAPLIN (TOWN). THE ENGINEER FOR THIS PROJECT IS RT GROUP, INC. (RTG). THE STATE OF CONNECTICUT DEPARTMENT OF TRANSPORTATION IS NOT A PARTY TO THE PROJECT.
4. THE CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS AND DIMENSIONS IN THE FIELD BEFORE ORDERING ANY MATERIAL, COMMENCING ANY FABRICATION, OR PERFORMING ANY WORK. THE CONTRACTOR SHALL NOTIFY THE ENGINEER, IN WRITING, OF ANY CONDITIONS OR DIMENSIONS WHICH VARY FROM THOSE SHOWN IN THE DRAWINGS AND INCORPORATE SUCH VARIATIONS IN THE CONSTRUCTION AS APPROVED BY THE ENGINEER.
5. UTILITY LOCATIONS, WHEN SHOWN ON THESE DRAWINGS, ARE CONSIDERED APPROXIMATE. THE ACTUAL LOCATION OF UTILITIES MAY VARY FROM THAT SHOWN AND THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE LOCATIONS OF ALL UTILITIES, GRADES, AND DIMENSIONS PRIOR TO STARTING WORK.
6. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO CONTACT CALL BEFORE YOU DIG (1-800-922-4455) AND THE TOWN 72 HOURS BEFORE COMMENCING WITH ANY EXCAVATION RELATED WORK, IN ORDER THAT ALL AFFECTED UTILITY COMPANIES ARE NOTIFIED PRIOR TO STARTING WORK.
7. RIGHT-OF-WAY LINES, LEASE LINES, PROPERTY LINES, AND EASEMENT LINES, WHEN SHOWN ON THESE DRAWINGS, ARE CONSIDERED APPROXIMATE.
8. CONSTRUCTION LIMITS COINCIDE WITH PROPERTY LINE AND/OR LEASE LIMITS AS SHOWN ON THE DRAWINGS.
9. THE PROPOSED WORK IS LOCATED WITHIN FEMA FLOOD ZONE C (AREAS OF MINIMUM FLOODING) AS SHOWN ON THE TOWN OF CHAPLIN, WINDHAM COUNTY, CONNECTICUT FLOOD INSURANCE RATE MAP NUMBER 090179 0012 A, PANEL 12 OF 20, DATED JANUARY 6, 1982.

LOAD LIMITATIONS:

1. THE EXISTING 18-INCH-DIAMETER CORRUGATED METAL PIPE AT THE DROP INLET STRUCTURE IS IN POOR CONDITION. TO HELP MINIMIZE THE LIKELIHOOD THAT THIS PIPE IS DAMAGED DUE TO INDUCED EQUIPMENT LOADS, ALL EQUIPMENT, WITH THE EXCEPTION OF PICK-UP TRUCKS AND HAND OPERATED EQUIPMENT, SHALL BE PROHIBITED FROM TRAVELING AND/OR OPERATING ABOVE THE PIPE UNTIL IT HAS BEEN REHABILITATED.
2. FOLLOWING THE PIPE REHABILITATION, THE CONTRACTOR SHALL FURNISH AND INSTALL TIMBER CRANE MATS ON THE GROUND SURFACE ABOVE THE PIPE WHEN TRAVELING OVER IT.

DESIGN CRITERIA:

NEW SPILLWAY

1. THE NEW SPILLWAY HAS BEEN DESIGNED TO PASS A 100-YEAR EVENT WITH 1 FOOT OF FREEBOARD (MIN), IGNORING THE HYDRAULIC CAPACITY OF THE DROP INLET STRUCTURE.
2. THE 100-YEAR PEAK FLOW IS 178 CFS AND WAS ESTIMATED USING A HEC-HMS MODEL AND THE LATEST PRECIPITATION DATA AVAILABLE FROM www.precip.net.

LAYOUT:

1. THE HORIZONTAL CONTROL DATUM FOR THIS PROJECT IS BASED ON AN ASSUMED SITE SPECIFIC DATUM.
2. THE VERTICAL CONTROL DATUM FOR THIS PROJECT IS THE NATIONAL GEODETIC VERTICAL DATUM OF 1929 (NGVD 29).
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PERFORMING ALL LAYOUT WORK FROM THE CONTROL MONUMENTATION PROVIDED.

AVAILABLE SUBSURFACE INFORMATION:

1. IT IS INTENDED THAT SUBSURFACE INFORMATION, AS INCLUDED AND SHOWN ON THESE DRAWINGS, BE USED ONLY AS AN INDICATION OF POSSIBLE SUBSURFACE CONDITIONS, AND THAT UPON THE CONTRACTOR'S REVIEW, FURTHER SUBSURFACE EXPLORATIONS MAY BE WARRANTED. SUCH EXPLORATIONS SHALL BE PERFORMED AT THE CONTRACTOR'S EXPENSE.
2. THE CONTRACTOR SHALL USE THE SUBSURFACE INFORMATION SHOWN AND PROVIDED ON THESE DRAWINGS AT ITS OWN RISK AND SHALL COMPLETELY HOLD HARMLESS THE TOWN AND RTG FROM ALL CONSEQUENCES AND/OR FAULT ARISING FROM ITS USE.

COORDINATION AND SITE CONDITIONS:

1. COORDINATE WITH THESE DRAWINGS AND SECTION 01040, COORDINATION AND SITE CONDITIONS.

PROJECT MEETINGS:

1. COORDINATE WITH THESE DRAWINGS AND SECTION 01200, PROJECT MEETINGS.

SUBMITTALS:

1. COORDINATE WITH THESE DRAWINGS AND SECTION 01340, SUBMITTALS.

QUALITY CONTROL:

1. COORDINATE WITH THESE DRAWINGS AND SECTION 01400, QUALITY CONTROL.

TEMPORARY CONSTRUCTION FACILITIES:

1. COORDINATE WITH THESE DRAWINGS AND SECTION 01500, TEMPORARY CONSTRUCTION FACILITIES.

TEMPORARY UTILITIES:

1. COORDINATE WITH THESE DRAWINGS AND SECTION 01510, TEMPORARY UTILITIES.

TEMPORARY CONTROLS:

1. COORDINATE WITH THESE DRAWINGS AND SECTION 01560, TEMPORARY CONTROLS.

PROJECT RECORD DOCUMENTS:

1. COORDINATE WITH THESE DRAWINGS AND SECTION 01720, PROJECT RECORD DOCUMENTS.

DEMOLITION AND REMOVAL:

1. COORDINATE WITH THESE DRAWINGS AND SECTION 02050, DEMOLITION AND REMOVAL.

CLEARING, GRUBBING, AND STRIPPING:

1. COORDINATE WITH THESE DRAWINGS AND SECTION 02110, CLEARING, GRUBBING, AND STRIPPING.

EARTHWORK:

1. COORDINATE WITH THESE DRAWINGS AND SECTION 02200, EARTHWORK.
2. THE FINAL SLOPE GEOMETRY AND THE PROTECTION OF EXISTING STRUCTURES AND UTILITIES IS THE CONTRACTOR'S RESPONSIBILITY.
3. SELECT BACKFILL MATERIAL SHALL BE EXCAVATED ONSITE GRANULAR MATERIAL, FREE FROM STONES, ROOTS, AND ORGANIC MATERIAL AND OF SUITABLE GRADATION FOR SATISFACTORY COMPACTION. IF EXCAVATED MATERIAL AT A PARTICULAR LOCATION IS NOT SATISFACTORY, AS DETERMINED BY THE OWNER/ENGINEER, USE IMPORTED GRANULAR BACKFILL.

4. GRANULAR BACKFILL ON THE UPSTREAM SLOPE SHALL BE IMPORTED MATERIAL CONFORMING TO ITEM M.02.06, GRADING C OF THE STANDARD SPECIFICATIONS AS MODIFIED BELOW.

SIEVE SIZE	PERCENT PASSING
1 1/2"	100
3/4"	45-80
1/2"	25-60
#10	15-45
#40	5-25
#100	0-10
#200	10-12

GRANULAR BACKFILL SHALL HAVE A COEFFICIENT OF PERMEABILITY LESS THAN OR EQUAL TO 1x10⁻⁴ CM/S.

5. GRANULAR BACKFILL ON THE DOWNSTREAM SLOPE SHALL BE IMPORTED MATERIAL CONFORMING TO ITEM M.02.06, GRADING C OF THE STANDARD SPECIFICATIONS (I.E., 0-5 PERCENT PASSING #200).

6. COMPACT SELECT BACKFILL/GANULAR BACKFILL IN 10-INCH-THICK (MAX) LOOSE LIFTS AND COMPACT TO 95% RELATIVE COMPACTION AS SPECIFIED IN SECTION 02200, EARTHWORK.

7. THE CONTRACTOR SHALL PERFORM QUALITY CONTROL TESTING OF COMPACTED BACKFILL AS SPECIFIED IN SECTION 01400, QUALITY CONTROL.

8. CRUSHED STONE SHALL BE IMPORTED MATERIAL CONFORMING TO ITEM M.01.01, No. 67 OF THE STANDARD SPECIFICATIONS AS SHOWN BELOW.

SIEVE SIZE	PERCENT PASSING
1"	100
3/4"	90-100
3/8"	20-55
#4	0-10
#10	0-5

**ISSUED FOR BIDDING
NOT FOR CONSTRUCTION
THIS DRAWING IS HALF SIZE**

RT Group, Inc. Engineered from the Ground Up SM 70 Romano Vineyard Way, Suite 134 North Kingstown, Rhode Island 02852 T 401 438 3100 F 401 294 9806 <small>DAM SAFETY - WATERFRONT - CONSTRUCTION ENGINEERING - GEOTECHNICAL GEO-ENVIRONMENTAL - STRUCTURAL - CIVIL</small>	DSGN JBR DR DJA CHK JBR APVD JBR	No. 1 DATE 4-16-14 REVISIONS REVISED PER DEEP'S COMMENTS DATED APRIL 2, 2014	SWO JBR BY APVD	BAR IS ONE INCH ON ORIGINAL DRAWING. 0 1" IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY		DARLING POND DAM IMPROVEMENTS PROJECT TOWN OF CHAPLIN CHAPLIN, CONNECTICUT	LEGEND, ABBREVIATIONS, AND GENERAL CONSTRUCTION NOTES	SHEET 2 OF 20 DWG No. G-02 DATE DEC 2013 PROJ No. 13105.00
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9. BEDDING STONE FOR MODIFIED RIP-RAP SHALL BE IMPORTED MATERIAL CONFORMING TO ITEM M.02.06, GRADING C OF THE STANDARD SPECIFICATIONS AS SHOWN BELOW.

SIEVE SIZE	PERCENT PASSING
1 1/2"	100
3/4"	45-80
1/2"	25-60
#10	15-45
#40	5-25
#100	0-10
#200	0-5

10. BEDDING STONE FOR STANDARD RIP-RAP SHALL BE IMPORTED MATERIAL CONFORMING TO ITEM M.02.06, GRADING A OF THE STANDARD SPECIFICATIONS AS SHOWN BELOW.

SIEVE SIZE	PERCENT PASSING
3/4"	100
1 1/2"	55-100
1/2"	25-60
#10	15-45
#40	5-25
#100	0-10
#200	0-5

11. MODIFIED RIP-RAP SHALL BE IMPORTED MATERIAL CONFORMING TO ITEM M.12.02 OF THE STANDARD SPECIFICATIONS AS SHOWN BELOW.

STONE SIZE	PERCENT OF MASS
10" +	0
6" TO 10"	20-50
4" TO 6"	30-60
2" TO 4"	30-40
1" TO 2"	10-20
LESS THAN 1"	0-10

12. STANDARD RIP-RAP SHALL BE IMPORTED MATERIAL CONFORMING TO ITEM M.12.02 OF THE STANDARD SPECIFICATIONS.

STOCKPILE MANAGEMENT:

- EXCAVATED MATERIAL GENERATED DURING THE EXECUTION OF THIS WORK SHALL BE TEMPORARILY STOCKPILED WITHIN THE CONTRACTOR'S STOCKPILE AREA.
- THE CONTRACTOR SHALL MAINTAIN THE STOCKPILES AND THE AREAS AROUND THEM SO THEY ARE GRADED TO DRAIN. THE CONTRACTOR SHALL ALSO TAKE ALL NECESSARY PRECAUTIONS TO MINIMIZE EROSION FROM THE STOCKPILES INCLUDING, BUT NOT LIMITED TO, THE INSTALLATION OF HAY BALES OR SILT FENCES.
- EXCESS MATERIAL THAT DOES NOT MEET THE SPECIFIED GRADATION REQUIREMENTS AND/OR EXCAVATED MATERIAL IN EXCESS OF THAT REQUIRED FOR COMPLETING THIS PROJECT SHALL BE DISPOSED OF OFFSITE IN ACCORDANCE WITH ALL LOCAL, STATE, AND FEDERAL REGULATIONS.

EROSION AND SEDIMENT CONTROL:

- COORDINATE WITH THESE DRAWINGS AND SECTION 02270, EROSION AND SEDIMENT CONTROL.

TEMPORARY COFFERDAMS:

- COORDINATE WITH THESE DRAWINGS AND SECTION 02300, TEMPORARY COFFERDAMS.

DEWATERING, CONTROL, AND DIVERSION OF WATER:

- COORDINATE WITH THESE DRAWINGS AND SECTION 02400, DEWATERING, CONTROL, AND DIVERSION OF WATER.
- THE CONTRACTOR SHALL ROUTE ALL PUMPED WATER TO DEWATERING BASINS OR OTHER SUITABLE DEVICES (E.G., DEWATERING BAGS) PRIOR TO ALLOWING THE PUMPED WATER TO FLOW OVER LAND.

LANDSCAPING:

- COORDINATE WITH THESE DRAWINGS AND SECTION 02900, LANDSCAPING.

2. SEED MIX SHALL CONFORM TO ITEM M.13.04 OF THE STANDARD SPECIFICATIONS.

CAST-IN-PLACE CONCRETE:

- COORDINATE WITH THESE DRAWINGS AND SECTION 03200, REINFORCING STEEL AND SECTION 03310, CONCRETE.

PRE-CAST CONCRETE:

- COORDINATE WITH THESE DRAWINGS AND SECTION 03399, PRE-CAST CONCRETE.
- PRE-CAST CONCRETE BLOCKS FOR THE CONCRETE BLOCK WINGWALLS SHALL MEASURE 2 FEET X 2 FEET X 4 FEET OR APPROVED EQUAL. BLOCKS SHALL HAVE MANUFACTURED SHEAR KEYS FOR TRANSFERRING LATERAL LOADS.
- CONCRETE SHALL CONFORM TO ITEM M.03.01 OF THE STANDARD SPECIFICATIONS, CLASS F, F_c = 4,000 PSI.

MISCELLANEOUS PRODUCTS AND MATERIALS:

1. ALUMINUM PIPE RAIL - INTERNA-RAIL SYSTEM

- POSTS AND RAILS SHALL BE A MINIMUM OF 1-1/2" SCHEDULE 40 ALUMINUM PIPE, ALLOY 6063-T6. HANDRAIL SHALL BE MADE OF PIPE AND FITTINGS MECHANICALLY FASTENED TOGETHER WITH STAINLESS STEEL HARDWARE. HANDRAIL SYSTEMS WHICH USE FITTINGS THAT ARE GLUED OR POP-RIVETED WILL NOT BE PERMITTED. RAILING SHALL BE DESIGNED TO RESIST LOADINGS AS SPECIFIED IN THE CONNECTICUT BUILDING CODE AND OSHA REGULATIONS.
- ALL ALUMINUM PIPE SHALL HAVE A CLEAR ANODIZED, 204-R1 FINISH. ALL FITTINGS SHALL HAVE A CLEAR ANODIZED, 215-R1 FINISH. THE PIPE SHALL BE PLASTIC WRAPPED TO PROTECT THE FINISH UNTIL THE COMPLETION OF THE PROJECT.
- ALL ALUMINUM SURFACES IN CONTACT WITH CONCRETE, GROUT, OR DISSIMILAR METALS SHALL BE PROTECTED WITH A COAT OF BITUMINOUS PAINT, MYLAR ISOLATORS, OR OTHER APPROVED MATERIAL.

2. ALUMINUM GANGWAY

- GANGWAY DECK AND STRUCTURAL COMPONENTS SHALL BE DESIGNED TO SUPPORT THE DEAD LOAD OF THE GANGWAY PLUS A UNIFORM LIVE LOAD OF 100 POUNDS PER SQUARE FOOT (PSF). MAXIMUM DEFLECTION UNDER THESE LOADS SHALL NOT EXCEED L/360.
- THE GANGWAY SHALL BE SUPPLIED WITH SOLID UHMW ROLLERS. ROLLERS SHALL HAVE A SOLID STAINLESS STEEL AXLE.
- THE GANGWAY SHALL BE SUPPLIED WITH A HEAVY DUTY CONTINUOUS HINGE SHORE MOUNTING SYSTEM. THE SHORE MOUNT SHALL BE INSTALLED AS PER THESE DRAWINGS OR AS PER THE GANGWAY MANUFACTURER'S RECOMMENDATIONS.
- ALL STRUCTURAL ALUMINUM, INCLUDING TUBES, PLATES, ANGLES, AND PIPE SHALL BE ALLOY 6061-T6 PER ATSM B308. ALL BOLTS SHALL BE STAINLESS STEEL APPROPRIATE FOR USE WITH ALUMINUM IN MARINE ENVIRONMENTS. ISOLATORS SHALL BE USED WHEN CONNECTING DISSIMILAR METALS.
- GANGWAY DECKING SHALL BE AGGRESSIVELY SLIP AND SKID RESISTANT AND MADE FROM ALUMINUM OR OTHER MARINE GRADE MATERIAL APPROPRIATE FOR THIS USE. DECKING SHALL BE SECURED TO THE CONCRETE.
- ALL CONNECTIONS TO BE WELDED SHALL BE OF NEW MATERIAL, CLEAN, AND FREE OF ANY CONTAMINANTS. ALL JOINTS SHALL FIT PROPERLY AND HAVE THE APPROPRIATE WELD. ALL WELDING SHALL BE PERFORMED IN ACCORDANCE WITH AWS D1.2 FOR STRUCTURAL ALUMINUM.
- THE CONTRACTOR SHALL PROVIDE A P.E. STAMPED SUBMITTAL FOR THE GANGWAY INCLUDING SUPPORTING CALCULATIONS TO THE ENGINEER.

3. ALUMINUM GRATING

- HATCH AND GRATING SHALL BE SWAGED ALUMINUM 1 1/2" X 3/16" BAR GRATING. GRATING SHALL BE DESIGNED TO SUPPORT A UNIFORM LIVE LOAD OF 200 PSF WITH A MAXIMUM DEFLECTION OF 1/4".
- ALL BANDING SHALL BE WELDED ALUMINUM BAR STOCK MATCHING ASSOCIATED GRATING BEARING BARS.
- MISCELLANEOUS HARDWARE SHALL INCLUDE ALUMINUM HINGES AND STAINLESS STEEL PADLOCK HASP.

4. GALVANIZED STEEL TRASH RACK

- PLATE STEEL AND ANGLES SHALL BE GALVANIZED ASTM A36.
- CONSTRUCTION SHALL BE FULLY WELDED ONE-PIECE CONSTRUCTION, INCLUDING MOUNTING BRACKETS.

