

**STATE OF NEW HAMPSHIRE
DEPARTMENT OF NATURAL AND CULTURAL RESOURCES
DIVISION OF PARKS AND RECREATION
PLANNING AND DEVELOPMENT**

172 Pembroke Road
P.O. Box 1856
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Tel. (603) 271-2606 Fax (603) 271-2629

PROJECT MANUAL

Project No.: CAP 2010

Echo Lake Park

New Park Store Deck & Electrical

Echo Lake State Park
P.O. Box 565
North Conway, NH 03860

10/8/2019

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SECTION 00 11 16

INVITATION TO BID

**NEW PARK STORE DECK & ELECTRICAL
CAP 2010
NORTH CONWAY, NEW HAMPSHIRE**

1. **Sealed Bids:** Proposals for a General Contract for the Construction of the above project will be received by the Owner until 2:00 P.M. prevailing time on Wednesday, November 6, 2019, at which time they will be publicly opened and read aloud. All Bids shall be made out only on the form included in the specifications package and delivered in sealed, labeled envelope marked: Bid Proposal for Echo Lake New Park Store Deck & Electrical and deposited in the bid box located at the reception desk of the Department of Natural and Cultural Resources (DNCR) offices at 172 Pembroke Road in Concord, NH. Bidders are invited to attend the Bid opening. Bids received after the above stated time and date will not be accepted.
2. **Technical Questions:** Questions regarding the Bidding Documents shall be referred to: Department of Natural and Cultural Resources, 172 Pembroke Road, Concord New Hampshire, 03301, Telephone (603) 271-3676, attention Scott Coruth, Architect.
3. **Documents:** Bidding Documents may be examined at the Planning and Development Section of DNCR, 172 Pembroke Road, Concord NH and at the following locations:

Construction Summary of New Hampshire Inc.: 734 Chestnut Street, Manchester, New Hampshire 03104, (603) 627-8856, www.constructionsummary.com

Infinite Imaging: 933 Islington Street, Portsmouth, NH 03801, (800) 581-2712 or (603) 436-3030, www.planroom.infiniteimaging.com

McGraw-Hill Construction: www.construction.com

Signature Digital Imaging: 45 Londonderry Turnpike, Hooksett, NH 03106, (603) 624-4025, www.signaturenh.com

Works in Progress: 20 Farrell Street, Suite 103, South Burlington, VT 05403. (800) 286 3633 or (802) 658-3797

New Hampshire Department of Administrative Services Bureau of Purchase and Property Website: <http://admin.state.nh.us/purchasing/vendorresources.asp>

New Hampshire State Parks Website: www.nhstateparks.org under the News & Events tab improvement projects sub tab

4. **Qualifications:** All companies, corporations, and trade names bidding must be registered and have a Certificate of Existence from the New Hampshire Secretary of State's Office, Corporate Division (telephone 603-271-3244) in order to do business with the State of New Hampshire

5. Bid Security: A Bid Bond in the amount of five (5%) percent of the total amount of the lump sum bid price shall accompany each Bid Proposal in accordance with the Instructions to Bidders.
6. Bonds: Bidders shall be required to provide the Owner with financial responsibility as security for the completion of the contract in accordance with the plans, specifications and contract documents, in the form of a Performance and Payment Bond in the amount of One Hundred (100%) Percent of the contract award, if the contract award is thirty-five thousand dollars (\$35,000) or more, the cost of which shall be a part of the Base Bid. The form of bond and the surety shall be acceptable to the Commissioner. No contract bond shall be required on contract awards of less than thirty-five thousand dollars (\$35,000).
7. Inspection of Site: A pre-bid tour of the existing building/site will be conducted by the Owner and Architect on October 22, 2019 at 10:30 a.m. Attendance by Bidders shall be considered mandatory.
8. Awards: In most cases the proposal submitted by the qualified bidder with the lowest base bid price shall be selected. However, the Department of Natural and Cultural Resources (DNCR) reserves the right to reject any or all proposals, or advertise for new proposals as it judges to be in the best interest of the state.
9. Regulations: Bidders' attention is called to the fact that this Project is required to comply with, in addition to all other requirements of the Contract Documents, Equal Employment Opportunity and Affirmative Action Regulations.