5. PIPE REHABILITATION

- THE NEW PIPE SHALL BE HIGH DENSITY POLYETHYLENE SNAP-TITE PIPE, PE 3608, AS MANUFACTURED BY ISCO INDUSTRIES, LLC, OR APPROVED EQUAL. PIPE SHALL HAVE AN O.D. OF 14 INCHES AND AN I.D. OF 13.138 INCHES (SDR 32.5).
- GROUT FOR END SEALS SHALL BE SIKA-SET PLUG, FAST SETTING, PORTLAND CEMENT WATER STOP OR APPROVED EQUAL.
- GROUT FOR ANNULAR SPACE SHALL BE A PUMPABLE CELLULAR GROUT WITH A COMPRESSIVE STRENGTH OF 1,400 PSI AND A MAXIMUM UNIT WEIGHT OF 80 PCF.

6. HDPE PIPE EXTENSION

- THE PIPE EXTENSION SHALL BE HIGH DENSITY POLYETHYLENE SNAP-TITE PIPE, PE 3608, AS MANUFACTURED BY ISCO INDUSTRIES, LLC, OR APPROVED EQUAL. PIPE SHALL HAVE AN O.D. OF 14 INCHES AND AN I.D. OF 13.138 INCHES (SDR 32.5).

7. SLUICE GATE

- DESIGN AND OPERATING HEAD = 10 FEET.
- THE SLUICE GATE SHALL BE SUBSTANTIALLY WATERTIGHT UNDER THE DESIGN HEAD CONDITIONS. UNDER THE DESIGN SEATING AND UNSEATING HEAD, THE LEAKAGE SHALL NOT EXCEED 0.05 GALLONS PER MINUTE PER WETTED FOOT OF PERIMETER. GATE DESIGNS UTILIZING "J" SEALS WILL NOT BE ACCEPTED.
- THE GATE FRAME SHALL BE CONSTRUCTED OF STRUCTURAL MEMBERS OR FORMED PLATE WELDED TO FORM A RIGID ONE-PIECE FRAME WITH AN INTEGRAL FLANGE FOR MOUNTING ON A CONCRETE WALL. THE FRAME SHALL ALLOW FOR THE REPLACEMENT OF THE SEALS WITHOUT REMOVING THE GATE FRAME FROM THE WALL.
- THE GATE SHALL BE OF STAINLESS STEEL CONSTRUCTION, TYPE 304L, REINFORCED WITH ANGLE, CHANNEL, OR PLATE STIFFENERS AS REQUIRED TO LIMIT THE DEFLECTION AT THE MAXIMUM SPECIFIED HEAD TO 1/16" AND THE MAXIMUM STRESS TO 12,000 PSI. MINIMUM MATERIAL THICKNESS SHALL BE 1/2". EDGE OF SLIDE SHALL BE 1/2" THICK MINIMUM.
- THE GUIDES AND SIDE AND TOP SEALS SHALL BE UHMWPE (ULTRA HIGH MOLECULAR WEIGHT POLYETHYLENE) AND SHALL BE OF SUCH LENGTH AS TO RETAIN AND SUPPORT AT LEAST TWO THIRDS (2/3) OF THE VERTICAL HEIGHT OF THE SLIDE IN THE FULLY OPEN POSITION. A CONTINUOUS COMPRESSION CORD SHALL ENSURE CONTACT BETWEEN THE SIDE AND TOP SEALS AND THE GATE IN ALL POSITIONS. THE FLUSH BOTTOM SEAL SHALL BE NEOPRENE SET INTO THE BOTTOM OF THE FRAME.
- STEM GUIDES SHALL BE EQUIPPED WITH UHMWPE BUSHINGS. GUIDES SHALL BE ADJUSTABLE AND SPACED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
- THE ENTIRE STEM SHALL BE FROM SOLID STAINLESS STEEL ROD. THE STEM SHALL HAVE A MINIMUM DIAMETER OF 1 1/2". THE THREADED PORTION OF THE STEM SHALL HAVE ROLLED OR MACHINE CUT ACME THREADS POLISHED TO A 63 MICRO INCH FINISH. THE STEM SHALL BE OF A SIZE TO SAFELY WITHSTAND WITHOUT BUCKLING OR PERMANENT DISTORTION THE STRESSES INDUCED BY NORMAL OPERATING FORCES. THE STEM SHALL BE DESIGNED TO TRANSMIT IN COMPRESSION AT LEAST 2.5 TIMES TO OUTPUT OF THE MANUAL ACTUATOR WITH AN 80 LB. EFFORT.
- THE STEM SHALL BE A NON-RISING TYPE EQUIPPED WITH A WHIPPS STAINLESS STEEL T-HANDLE WRENCH FOR OPERATION. THE GATE SHALL BE EQUIPPED WITH AN ACTUATOR TO PROVIDE THE CALCULATED OPERATING THRUST WITH NO MORE THAN 40 POUNDS EFFORT IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
- THE GATE SHALL BE A WHIPPS MODEL 925 SLIDE GATE WITH A 15" SQUARE OPENING OR APPROVED EQUAL. WHIPPS IS REPRESENTED BY ATLANTIC FLUID TECHNOLOGY, INC., WORCESTER, MA. (508-755-0440). THE GATE SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS.
- THE FOLLOWING SUBMITTAL SHALL BE PREPARED BY THE CONTRACTOR AND SUBMITTED IN TRIPLICATE TO THE OWNER/ENGINEER FOR REVIEW AND APPROVAL PRIOR TO INSTALLATION/PLACEMENT:
 - SLIDE GATE SHOP DRAWINGS INCLUDING SUPPORTING CALCULATIONS AND ALL ANCILLARY MATERIALS (E.G., ADHESIVE FOR ANCHORS, NON-SHRINK GROUT, ETC.) STAMPED BY A PROFESSIONAL ENGINEER REGISTERED IN THE UNITED STATES.

8. ANCHORING

- ALL ANCHORING TO EXISTING CONCRETE SHALL BE PERFORMED BY DRILLING AND EPOXY SETTING AS SHOWN ON THE DRAWINGS.
- EPOXY SHALL BE AS SPECIFIED IN SECTION 03310, CONCRETE.
- INSTALLATION SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS.

**ISSUED FOR BIDDING
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THIS DRAWING IS HALF SIZE**

RT Group, Inc.
Engineered from the Ground UpSM
70 Romano Vineyard Way, Suite 134
North Kingstown, Rhode Island 02852
T 401 438 3100 F 401 294 9806
DAM SAFETY - WATERFRONT - CONSTRUCTION ENGINEERING - GEOTECHNICAL
GEO-ENVIRONMENTAL - STRUCTURAL - CIVIL

DSGN	JBR
DR	DJA
CHK	JBR
APVD	JBR

No.	4-16-14	REVISED PER DEEP'S COMMENTS DATED APRIL 2, 2014	SWO	JBR
DATE		REVISIONS	BY	APVD

BAR IS ONE INCH ON ORIGINAL DRAWING.
0 ——— 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY



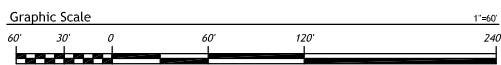
**DARLING POND DAM
IMPROVEMENTS PROJECT**
TOWN OF CHAPLIN
CHAPLIN, CONNECTICUT

**GENERAL CONSTRUCTION
NOTES CONTINUED**

SHEET	3 OF 20
DWG No.	G-03
DATE	DEC 2013
PROJ No.	13105.00



NOTE:
 THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING AND MAINTAINING SITE ACCESS AS REQUIRED TO COMPLETE THIS PROJECT. UPON COMPLETION, RESTORE ALL DISTURBED AREAS RESULTING FROM ACCESS TO THEIR ORIGINAL CONDITION.



**ISSUED FOR BIDDING
 NOT FOR CONSTRUCTION** THIS DRAWING IS HALF SIZE

rtg RT Group, Inc.
 Engineered from the Ground UpSM
 70 Romano Vineyard Way, Suite 134
 North Kingstown, Rhode Island 02852
 T 401 438 3100 F 401 294 9806
DAM SAFETY - WATERFRONT - CONSTRUCTION ENGINEERING - GEOTECHNICAL
 GEO-ENVIRONMENTAL - STRUCTURAL - CIVIL

DSGN	JBR						
DR	DJA						
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APVD	JBR	No.	DATE	REVISIONS	BY	APVD	

BAR IS ONE INCH ON ORIGINAL DRAWING.
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 IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.



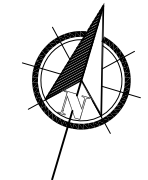
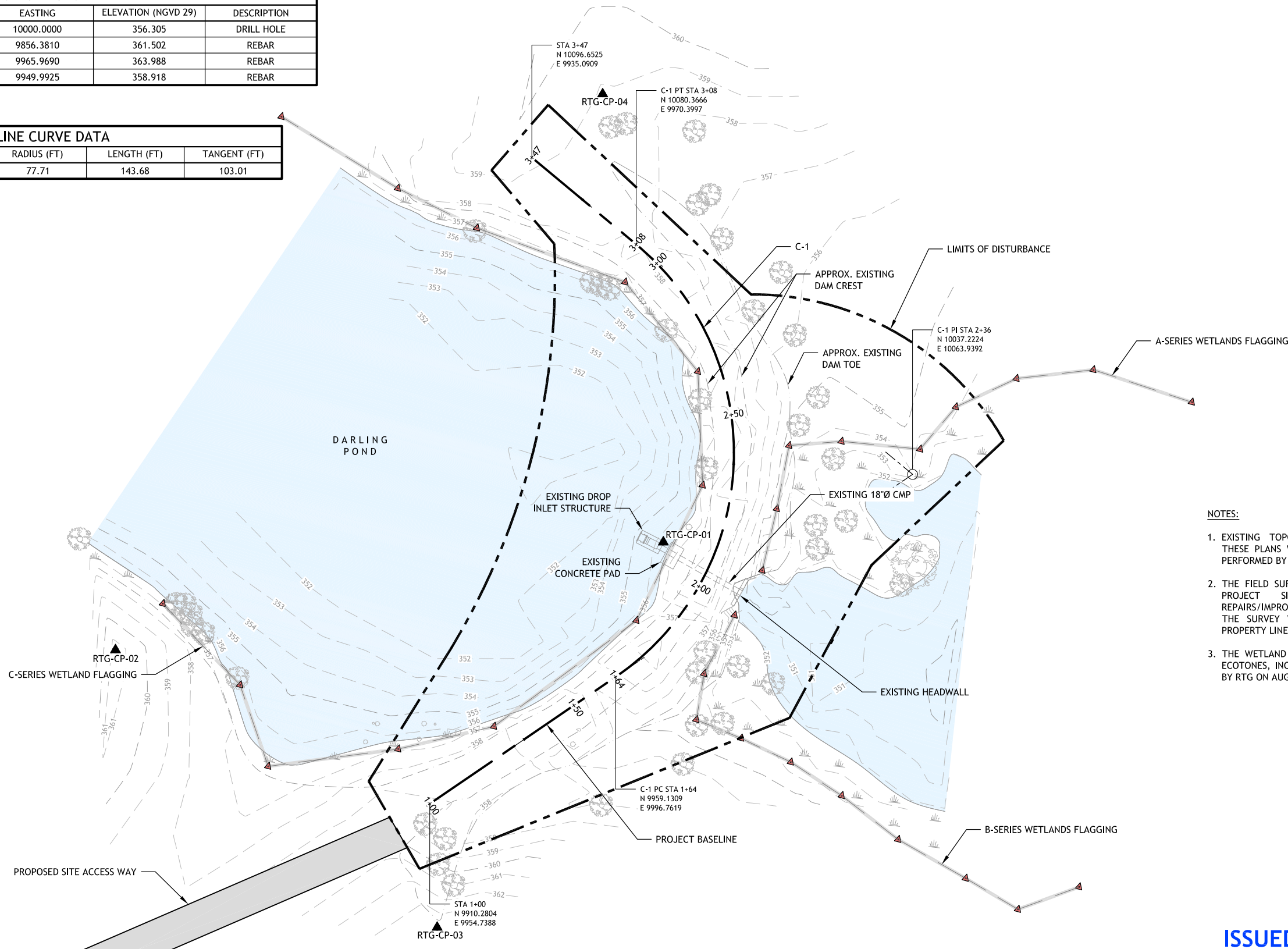
**DARLING POND DAM
 IMPROVEMENTS PROJECT**
 TOWN OF CHAPLIN
 CHAPLIN, CONNECTICUT

SITE ACCESS PLAN

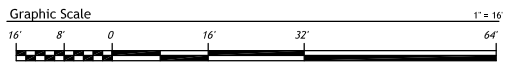
SHEET	4 OF 20
DWG No.	C-01
DATE	DEC 2013
PROJ No.	13105.00

	A	B	C	D	E
1	RTG CONTROL POINT DATA				
2	POINT NO.	NORTHING	EASTING	ELEVATION (NGVD 29)	DESCRIPTION
3	▲RTG-CP-01	10000.0000	10000.0000	356.305	DRILL HOLE
4	▲RTG-CP-02	9929.5445	9856.3810	361.502	REBAR
5	▲RTG-CP-03	9876.6255	9965.9690	363.988	REBAR
6	▲RTG-CP-04	10119.4700	9949.9925	358.918	REBAR

BASELINE CURVE DATA				
CURVE NO.	Δ	RADIUS (FT)	LENGTH (FT)	TANGENT (FT)
C-1	105° 56' 32"	77.71	143.68	103.01



- NOTES:**
- EXISTING TOPOGRAPHIC INFORMATION SHOWN ON THESE PLANS WAS OBTAINED FROM A FIELD SURVEY PERFORMED BY RTG ON AUGUST 13, 2013.
 - THE FIELD SURVEY WAS PERFORMED TO DEVELOP A PROJECT SITE PLAN FOR UNDERTAKING REPAIRS/IMPROVEMENTS AT THE DARLING POND DAM. THE SURVEY WAS NOT PERFORMED TO ESTABLISH PROPERTY LINES/BOUNDARIES.
 - THE WETLAND EDGE DELINEATION WAS FLAGGED BY ECOTONES, INC. ON AUGUST 12, 2013 AND SURVEYED BY RTG ON AUGUST 13, 2013.



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 T 401 438 3100 F 401 294 9806

DSGN	JBR
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CHK	JBR
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No.	DATE	REVISIONS	BY	APVD

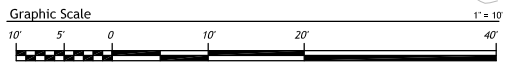
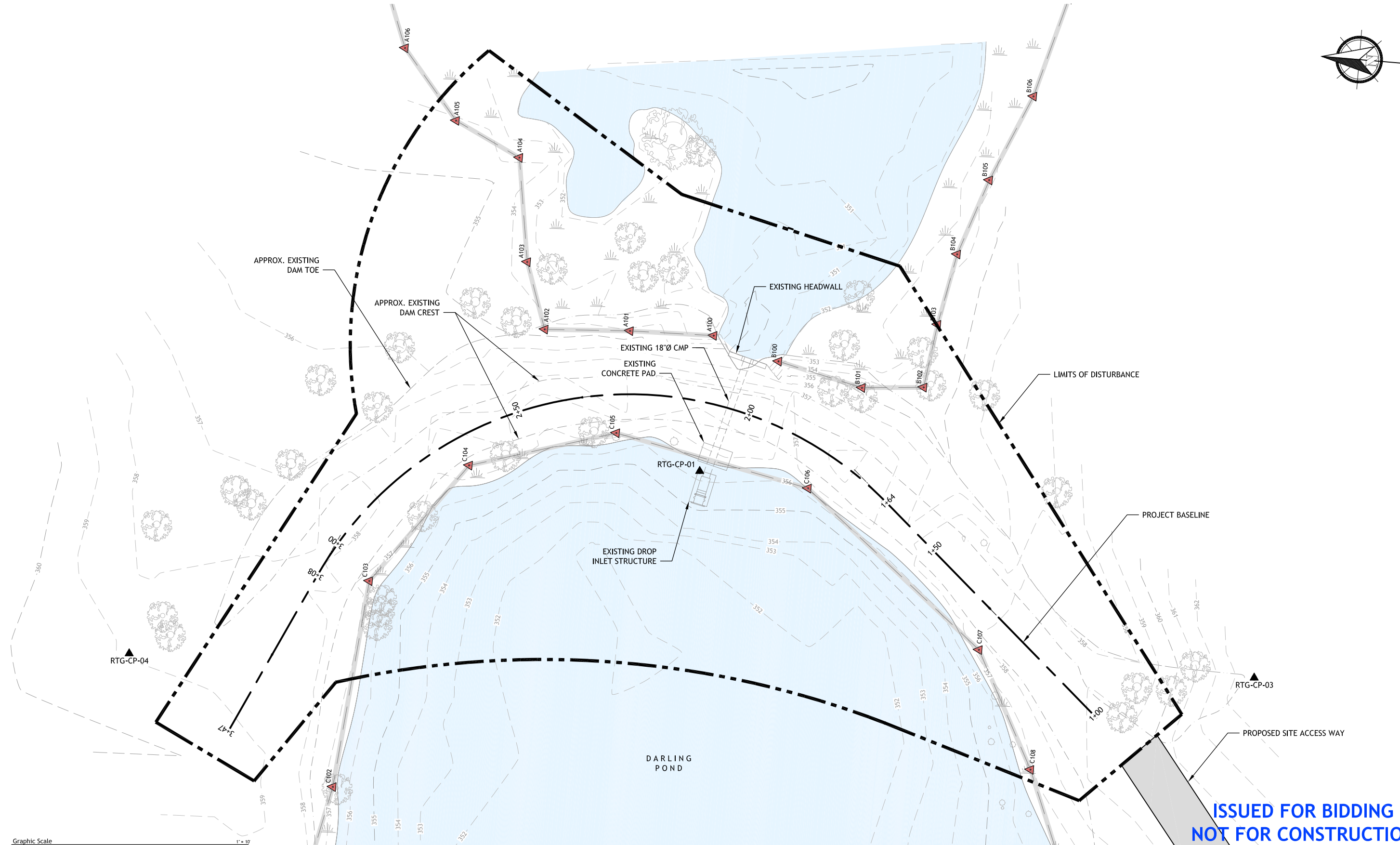
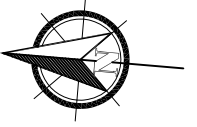
BAR IS ONE INCH ON ORIGINAL DRAWING.
 0 ————— 1"
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**DARLING POND DAM
IMPROVEMENTS PROJECT**
 TOWN OF CHAPLIN
 CHAPLIN, CONNECTICUT

OVERALL SITE PLAN

SHEET	5 OF 20
DWG No.	C-02
DATE	DEC 2013
PROJ No.	13105.00



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DAM SAFETY - WATERFRONT - CONSTRUCTION ENGINEERING - GEOTECHNICAL
 GEO-ENVIRONMENTAL - STRUCTURAL - CIVIL

DSGN	JBR
DR	DJA
CHK	JBR
APVD	JBR

No.	DATE	REVISIONS	BY	APVD

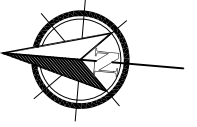
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DARLING POND DAM IMPROVEMENTS PROJECT
 TOWN OF CHAPLIN
 CHAPLIN, CONNECTICUT

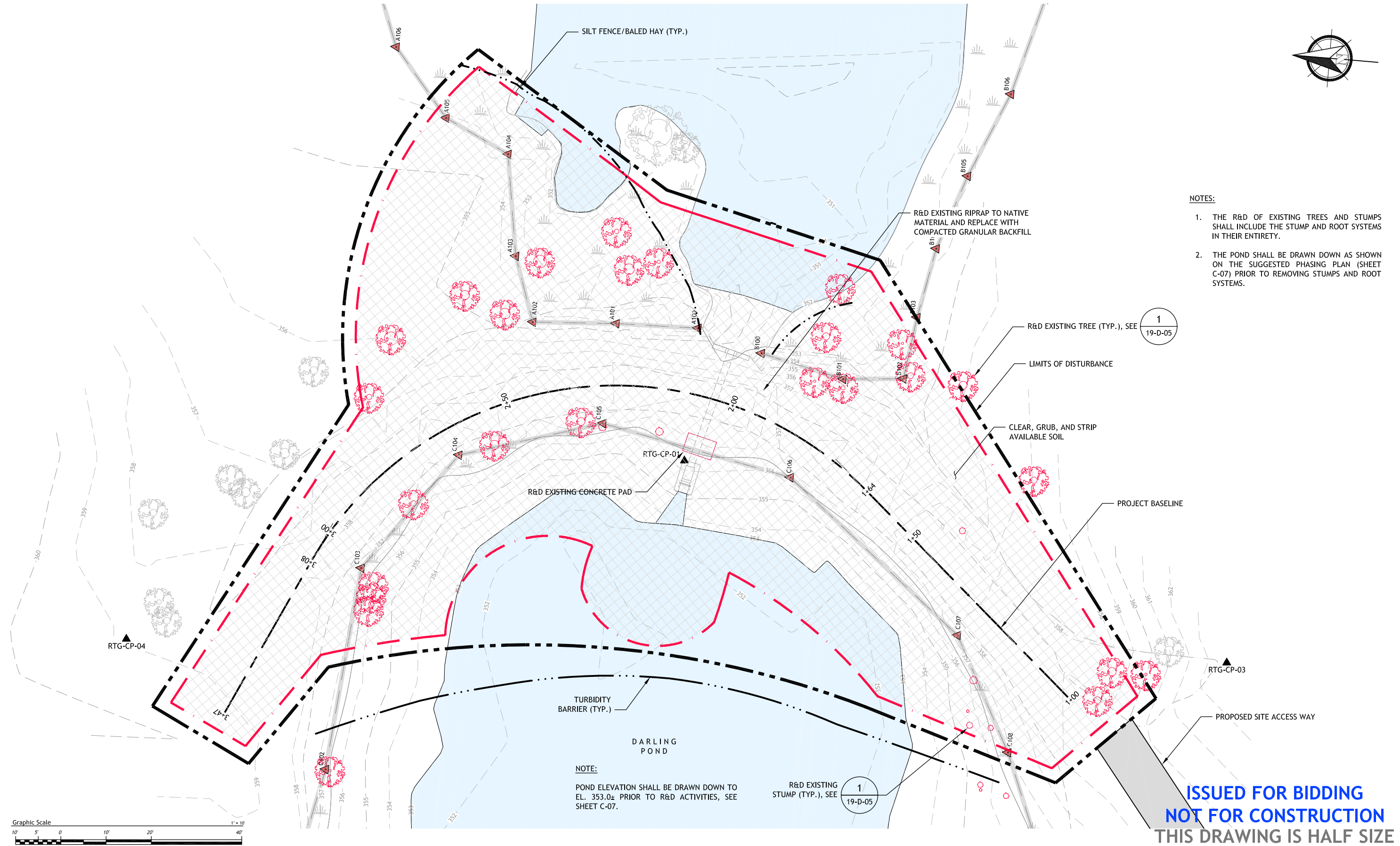
EXISTING CONDITIONS PLAN

SHEET	6 OF 20
DWG No.	C-03
DATE	DEC 2013
PROJ No.	13105.00



NOTES:

1. THE R&D OF EXISTING TREES AND STUMPS SHALL INCLUDE THE STUMP AND ROOT SYSTEMS IN THEIR ENTIRETY.
2. THE POND SHALL BE DRAWN DOWN AS SHOWN ON THE SUGGESTED PHASING PLAN (SHEET C-07) PRIOR TO REMOVING STUMPS AND ROOT SYSTEMS.



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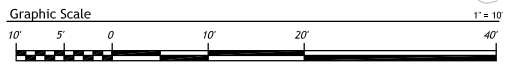
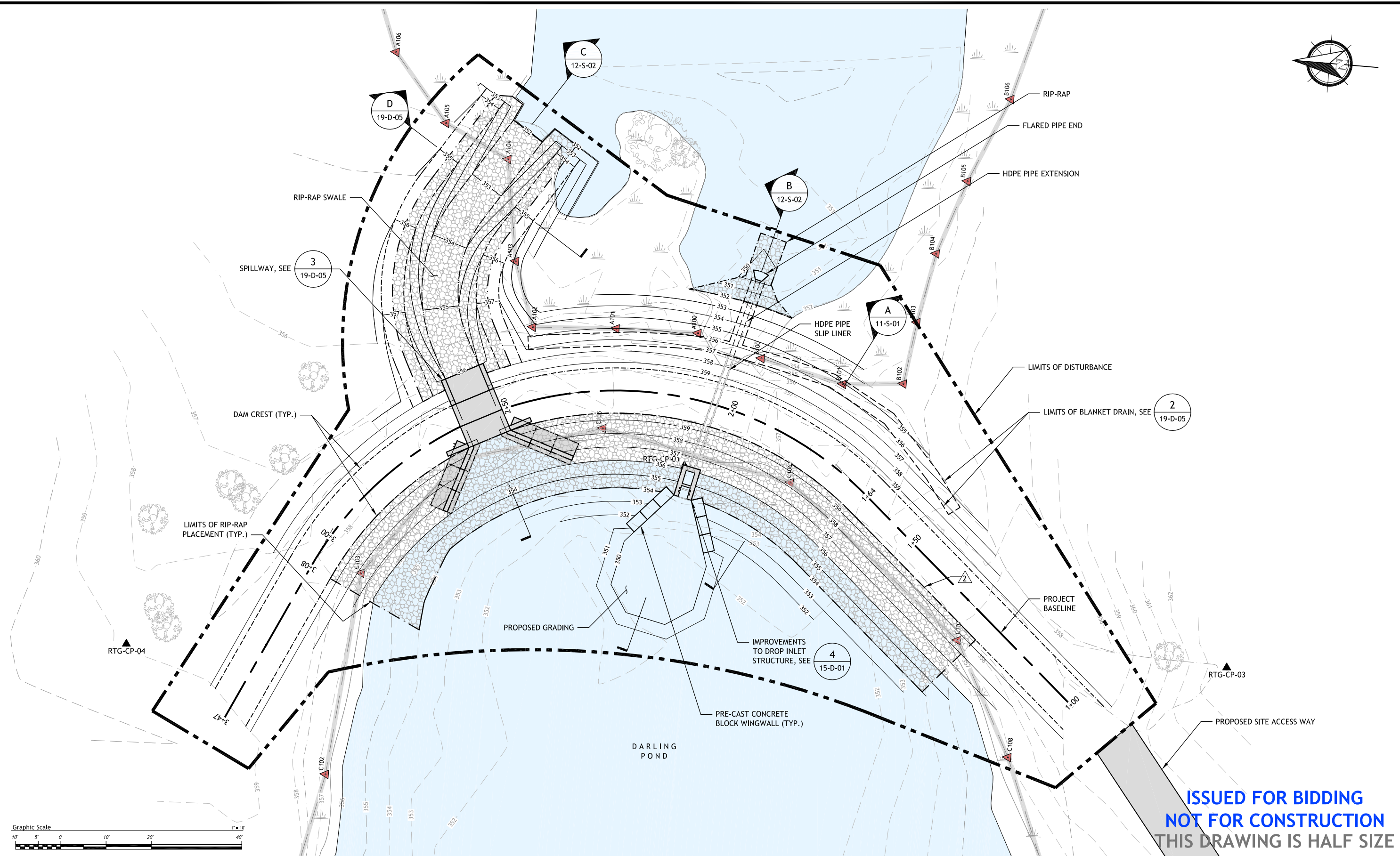
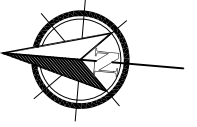
DSGN	JBR					
DR	DJA					
CHK	JBR					
APVD	JBR	No.	DATE	REVISIONS	BY	APVD

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DARLING POND DAM IMPROVEMENTS PROJECT
 TOWN OF CHAPLIN
 CHAPLIN, CONNECTICUT

CLEARING, GRUBBING, AND REMOVAL PLAN

SHEET	7 OF 20
DWG No.	C-04
DATE	DEC 2013
PROJ No.	13105.00



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 GEO-ENVIRONMENTAL - STRUCTURAL - CIVIL

DSGN	JBR								
DR	DJA								
CHK	JBR	2	5-22-14	REVISED PER DEEP'S COMMENTS DATED MAY 21, 2014					
APVD	JBR	1	4-16-14	REVISED PER DEEP'S COMMENTS DATED APRIL 2, 2014					
	No.		DATE	REVISIONS					

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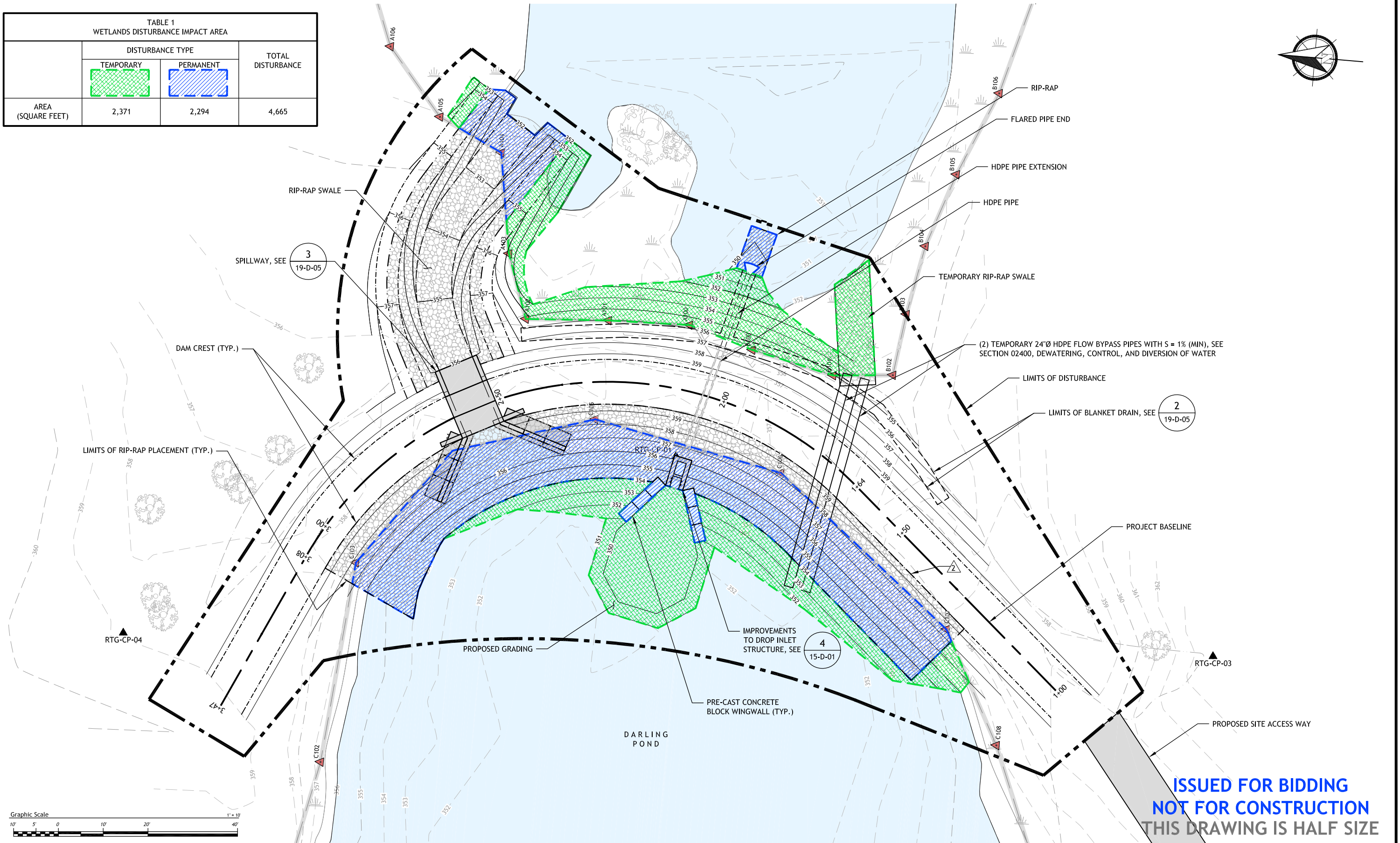
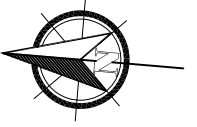


**DARLING POND DAM
IMPROVEMENTS PROJECT**
 TOWN OF CHAPLIN
 CHAPLIN, CONNECTICUT

PROPOSED SITE PLAN

SHEET	8 OF 20
DWG No.	C-05
DATE	DEC 2013
PROJ No.	13105.00

TABLE 1 WETLANDS DISTURBANCE IMPACT AREA			
AREA (SQUARE FEET)	DISTURBANCE TYPE		TOTAL DISTURBANCE
	TEMPORARY	PERMANENT	
	2,371	2,294	4,665



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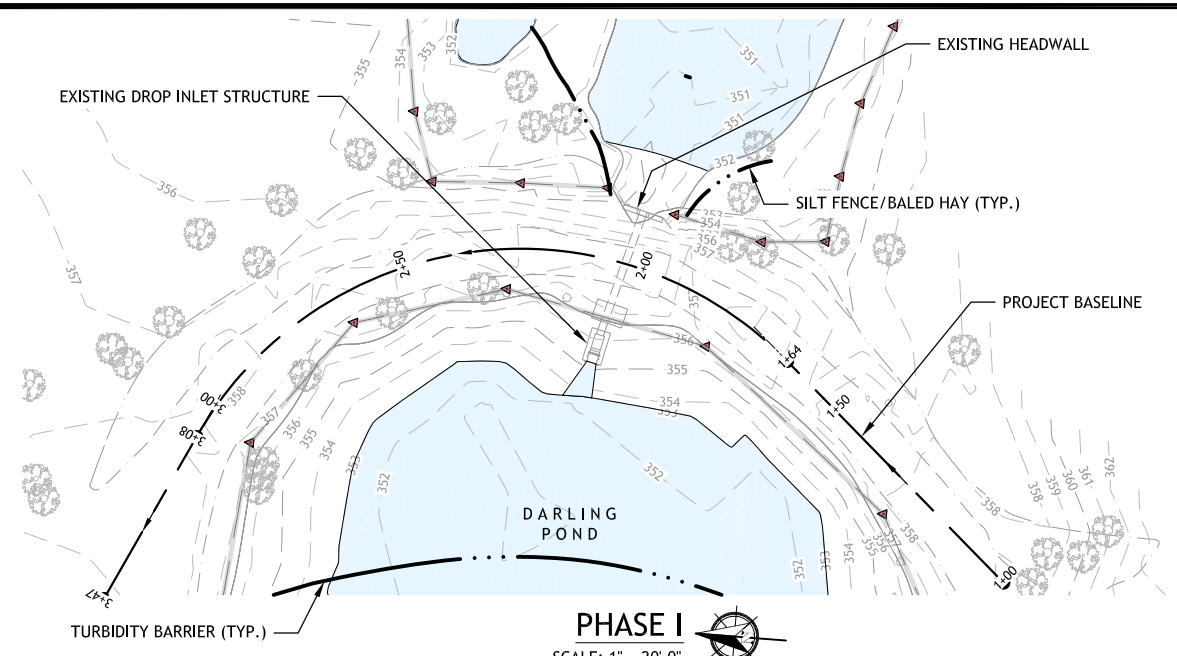
DSGN	JBR								
DR	DJA								
CHK	JBR	2	5-22-14	REVISED PER DEEP'S COMMENTS DATED MAY 21, 2014					
APVD	JBR	1	4-16-14	REVISED PER DEEP'S COMMENTS DATED APRIL 2, 2014					
		No.	DATE	REVISIONS	BY	APVD			



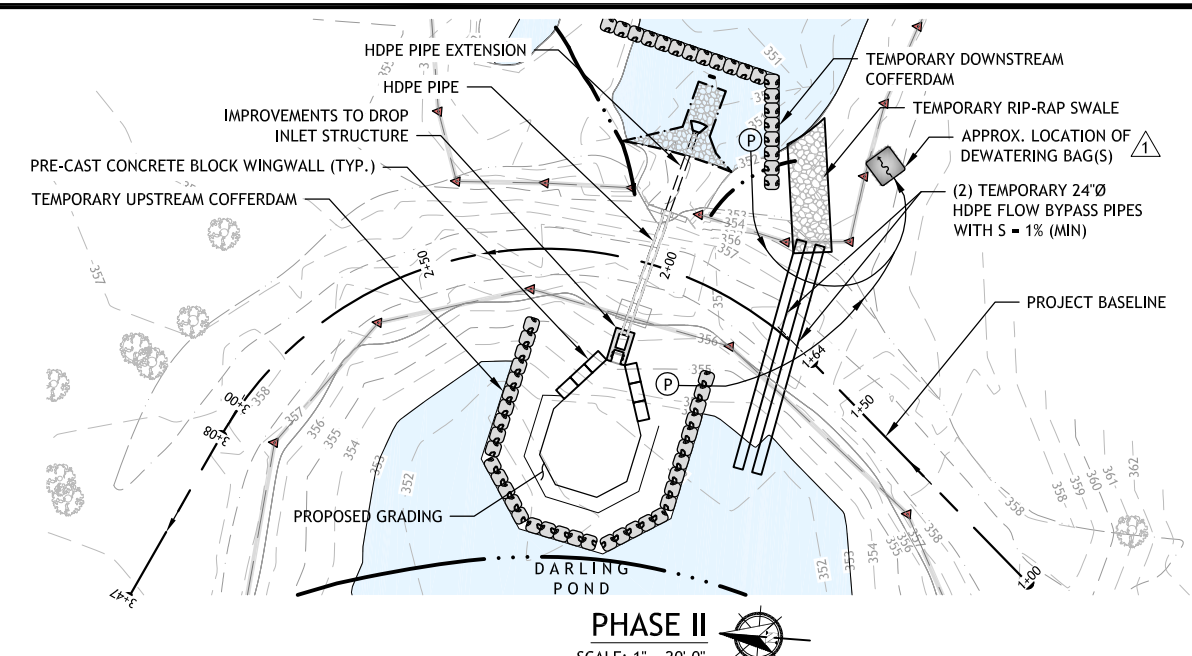
**DARLING POND DAM
IMPROVEMENTS PROJECT**
 TOWN OF CHAPLIN
 CHAPLIN, CONNECTICUT

WETLAND DISTURBANCE PLAN

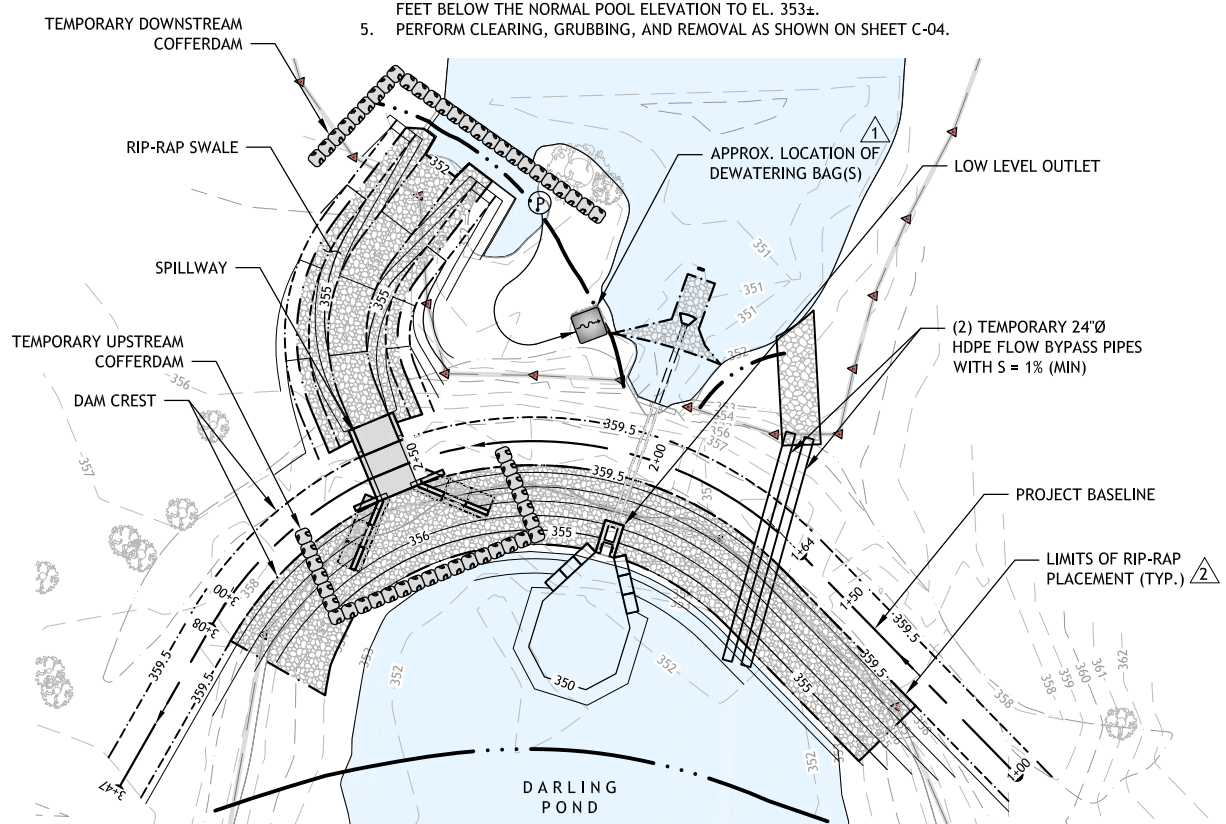
SHEET	9 OF 20
DWG No.	C-06
DATE	DEC 2013
PROJ No.	13105.00



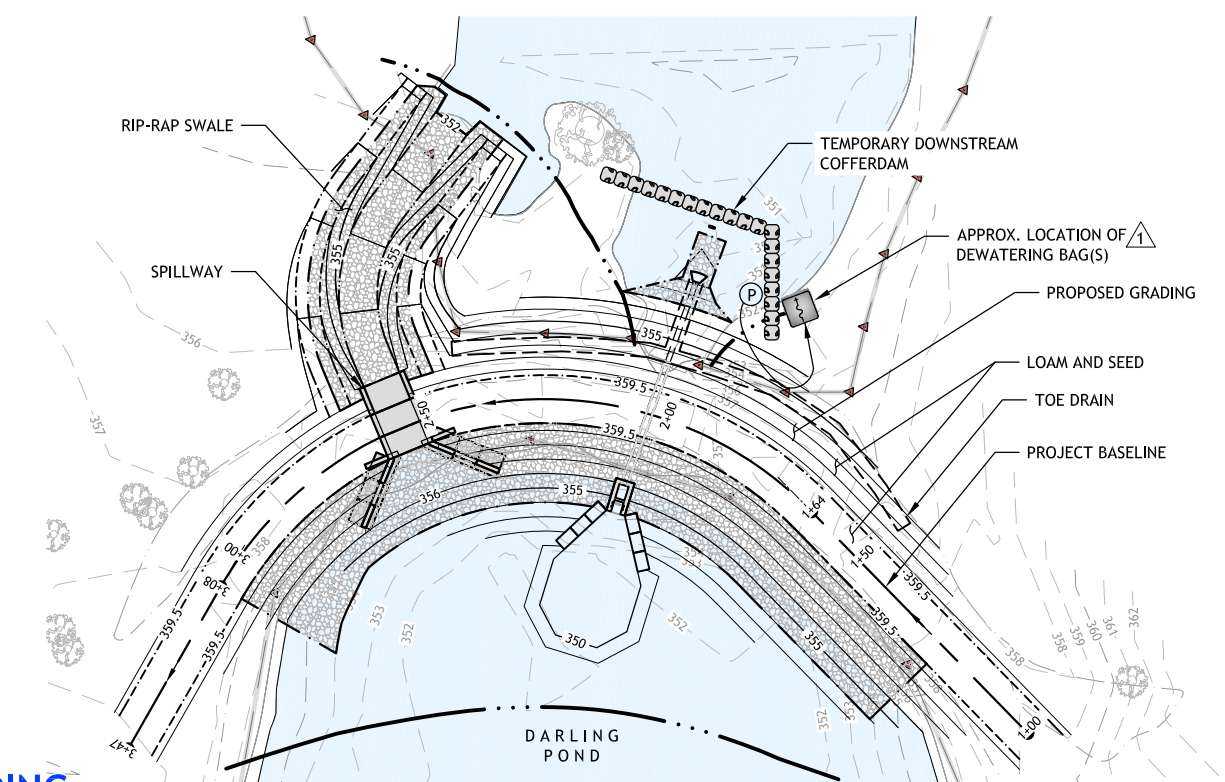
1. F&I THE TURBIDITY BARRIER AND SILT FENCE/BALED HAY.
2. CLEAN ALL SEDIMENT AND DEBRIS FROM THE EXISTING DROP INLET STRUCTURE.
3. REMOVE SEDIMENT DIRECTLY UPSTREAM OF THE EXISTING DROP INLET STRUCTURE TRASH RACK DOWN TO EL. 352±.
4. USING THE EXISTING DROP INLET STRUCTURE, DRAW DOWN DARLING POND 3 FEET BELOW THE NORMAL POOL ELEVATION TO EL. 353±.
5. PERFORM CLEARING, GRUBBING, AND REMOVAL AS SHOWN ON SHEET C-04.



1. F&I THE TEMPORARY RIP-RAP SWALE AND THE TEMPORARY 24"Ø HDPE FLOW BYPASS PIPES WITH THEIR INVERTS SET AT EL. 353± AND SLOPES SET TO 1% AND ROUTE ALL FLOW THROUGH, MAINTAINING THE POND DRAW DOWN ELEVATION OF 353±.
2. F&I THE TEMPORARY UPSTREAM COFFERDAM AND TEMPORARY DOWNSTREAM COFFERDAM AND DEWATER AS REQUIRED.
3. F&I THE PROPOSED HDPE PIPE IN THE EXISTING 18"Ø CMP, F&I THE PIPE EXTENSION, AND F&I THE PERMANENT DOWNSTREAM RIP-RAP.
4. F&I THE PROPOSED IMPROVEMENTS TO THE EXISTING CONCRETE DROP-INLET STRUCTURE.
5. GRADE THE AREA UPSTREAM OF THE DROP INLET STRUCTURE.

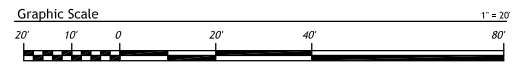


1. RELOCATE THE TEMPORARY UPSTREAM AND DOWNSTREAM COFFERDAMS AS SHOWN AND DEWATER AS REQUIRED.
2. ROUTE ALL FLOW THROUGH THE REHABILITATED DISCHARGE PIPE AND THE TEMPORARY FLOW BYPASS PIPES, MAINTAINING THE POND DRAW DOWN ELEVATION OF 353±.
3. F&I THE PROPOSED SPILLWAY AND DOWNSTREAM RIP-RAP SWALE AND REMOVE THE TEMPORARY UPSTREAM COFFERDAM AT COMPLETION.
4. GRADE THE CREST AND UPSTREAM SLOPE OF THE DAM AND INSTALL THE UPSTREAM RIP-RAP.
5. REMOVE THE TEMPORARY FLOW BYPASS PIPES AND REGRADE AS REQUIRED.



1. RELOCATE THE DOWNSTREAM COFFERDAM TO ITS PREVIOUS LOCATION AS SHOWN.
2. DEWATER UPSTREAM OF THE DOWNSTREAM COFFERDAM AS REQUIRED.
3. ALLOW THE POND ELEVATION TO RETURN TO NORMAL POOL (EL. 356).
4. ROUTE ALL FLOW THROUGH THE SPILLWAY AND RIP-RAP SWALE.
5. INSTALL THE TOE DRAIN AND GRADE THE DOWNSTREAM SLOPE OF THE DAM.
6. LOAM AND SEED THE CREST AND DOWNSTREAM SLOPE OF THE DAM.
7. REMOVE THE DOWNSTREAM COFFERDAM, TURBIDITY BARRIER, AND SILT FENCE/BALED HAY.

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GEO-ENVIRONMENTAL - STRUCTURAL - CIVIL

DSGN	JBR				
DR	DJA				
CHK	JBR	2	5-22-14	REVISED PER DEEP'S COMMENTS DATED MAY 21, 2014	DJA JBR
APVD	JBR	1	4-16-14	REVISED PER DEEP'S COMMENTS DATED APRIL 2, 2014	DJA SWO JBR
	No.		DATE	REVISIONS	BY

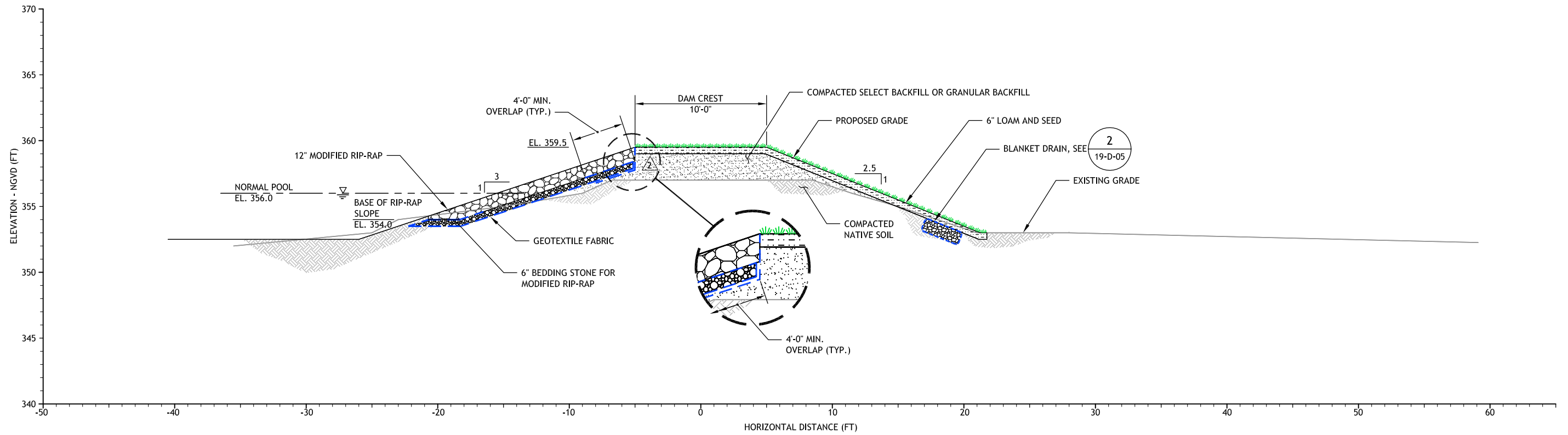
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**DARLING POND DAM
IMPROVEMENTS PROJECT**
TOWN OF CHAPLIN
CHAPLIN, CONNECTICUT

SUGGESTED PHASING PLAN

SHEET	10 OF 20
DWG No.	C-07
DATE	DEC 2013
PROJ No.	13105.00



SECTION A
 VERT. SCALE: 1/4" = 1'-0"
 HORIZ. SCALE: 1/4" = 1'-0"
 8-C-05

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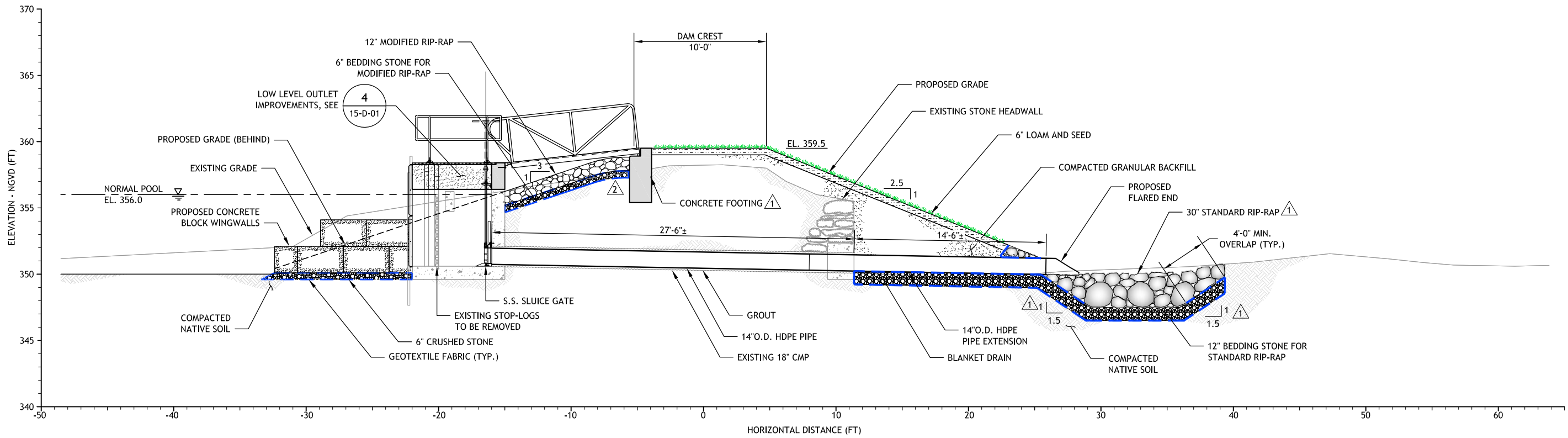
<p>RT Group, Inc. Engineered from the Ground UpSM 70 Romano Vineyard Way, Suite 134 North Kingstown, Rhode Island 02852 T 401 438 3100 F 401 294 9806</p> <p><small>DAM SAFETY - WATERFRONT - CONSTRUCTION ENGINEERING - GEOTECHNICAL GEO-ENVIRONMENTAL - STRUCTURAL - CIVIL</small></p>	DSGN	JBR																	SHEET	11 OF 20
	DR	DJA																	DWG No.	S-01
	CHK	JBR	2	5-22-14	REVISED PER DEEP'S COMMENTS DATED MAY 21, 2014	DJA	JBR												DATE	DEC 2013
	APVD	JBR	1	4-16-14	REVISED PER DEEP'S COMMENTS DATED APRIL 2, 2014	SWO	JBR												PROJ No.	13105.00
		No.	DATE	REVISIONS	BY	APVD														



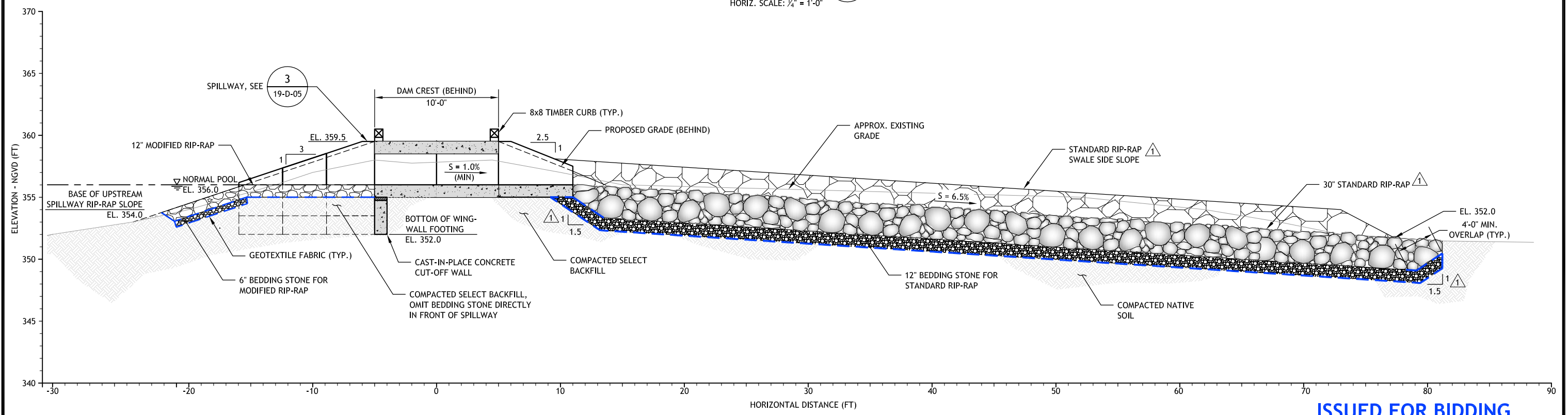
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 IMPROVEMENTS PROJECT**
 TOWN OF CHAPLIN
 CHAPLIN, CONNECTICUT

TYPICAL SECTIONS - 1

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SECTION B
 VERT. SCALE: 1/4" = 1'-0"
 HORIZ. SCALE: 1/4" = 1'-0"
 8-C-05



SECTION C
 VERT. SCALE: 1/4" = 1'-0"
 HORIZ. SCALE: 1/4" = 1'-0"
 8-C-05

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NO.	DATE	REVISIONS	BY	APVD
1	5-22-14	REVISED PER DEEP'S COMMENTS DATED MAY 21, 2014	DJA	JBR
2	4-16-14	REVISED PER DEEP'S COMMENTS DATED APRIL 2, 2014	SWO	JBR

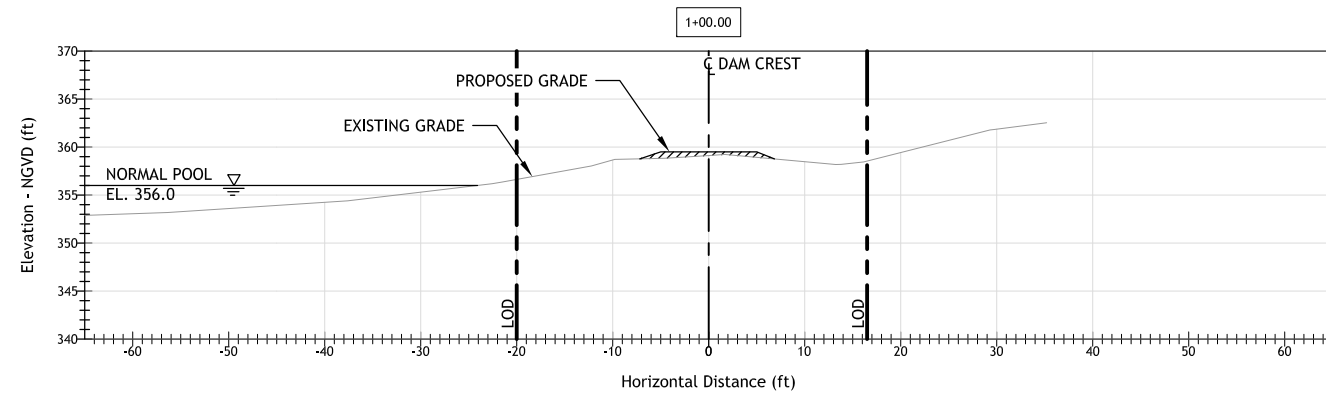
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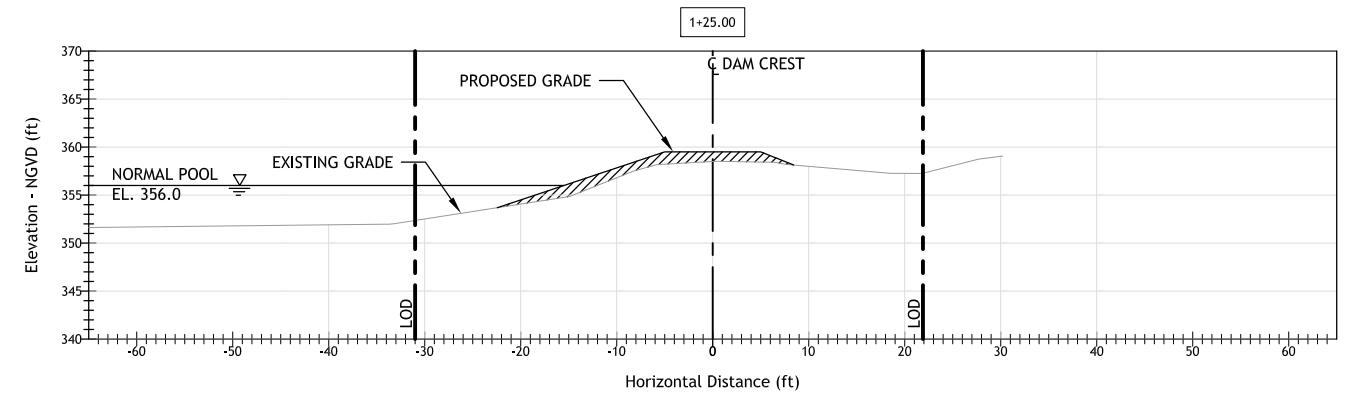
DARLING POND DAM IMPROVEMENTS PROJECT
 TOWN OF CHAPLIN
 CHAPLIN, CONNECTICUT

TYPICAL SECTIONS - 2

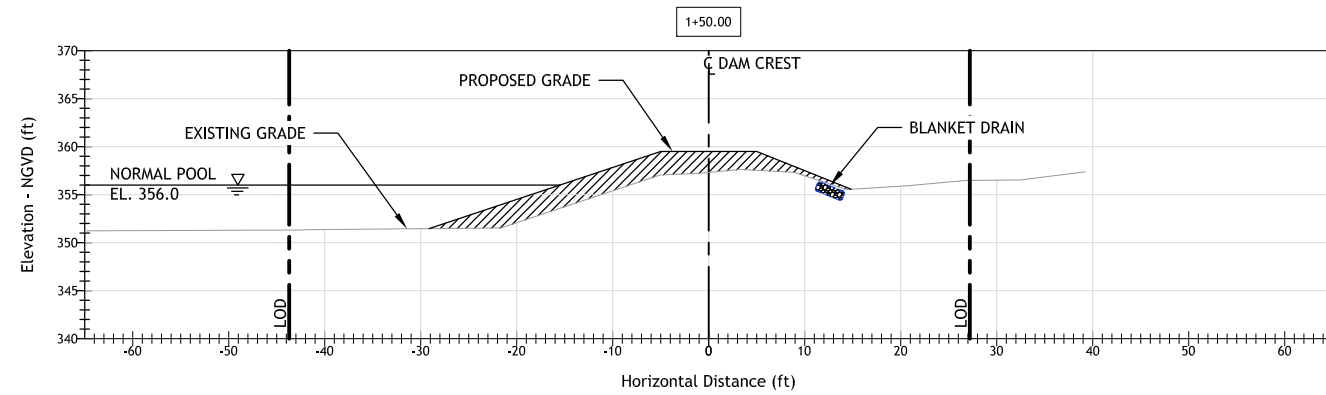
SHEET	12 OF 20
DWG No.	S-02
DATE	DEC 2013
PROJ No.	13105.00



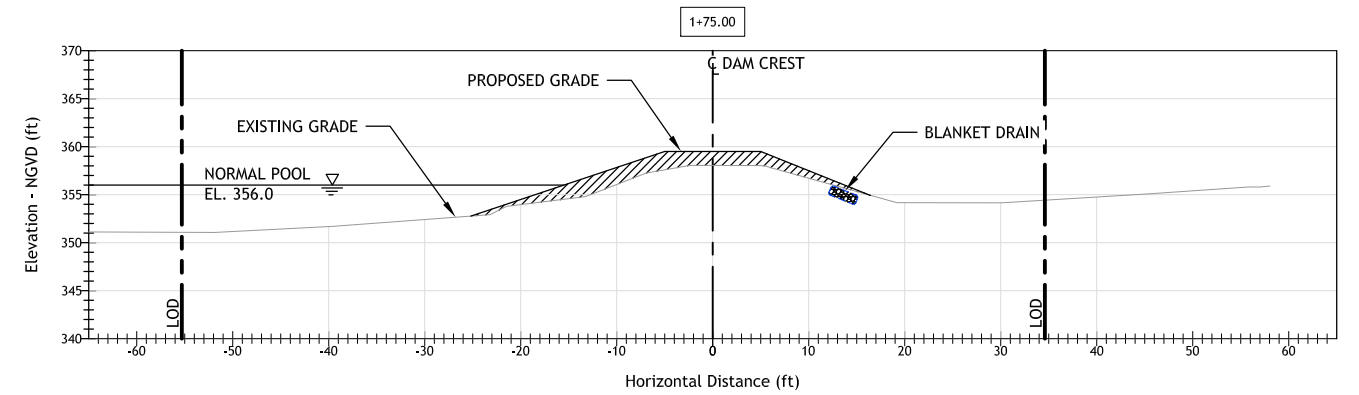
SECTION STA. 1+00
 VERT. SCALE: 1" = 10'-0"
 HORIZ. SCALE: 1" = 10'-0"



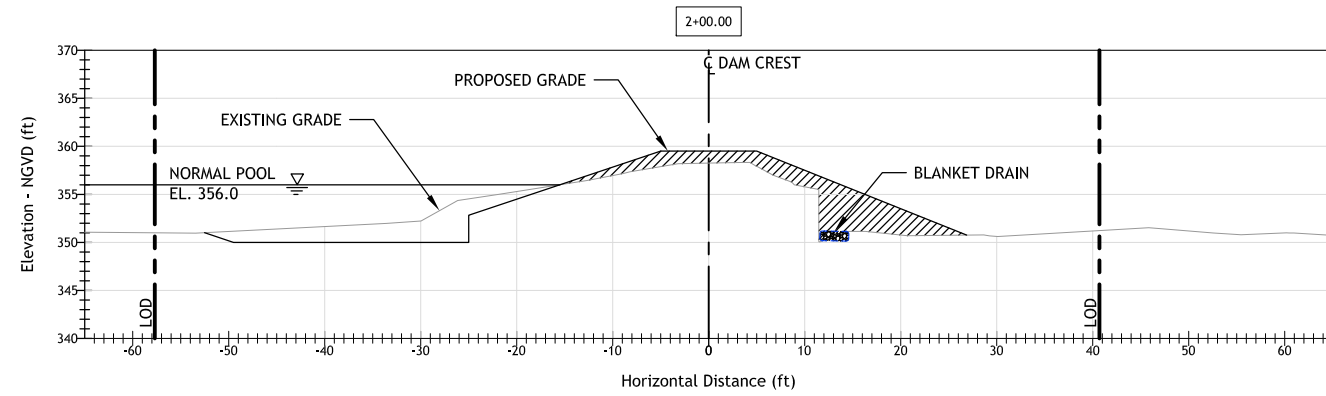
SECTION STA. 1+25
 VERT. SCALE: 1" = 10'-0"
 HORIZ. SCALE: 1" = 10'-0"



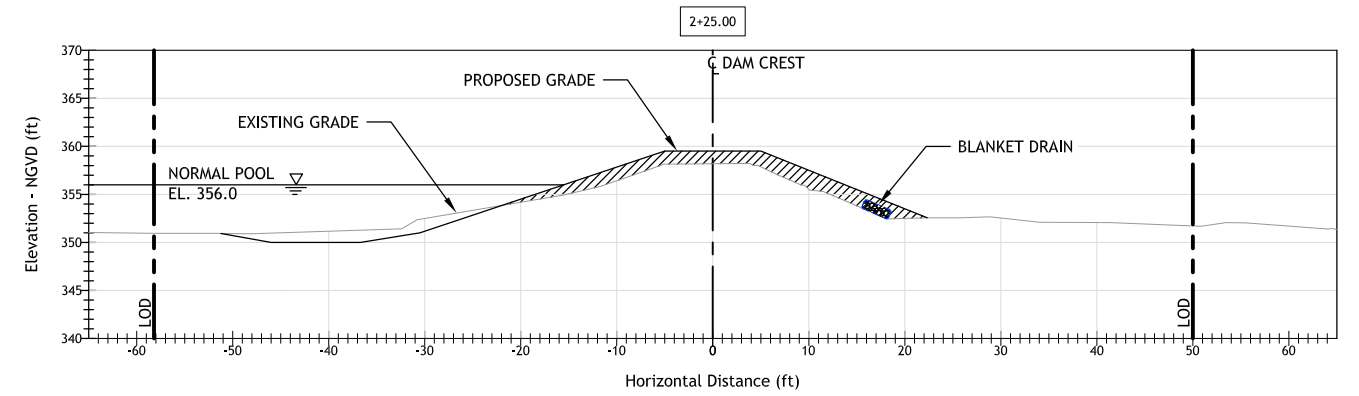
SECTION STA. 1+50
 VERT. SCALE: 1" = 10'-0"
 HORIZ. SCALE: 1" = 10'-0"



SECTION STA. 1+75
 VERT. SCALE: 1" = 10'-0"
 HORIZ. SCALE: 1" = 10'-0"



SECTION STA. 2+00
 VERT. SCALE: 1" = 10'-0"
 HORIZ. SCALE: 1" = 10'-0"



SECTION STA. 2+25
 VERT. SCALE: 1" = 10'-0"
 HORIZ. SCALE: 1" = 10'-0"

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CHK	JBR
APVD	JBR

No.	DATE	REVISIONS	BY	APVD

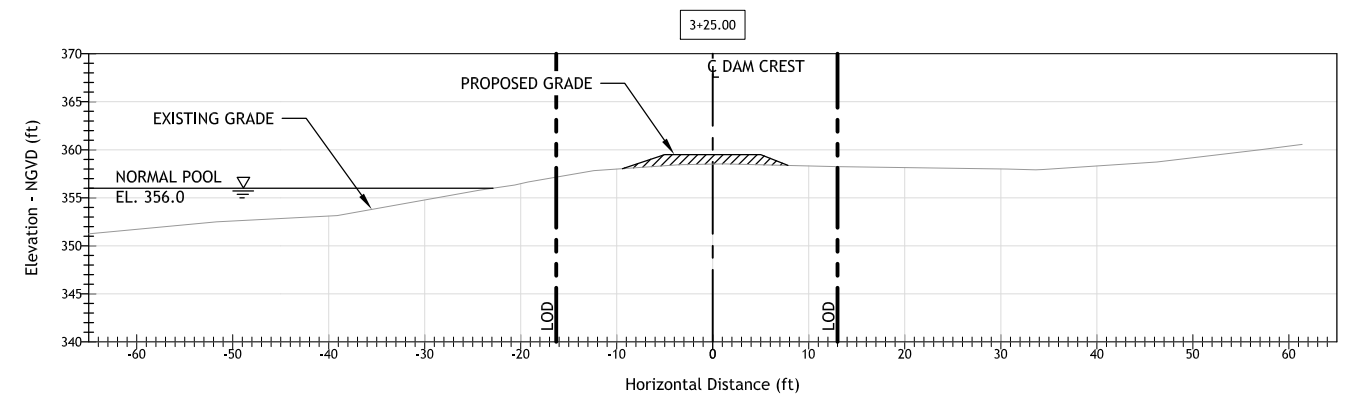
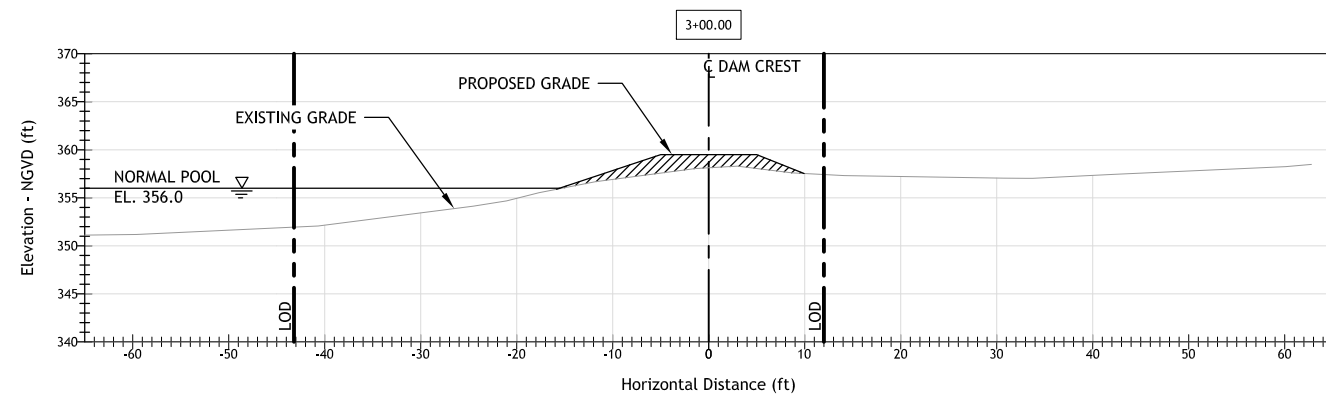
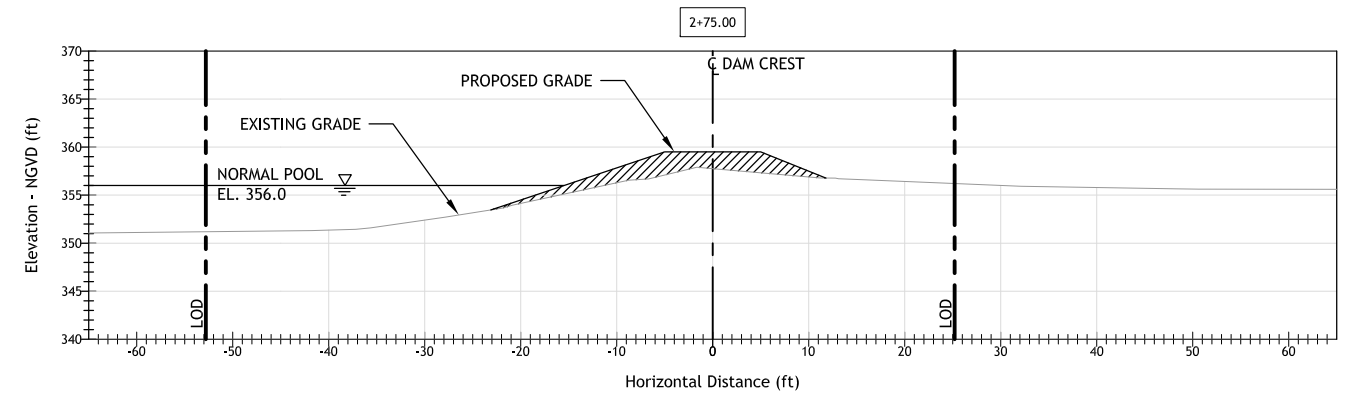
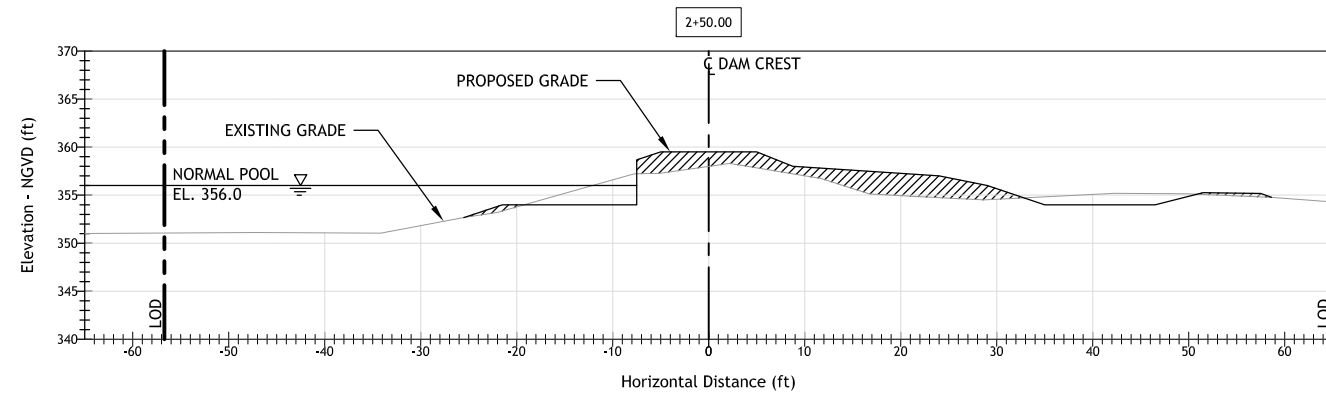
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DARLING POND DAM IMPROVEMENTS PROJECT
 TOWN OF CHAPLIN
 CHAPLIN, CONNECTICUT

SECTIONS - 1

SHEET	13 OF 20
DWG No.	S-03
DATE	DEC 2013
PROJ No.	13105.00



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DR	DJA
CHK	JBR
APVD	JBR

No.	DATE	REVISIONS	BY	APVD

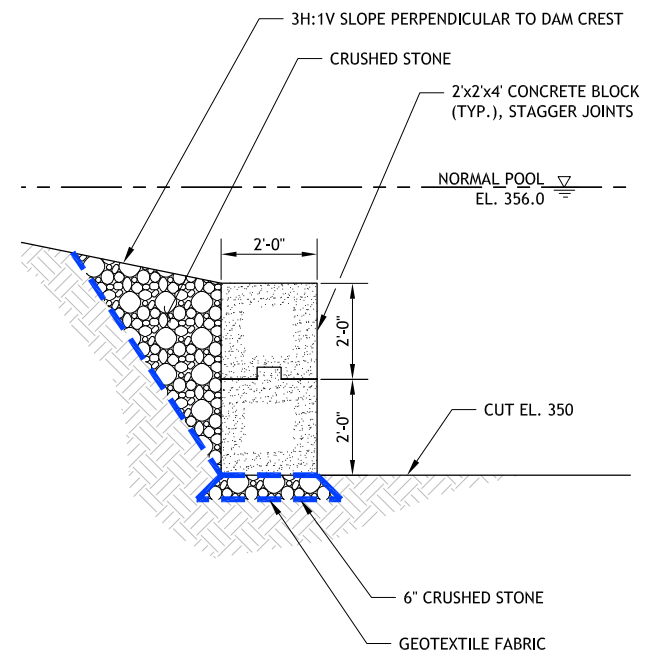
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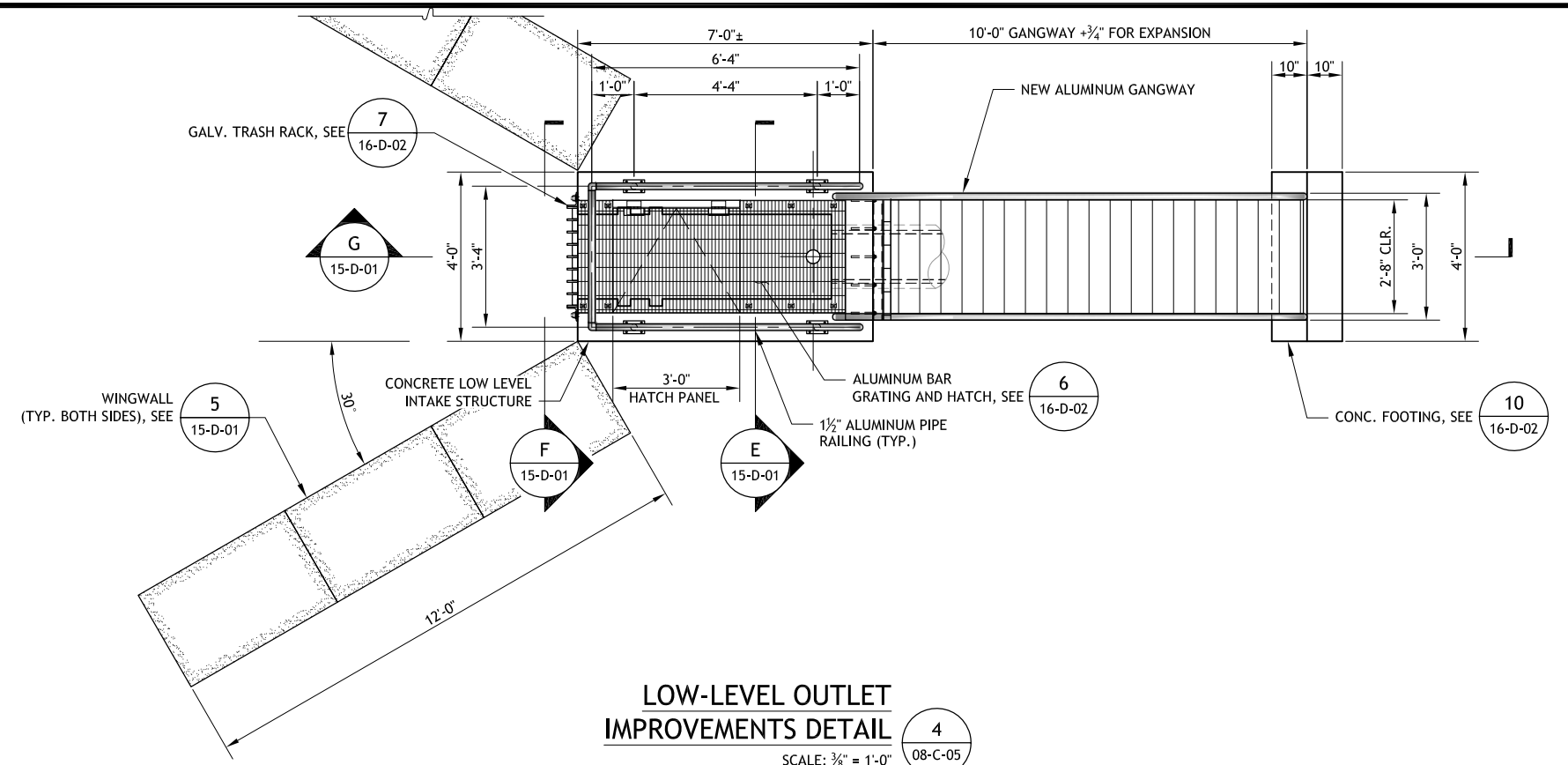
**DARLING POND DAM
 IMPROVEMENTS PROJECT**
 TOWN OF CHAPLIN
 CHAPLIN, CONNECTICUT

SECTIONS - 2

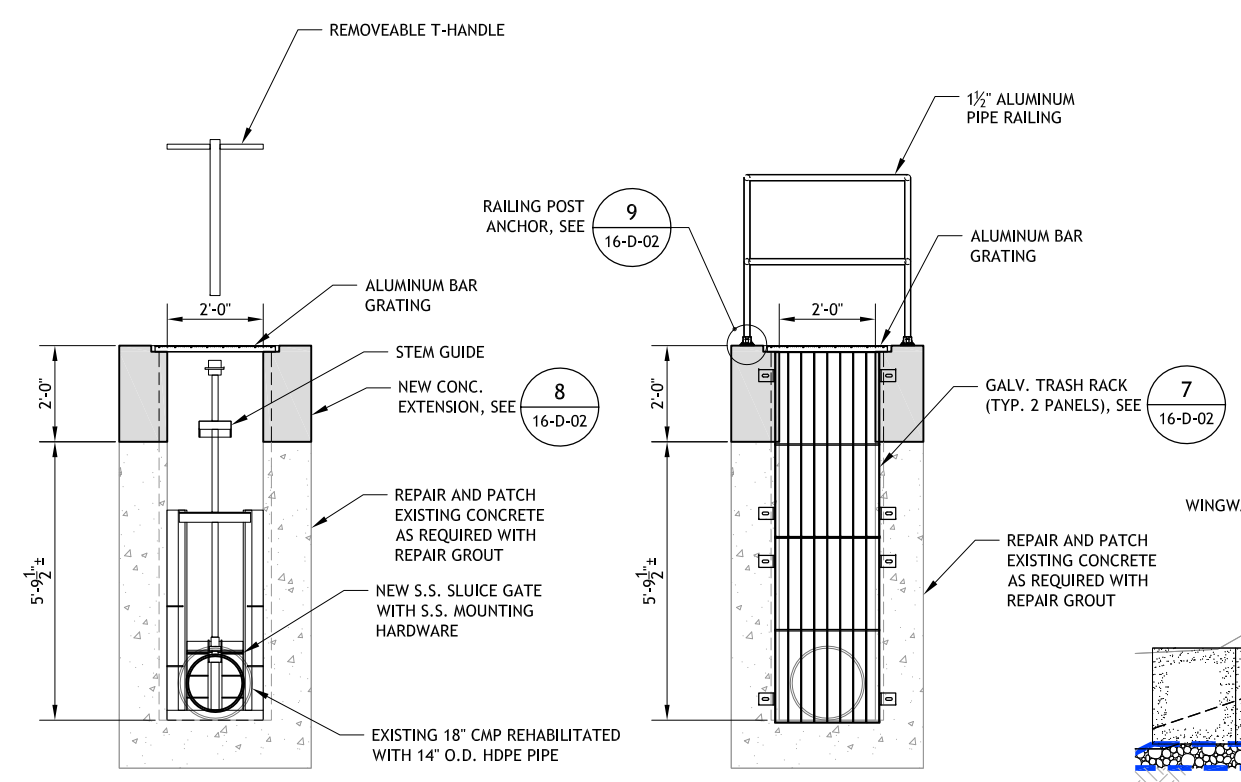
SHEET	14 OF 20
DWG No.	S-04
DATE	DEC 2013
PROJ No.	13105.00



WING WALL DETAIL
SCALE: 1/2" = 1'-0"
5
15-D-01

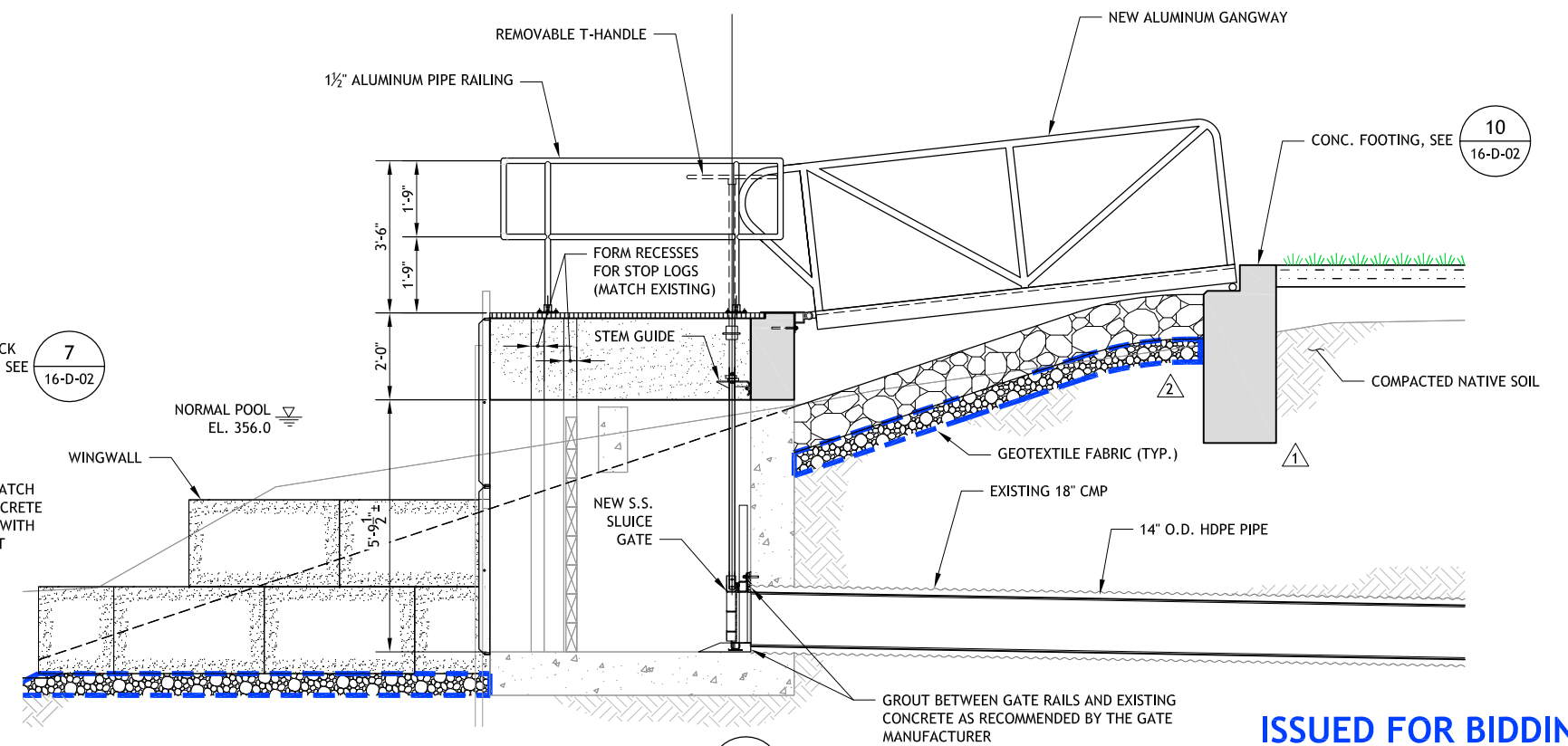


LOW-LEVEL OUTLET IMPROVEMENTS DETAIL
SCALE: 3/8" = 1'-0"
4
08-C-05



SECTION E
SCALE: 3/8" = 1'-0"
15-D-01

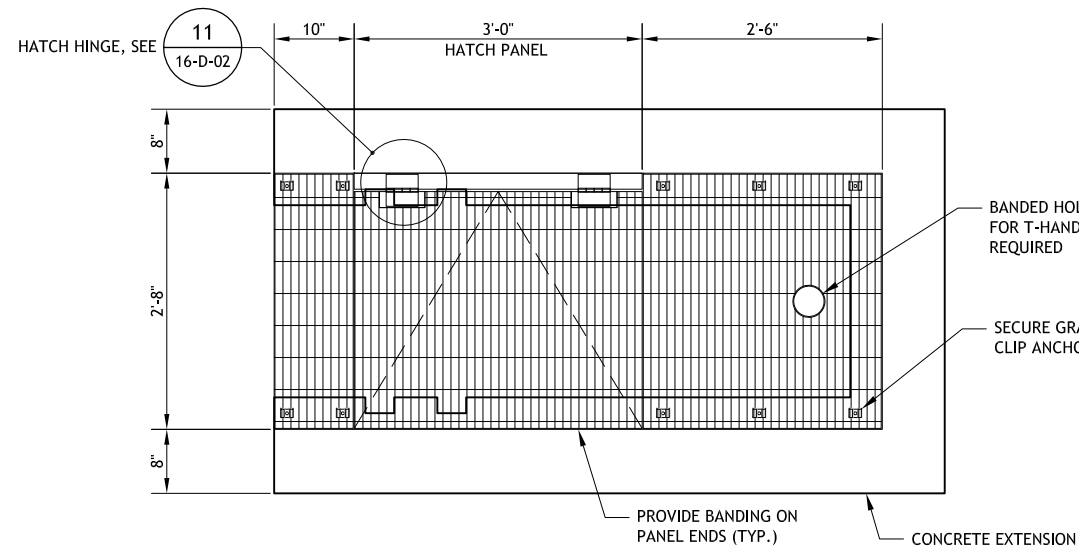
SECTION F
SCALE: 3/8" = 1'-0"
15-D-01



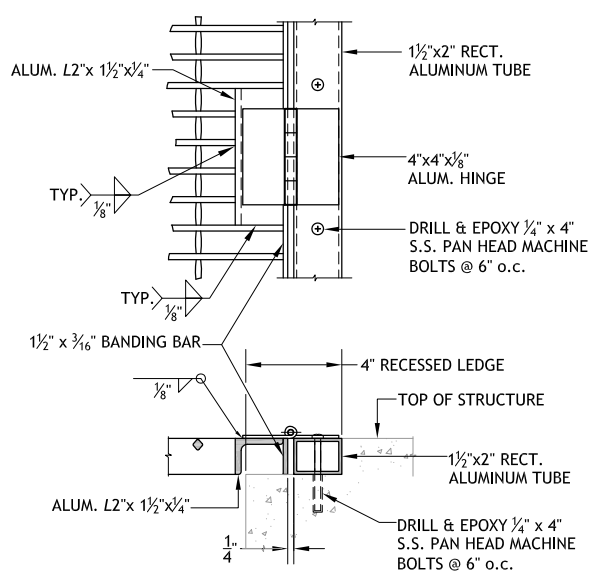
SECTION G
SCALE: 3/8" = 1'-0"
15-D-01

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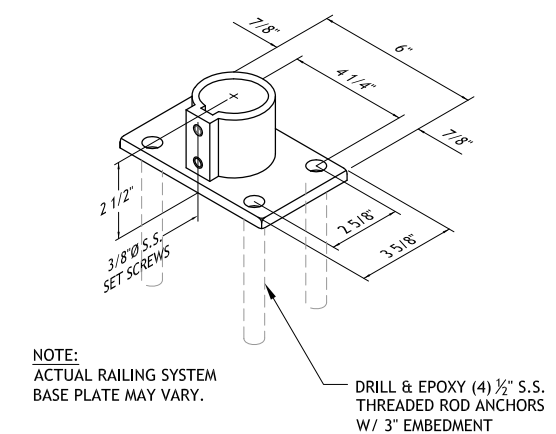
RT Group, Inc. Engineered from the Ground Up SM 70 Romano Vineyard Way, Suite 134 North Kingstown, Rhode Island 02852 T 401 438 3100 F 401 294 9806 <small>DAM SAFETY - WATERFRONT - CONSTRUCTION ENGINEERING - GEOTECHNICAL GEO-ENVIRONMENTAL - STRUCTURAL - CIVIL</small>	DSGN JBR DR SWO CHK DJA APVD JBR	No. 1 DATE 5-22-14 4-16-14	REVISIONS REVISED PER DEEP'S COMMENTS DATED MAY 21, 2014 REVISED PER DEEP'S COMMENTS DATED APRIL 2, 2014	BY DJA SWO JBR	JBR JBR	BAR IS ONE INCH ON ORIGINAL DRAWING. 0 1" IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.	DARLING POND DAM IMPROVEMENTS PROJECT TOWN OF CHAPLIN CHAPLIN, CONNECTICUT	LOW-LEVEL OUTLET DETAILS - 1	SHEET 15 OF 20 DWG No. D-01 DATE DEC 2013 PROJ No. 13105.00
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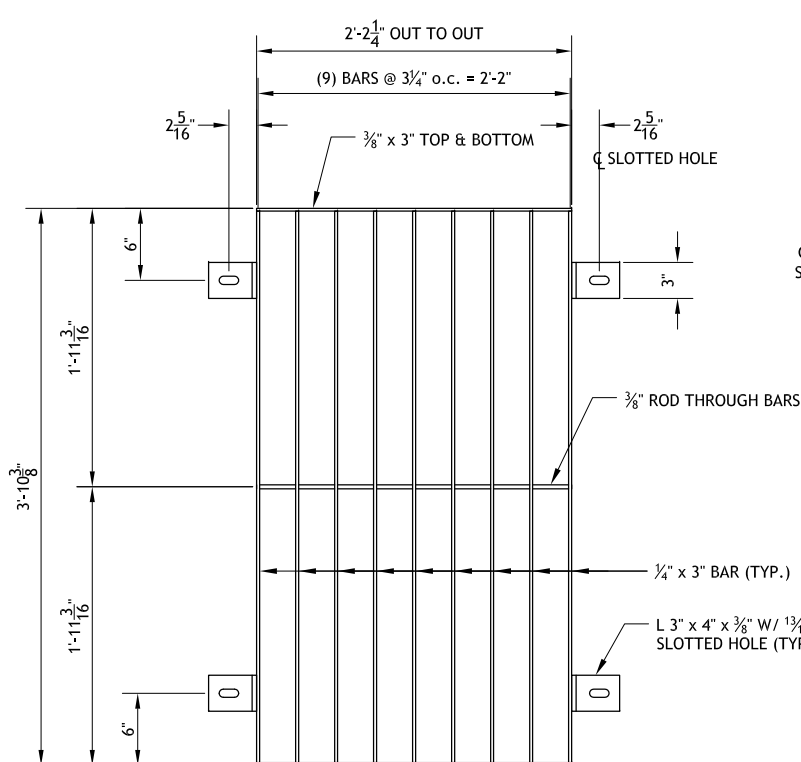
ALUMINUM BAR GRATING AND HATCH DETAIL 6
SCALE: 1" = 1'-0" 15-D-01



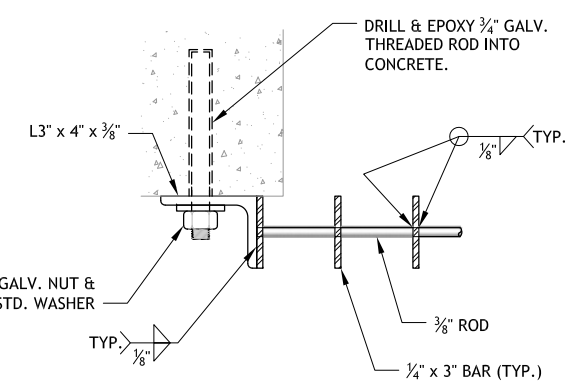
HATCH HINGE DETAIL 11
SCALE: 3" = 1'-0" 16-D-02



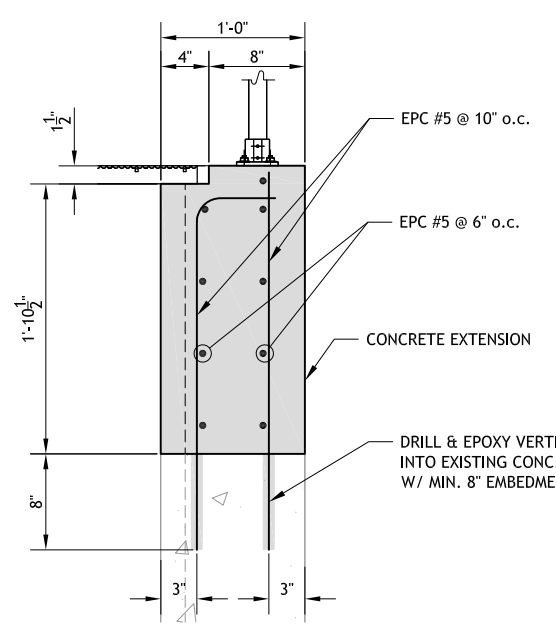
RAILING POST ANCHORAGE DETAIL 9
SCALE: NONE 15-D-01



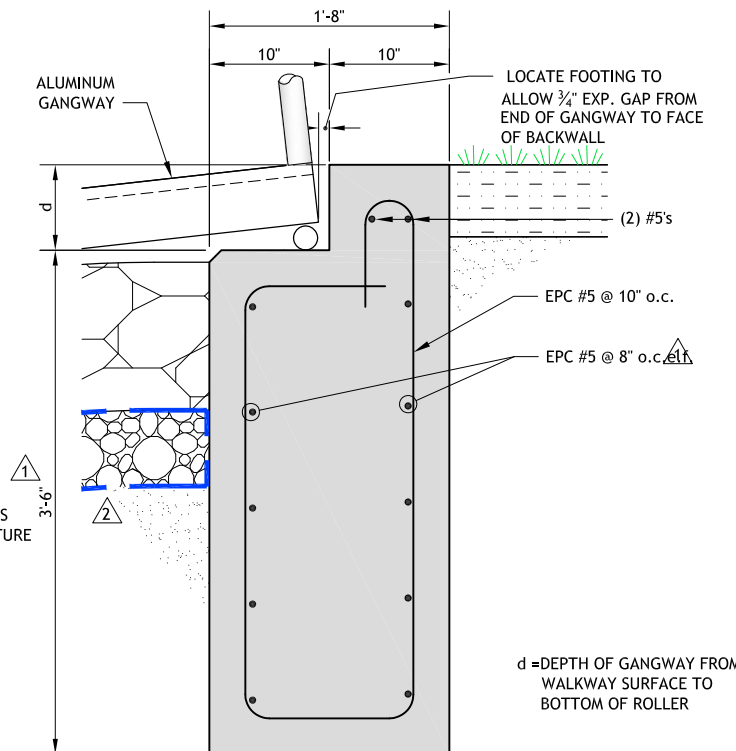
GALV. TRASH RACK DETAIL 7
SCALE: 1 1/2" = 1'-0" 15-D-01



DETAIL 12
SCALE: 3" = 1'-0" 16-D-02



CONCRETE EXTENSION DETAIL 8
SCALE: 1 1/2" = 1'-0" 15-D-01

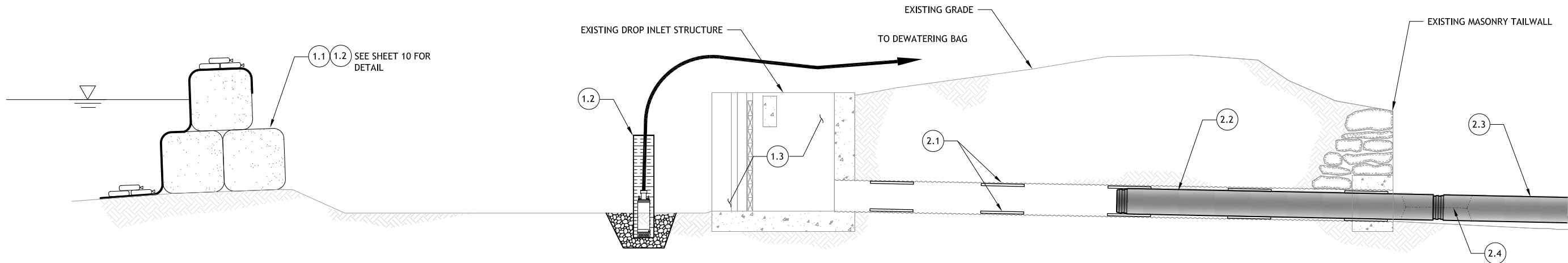


GANGWAY FOOTING DETAIL 10
SCALE: 1 1/2" = 1'-0" 15-D-01

NOTES:
1. BACKFILL ON BOTH SIDES OF THE FOOTING IN EVEN LIFTS TO PREVENT AN UNBALANCED LOADING CONDITION.

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STEP 1 - INSTALL TEMPORARY UPSTREAM COFFERDAM

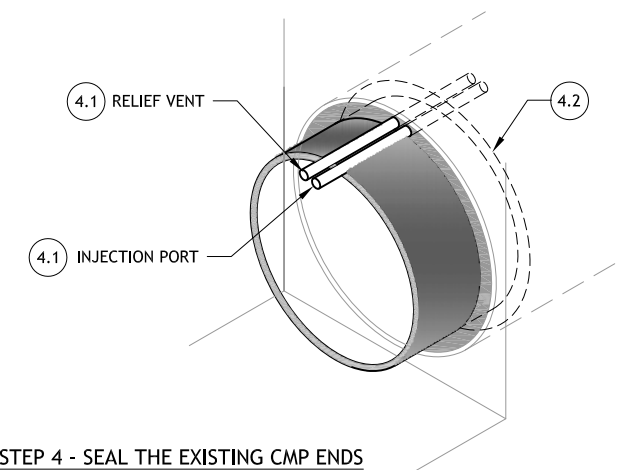
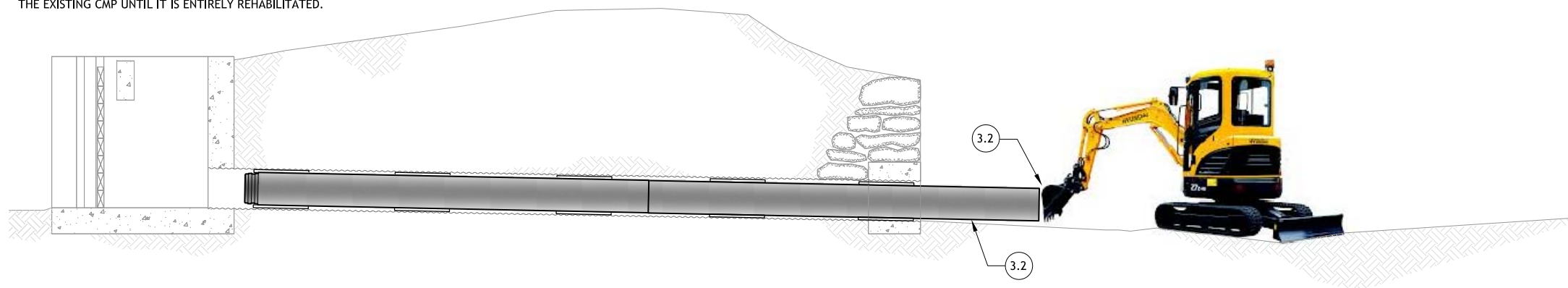
1. REMOVE RIP-RAP AND OTHER DEBRIS ALONG THE ALIGNMENT OF THE TEMPORARY UPSTREAM COFFERDAM.
2. INSTALL THE TEMPORARY UPSTREAM COFFERDAM AND DEWATER THE WORK AREA AS SHOWN ON SHEET C-07. ROUTE ALL PUMPED WATER THROUGH DEWATERING BAGS OR OTHER SUITABLE SEDIMENTATION CONTROL DEVICES.
3. INSPECT THE EXISTING CMP AND ITS INLET, CLEAN, AND VERIFY CONDITIONS AND DIMENSIONS FOR PREPARING THE SLUICE GATE SHOP DRAWINGS.

STEP 2 - INSERT THE HDPE PIPE

1. INSTALL TIMBER BLOCKING AND SKIDS WITHIN THE EXISTING CMP AS RECOMMENDED BY THE MANUFACTURER. BLOCKING SHALL BE STAGGERED SUCH THAT GROUT WILL BE ABLE TO FLOW INTO ALL THE ANNULAR SPACES BETWEEN THE EXISTING CMP PIPE AND THE HDPE PIPE.
2. FROM THE DOWNSTREAM END OF THE EXISTING CMP, INSERT THE FIRST SEGMENT OF HDPE PIPE.
3. ALIGN THE SECOND SECTION OF THE HDPE PIPE WITH THE FIRST AND INSTALL THE MANUFACTURER SUPPLIED GASKET TO THE MALE END.
4. ATTACH CHAINS AND BINDERS TO BOTH HDPE PIPE SECTIONS AS RECOMMENDED BY THE MANUFACTURER. TIGHTEN THE BINDERS UNTIL THE HDPE PIPE SECTIONS SNAP TOGETHER.

STEP 3 - PUSH JOINED HDPE PIPE INTO THE EXISTING CMP

1. REMOVE THE CHAINS AND BINDERS.
2. PUSH THE HDPE PIPE THROUGH THE EXISTING CMP LEAVING ENOUGH HDPE PIPE PROTRUDING FROM THE EXISTING CMP TO JOIN THE NEXT SECTION OF HDPE PIPE. CONTRACTOR SHALL TAKE NECESSARY PRECAUTIONS SO AS NOT TO DAMAGE THE HDPE PIPE.
3. REPEAT THE PROCESS JOINING THE HDPE PIPE SECTIONS AND PUSHING THEM INTO THE EXISTING CMP UNTIL IT IS ENTIRELY REHABILITATED.



STEP 4 - SEAL THE EXISTING CMP ENDS

1. INSTALL RELIEF VENTS AND INJECTION PORTS IN THE ANNULUS BETWEEN THE EXISTING CMP AND THE HDPE PIPE AS SHOWN OR AS RECOMMENDED BY THE MANUFACTURER.
2. USING THE SPECIFIED GROUT, INSTALL THE END SEAL IN THE ANNULAR SPACE BETWEEN THE EXISTING CMP AND THE HDPE PIPE A DISTANCE OF ONE TO TWO FEET AT EACH END.
3. PROVIDE SCREW ON CAPS FOR DRAINS, VENTS, AND GROUT TUBES TO BE INSTALLED ONCE GROUT BEGINS TO COME OUT.

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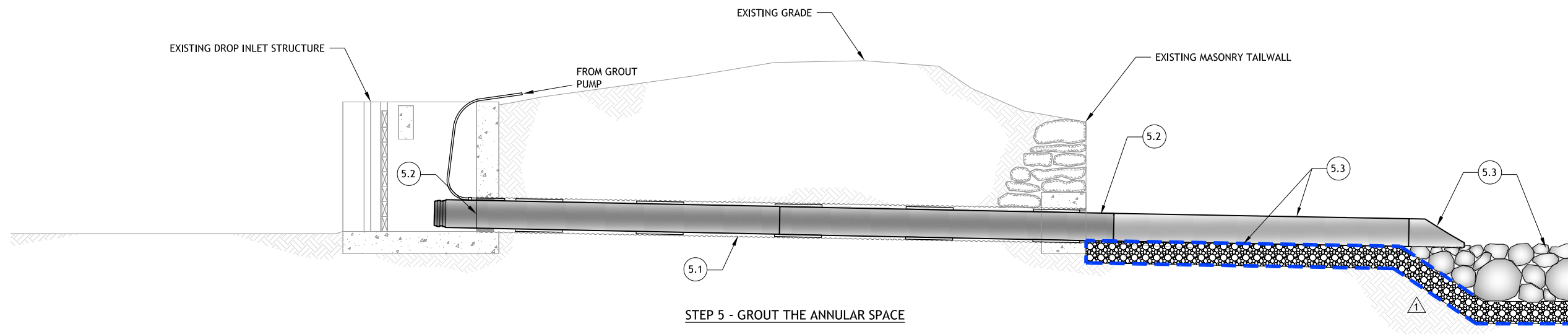
<p>RT Group, Inc. Engineered from the Ground UpSM 70 Romano Vineyard Way, Suite 134 North Kingstown, Rhode Island 02852 T 401 438 3100 F 401 294 9806</p> <p><small>DAM SAFETY - WATERFRONT - CONSTRUCTION ENGINEERING - GEOTECHNICAL GEO-ENVIRONMENTAL - STRUCTURAL - CIVIL</small></p>	DSGN	JBR											SHEET	17 OF 20
	DR	SWO											DWG No.	D-03
	CHK	DJA											DATE	DEC 2013
	APVD	JBR	No.	DATE	REVISIONS	BY	APVD						PROJ No.	13105.00

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**DARLING POND DAM
IMPROVEMENTS PROJECT**
TOWN OF CHAPLIN
CHAPLIN, CONNECTICUT

**SUGGESTED PIPE REHABILITATION
SEQUENCING -1**

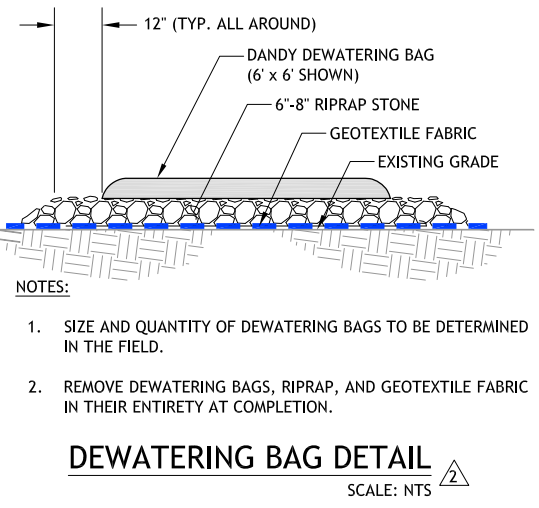
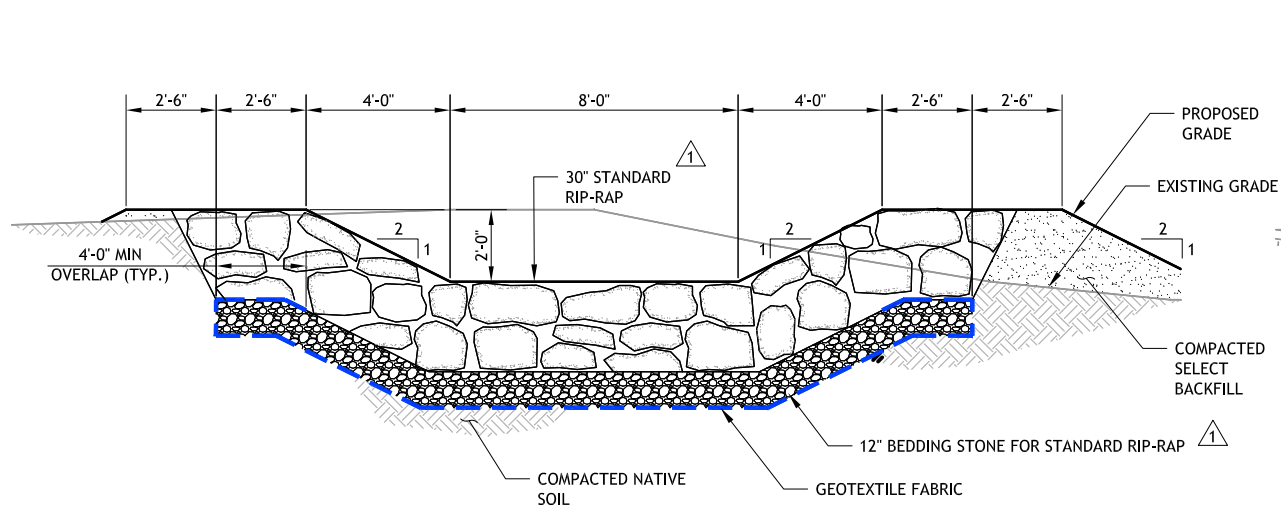


STEP 5 - GROUT THE ANNULAR SPACE

1. ONCE THE END SEALS ARE CURED, INSTALL THE GROUT BETWEEN THE EXISTING CMP AND THE HDPE PIPE IN (1) ONE LIFT. GROUT SHALL BE AS SPECIFIED AND THE PRESSURE SHALL NOT EXCEED 2.0 PSI OR AS RECOMMENDED BY THE MANUFACTURER.
2. AFTER THE GROUT HAS CURED, TRIM THE HDPE PIPE AND PORTS FLUSH WITH THE GROUT PLUG ON THE UPSTREAM END. LEAVE APPROXIMATELY 2-FEET OF DOWNSTREAM HDPE PIPE PROTRUDING BEYOND TAILWALL TO CONNECT THE HDPE PIPE EXTENSION.
- ⚠ 3. INSTALL THE GEOTEXTILE FABRIC, BLANKET DRAIN, STANDARD RIP-RAP BEDDING STONE, STANDARD RIP-RAP, THE HDPE PIPE EXTENSION, AND THE HDPE FLARED END SECTION AS SHOWN.

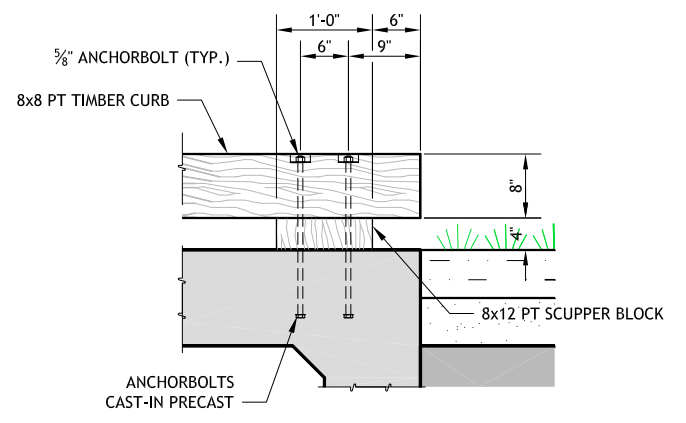
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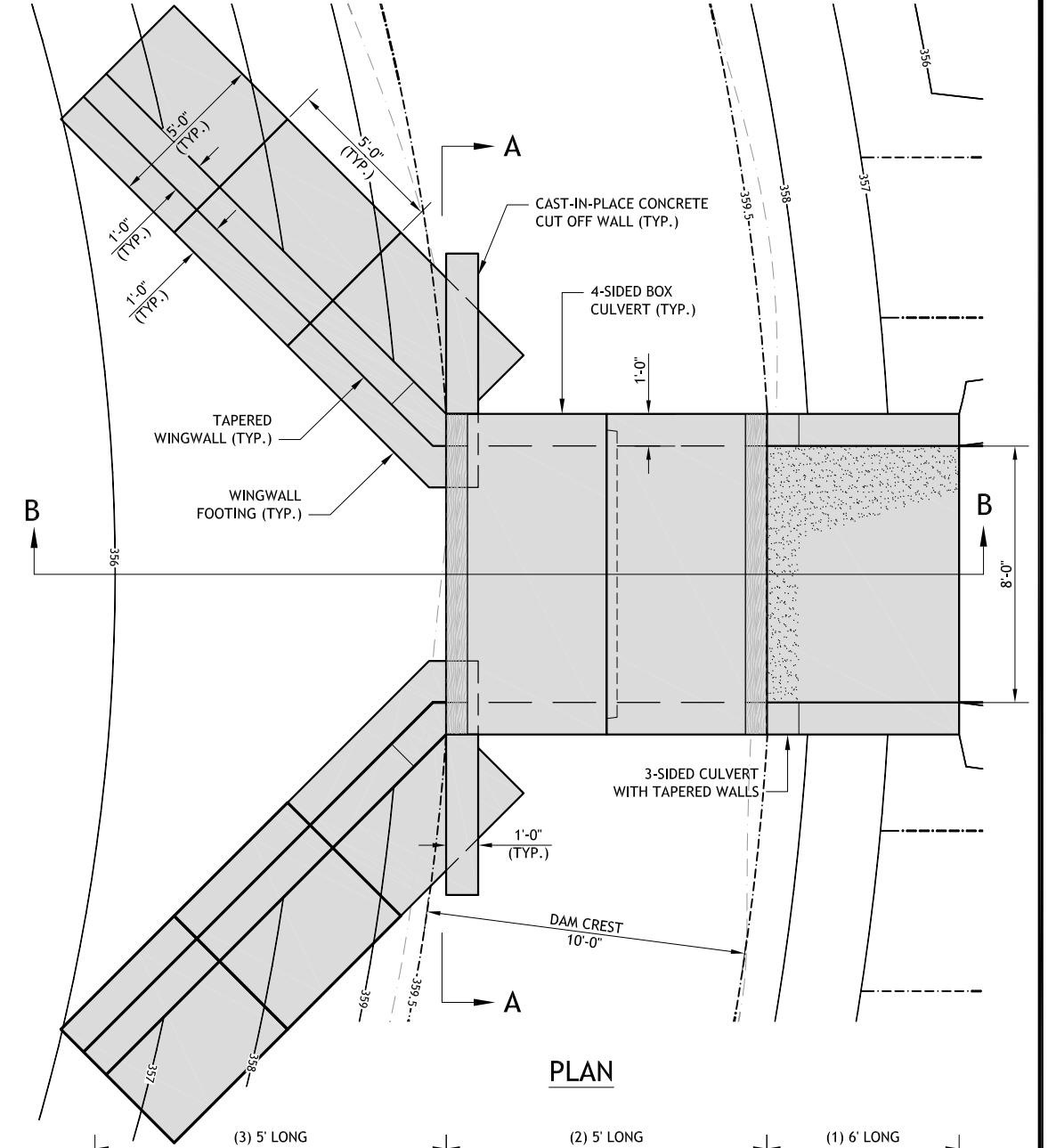


- NOTES:
1. SIZE AND QUANTITY OF DEWATERING BAGS TO BE DETERMINED IN THE FIELD.
 2. REMOVE DEWATERING BAGS, RIPRAP, AND GEOTEXTILE FABRIC IN THEIR ENTIRETY AT COMPLETION.

DEWATERING BAG DETAIL
SCALE: NTS



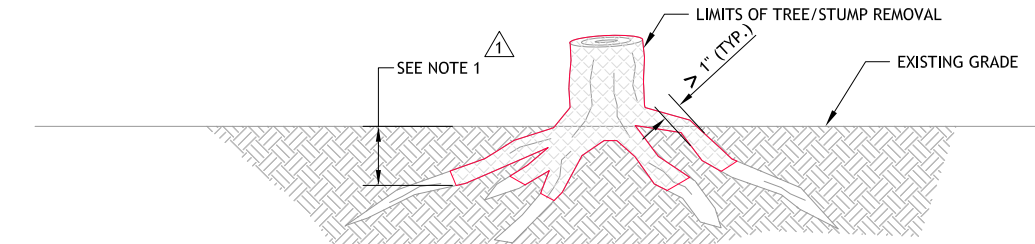
CURB DETAIL
SCALE: 1"=1'-0"
19-D-05



PLAN

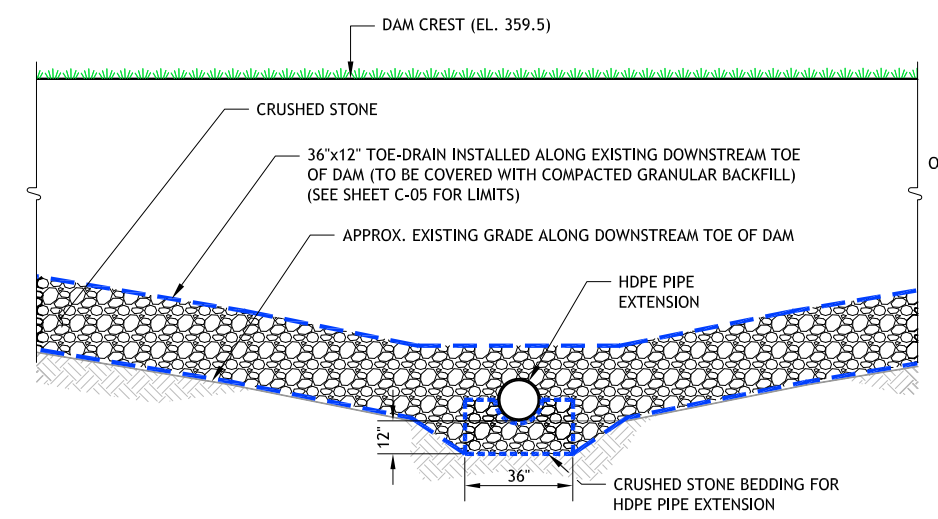
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SECTION D
SCALE: 3/8" = 1'-0"
8-C-05

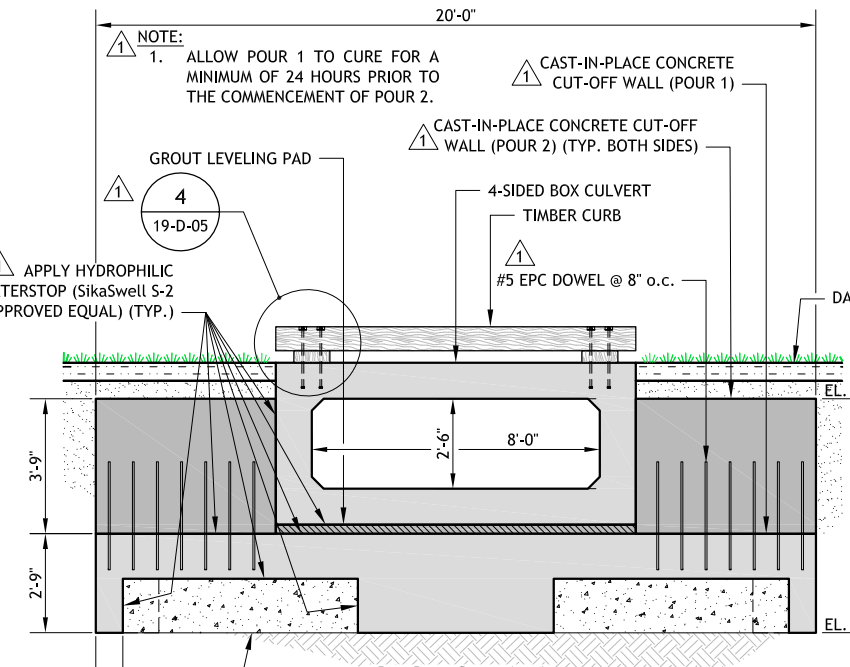


- NOTES:
1. GRUBBING SHALL CONSIST OF THE R&D OF WOOD OR ROOT MATTER BELOW THE GROUND SURFACE REMAINING AFTER CLEARING AND SHALL INCLUDED STUMPS, TRUNKS, ROOTS, OR ROOT SYSTEMS GREATER THAN 1 INCH IN DIAMETER.
 2. THE CONTRACTOR SHALL DEWATER THE RESULTING VOIDS FORMED IN THE SOIL AS A RESULT OF THE R&D OF WOOD OR ROOT MATTER AND PLACE COMPACTED GRANULAR BACKFILL TO GRADE.

GRUBBING DETAIL
SCALE: NTS
7-C-04

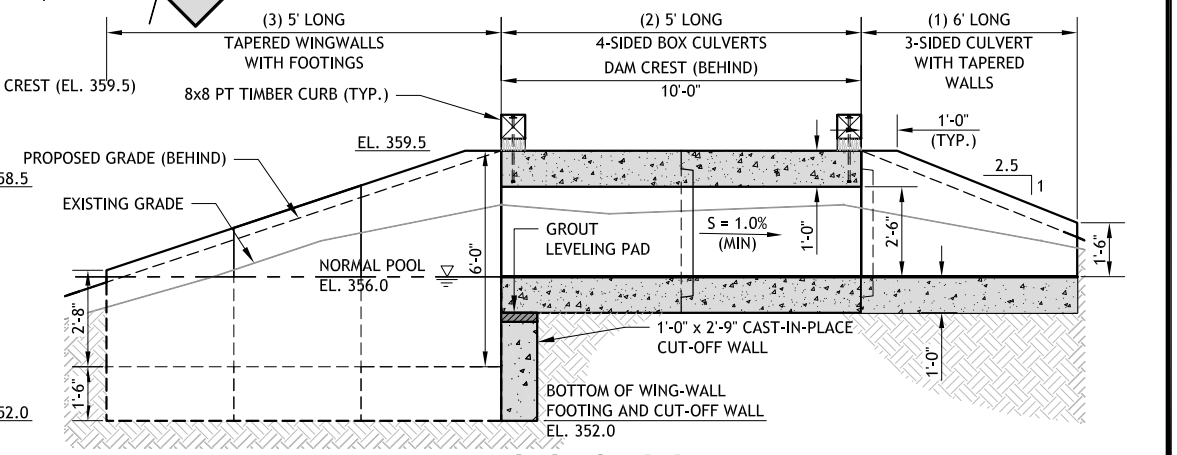


TOE-DRAIN ELEVATION DETAIL
SCALE: NTS
8-C-05



SECTION A-A

SPILLWAY DETAIL
SCALE: 3/8" = 1'-0"
8-C-05



SECTION B-B

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GEO-ENVIRONMENTAL - STRUCTURAL - CIVIL

DSGN	JBR								
DR	DJA								
CHK	JBR	2	5-22-14	REVISED PER DEEP'S COMMENTS DATED MAY 21, 2014					
APVD	JBR	1	4-16-14	REVISED PER DEEP'S COMMENTS DATED APRIL 2, 2014					
		No.	DATE	REVISIONS					

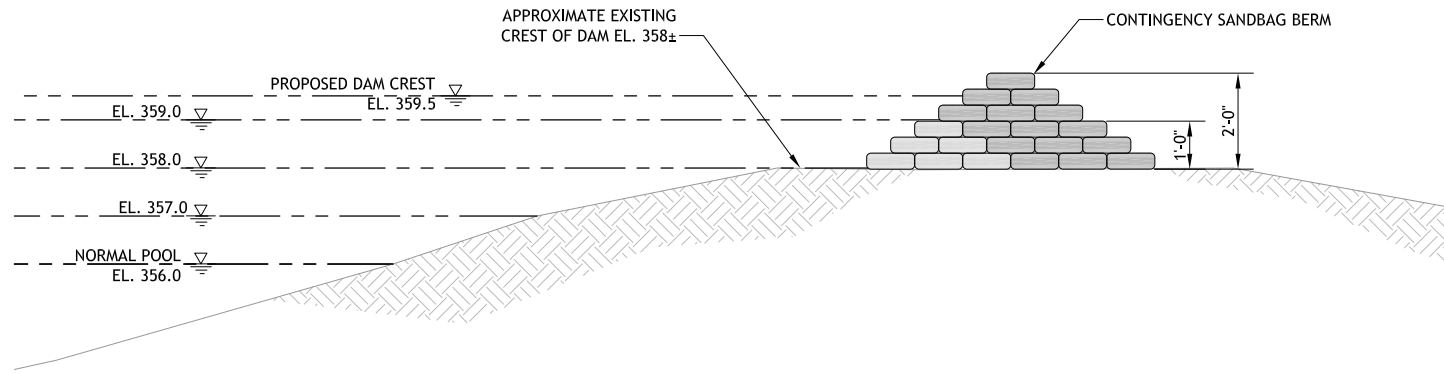
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**DARLING POND DAM
IMPROVEMENTS PROJECT**
TOWN OF CHAPLIN
CHAPLIN, CONNECTICUT

SPILLWAY DETAILS

SHEET	19 OF 20
DWG No.	D-05
DATE	DEC 2013
PROJ No.	13105.00



HEIGHT OF SANDBAG BERM (FEET)	BAGS REQUIRED (EA)
1	600
2	2100

NOTE:

1. AS AN ALTERNATIVE TO THE SAND BAGS, THE CONTRACTOR MAY UTILIZE CONCRETE BLOCKS IN CONJUNCTION WITH AN UPSTREAM PLASTIC LINER AT ITS DISCRETION.

SANDBAG BERM DETAIL

SCALE: 1/2" = 1'-0"

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DSGN	JBR
DR	DJA
CHK	JBR
APVD	JBR

No.	DATE	REVISIONS	BY	APVD

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**DARLING POND DAM
IMPROVEMENTS PROJECT**
TOWN OF CHAPLIN
CHAPLIN, CONNECTICUT

CONTINGENCY DETAILS

SHEET	20 OF 20
DWG No.	D-06
DATE	DEC 2013
PROJ No.	13105.00

PART 6

GEOTECHNICAL DATA



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TEST PIT LOG

TEST PIT No.: RTG-TP-01

Date(s) Excavated: 7/9/15

Logged By: G. Coren

Project: Darling Pond Dam Improvements

Project No. 13105.00

Address: 495 Phoenixville Rd

City: Chaplin

State: CT

Zip: 06235

Length of Excavation: 3.0 FT ±

Width of Excavation: 2.0 FT ±

Depth of Excavation: 3.5 FT

Excavation Equipment: Shovels

Exc. Contractor: RTG

Grade Elevation: 358' ± (NGVD 29)

Water Levels: None encountered

Weather Conditions: Partly Cloudy, 80F

Location: Downstream Slope at Location of Proposed Spillway,
See the attached Figure 1

Surface Conditions: Low Lying Vegetation/Grass

DEPTH (FT)	SAMPLE NO. AND TYPE	POCKET PENT/TORVANE (TSF)	USCS	DESCRIPTION	REMARKS
0.0					
2.0	S-1 Grab			POORLY GRADED SAND, (SP), dark brown, dry, medium to fine grained	3-6" Topsoil Roots and cobbles (2" to 5" diameter) present throughout.
4.0				END TEST PIT AT 3.5 FT. Begin Probe	Drove 1/4" diameter probe additional 42" from bottom of Test Pit - no obstructions encountered.
6.0					
8.0				End of Probe at 7 FT.	Backfilled with native soil and hand tamped in 6" to 8" lifts to existing grade.
10.0					
12.0					
14.0					
16.0					
18.0					



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TEST PIT LOG

TEST PIT No.: RTG-TP-02

Date(s) Excavated: 7/9/15

Logged By: G. Coren

Project: Darling Pond Dam Improvements

Project No. 13105.00

Address: 495 Phoenixville Rd

City: Chaplin

State: CT

Zip: 06235

Length of Excavation: 3.0 FT ±

Width of Excavation: 3.0 FT ±

Depth of Excavation: 3.5 FT

Excavation Equipment: Shovels

Exc. Contractor: RTG

Grade Elevation: 355' ± (NGVD 29)

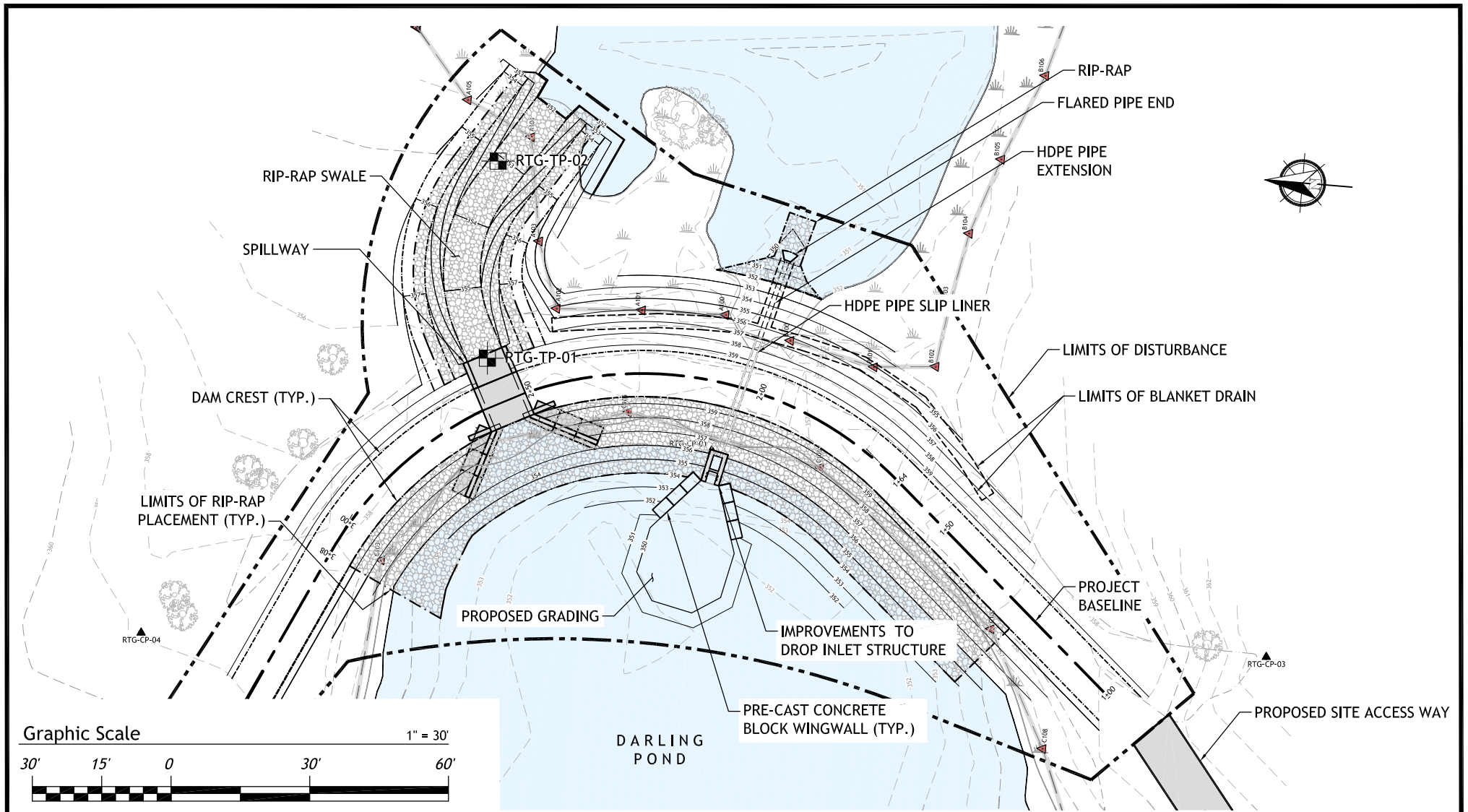
Water Levels: EL. 352.3' ±

Weather Conditions: Partly Cloudy, 80F

Location: Downstream Area at Location of Proposed Riprap Apron, See the attached Figure 1

Surface Conditions: Low Lying Vegetation

DEPTH (FT)	SAMPLE NO. AND TYPE	POCKET PENT/TORVANE (TSF)	USCS	DESCRIPTION	REMARKS
0.0					
2.0	S-1 Grab			<u>SILT WITH SAND</u> , (ML), gray/brown, moist, medium to fine grained sand	8" Topsoil Roots, some gravel, and cobbles (2" to 3" diameter) present throughout. Groundwater observed seeping in at 2.7 to 3.0 feet below existing grade.
4.0	S-2, Grab			<u>WELL GRADED SAND</u> , (SW), tan, wet	
6.0				END TEST PIT AT 3.6 FT. Begin Probe	Drove 1/4" diameter probe additional 40" from bottom of Test Pit - relocated twice due to obstructions (likely cobbles).
8.0				End of Probe at 6.9 FT.	Backfilled with native soil and hand tamped in 12" to 14" lifts to existing grade.
10.0					
12.0					
14.0					
16.0					
18.0					



LEGEND:

RTG-TP-01

HAND-DUG TEST PIT PERFORMED BY RTG ON JULY 9, 2015.

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**DARLING POND DAM
 IMPROVEMENTS PROJECT**
 TOWN OF CHAPLIN
 CHAPLIN, CONNECTICUT

**FIGURE 1
 SUBSURFACE INVESTIGATION
 PLAN**

SHEET 1 of 1
 DATE: July 2015
 PROJ No. 13105.00