END OF INVITATION TO BID

SECTION 00 21 13

INSTRUCTIONS TO BIDDERS

DEFINITIONS

1. Definitions set forth in the General Conditions of the Contract for Construction, AIA Document A201, or in other Contract Documents are applicable to the Bidding Documents.
2. Bidding Documents include the Bidding Requirements and the proposed Contract Documents. The Bidding Requirements include the Invitation to Bid, Instructions to Bidders, the Proposal Form and other sample Bidding and Contract forms.
3. Addenda are written or graphic instruments issued prior to the execution of the Contract. They modify or interpret the Bidding Documents by additions, deletions, clarifications, or corrections. Addenda will become part of the Contract Documents when the Construction Contract is executed.
4. A Bid is a complete and properly signed Proposal to do the Work or designated portion thereof for the sums stipulated therein, submitted in accordance with the Bidding Documents.
5. The Base Bid is the sum stated in the Bid for which the Bidder offers to perform the Work described in the Bidding Documents as the base, to which Work may be added or deducted for sums stated in Alternate Bids.
6. An Alternate Bid (or Alternate) is an amount stated in the Bid to be added to or deducted from the amount of the Base Bid if the corresponding change in Work, as described in the Bidding Documents, is accepted.
7. A Unit Price is an amount stated in the Bid as a possible price per unit of measurement for materials, equipment, services or a portion of the Work as described in Bidding Documents. The choice of using Unit Prices, or an alternative method of payment, for additional Work shall be left solely to the Owner's discretion.
8. A Bidder is a person or entity who submits a Bid.
9. A Sub-Bidder is a person or entity who submits a bid to a Bidder for materials, equipment or labor for a portion of the Work.

BIDDER'S REPRESENTATION

1. Each Bidder by making his Bid represents that he has examined and understands the Bidding Documents, that the Bidding Documents are adequate to produce the required results, and that his Bid is in accordance therewith.

2. Each Bidder by making his Bid represents that he has visited and thoroughly inspected the existing building and site and familiarized himself with the local conditions under which the Work will be performed. Bidders are encouraged to make any and all inspections and tests as they feel necessary to achieve such familiarization prior to submitting Bids. Such inspections and tests shall be conducted at times mutually acceptable to the Owner and Bidder. Unless waived by the Owner, Bidders shall make repairs following their testing, as necessary to restore tested areas to pre-testing condition. Should a Bidder conclude that time or other factor(s) prohibits him from performing sufficient tests, he shall so notify the Owner, in writing, prior to the receipt of Bids.
3. The submission of a Bid will be construed as conclusive evidence that the Bidder has made all such examinations and inspections necessary for a complete and proper assessment of the Work required, and that the Bidder has included in his Bid a sum sufficient to cover the cost of all items necessary to perform the Work as set forth in the proposed Contract Documents. No allowance will be made to a Bidder because of lack of such examination, inspection or knowledge.
4. Each Bidder by making his Bid represents that he has assessed the conditions of the current construction marketplace, and verified that an adequate, experienced workforce is available to suitably man the Work of this Project, and complete it in a timely fashion.
5. Each Bidder is assumed to have made himself familiar with all Federal, State and Local laws, ordinances and regulations which in any manner affect those engaged in or upon the Work, or in any way affect those engaged or employed in the Work, and no plea of misunderstanding will be considered on account of ignorance thereof. The Contractor shall comply with all taxes, fees and assessments as levied by Federal, State and Local authorities.

BIDDING PROCEDURES

1. All Bids must be prepared on the Proposal forms provided in the Specification and submitted in duplicate copies in accordance with the Notice to Bidders and Instructions to Bidders.
2. A Bid shall be invalid if it has not been deposited at the designated location prior to the time and date in the Invitation to Bid, or prior to any extension thereof issued to the Bidders.
3. Each copy of a Bid shall be signed by the person or persons legally authorized to bind the Bidder to a Contract. A Bid by a corporation shall further give the state of incorporation and have a corporate seal affixed.
4. Unless otherwise provided in any supplement to these Instructions to Bidders, no Bidder shall modify, withdraw or cancel his Bid or any part thereof for Ninety (90) days after the time designated for the receipt of Bids in the Notice to Bidders.
5. Prior to the receipt of Bids, Addenda will be e-mailed, mailed or delivered to each person or firm recorded by the Owner as having received the Bidding Documents and will be available for inspection wherever the Bidding Documents are kept available for that purpose.

BID SECURITY

1. Bid Security shall be made payable to the Owner, in the amount of not less than five percent (5%) of the Bid Sum and shall be attached to the Bid. Security shall be either a certified check or Bid Bond issued by surety licensed to conduct business in the State of New Hampshire. The successful Bidder's security will be retained until he has signed the Agreement or Contract and furnished the required Performance and Payment Bonds and Certificates of Insurance. The Owner reserves the right to retain the Security of the next two lowest Bidders until the low Bidder enters into a Contract, or until Ninety (90) days after Bid opening, whichever occurs first. Bid Security of all other Bidders will be returned as soon as practicable. If any Bidder refuses to enter into an Agreement or Contract, the Owner will retain his Bid Security as liquidated damages, but not as a penalty.

EXAMINATION OF BIDDING DOCUMENTS

1. Each Bidder shall examine the Bidding Documents carefully and, not later than seven (7) days prior to the date of receipt of Bids, shall make written request to the Owner for interpretation or correction of any ambiguity, inconsistency or error therein, which he may discover. Any interpretation or correction will be issued as an Addendum by the Owner. Only a written interpretation or correction by Addendum will be binding. No Bidder shall rely upon any interpretation or correction given by any other method. Bidders are encouraged to direct any questions which may arise to the Owner, in order to provide necessary clarifications prior to the receipt of Bids. Bidders shall promptly notify the Owner of any ambiguity, inconsistency or error which they may discover upon examination of the Bidding Documents, or the existing building, site or local conditions. Should a Bidder fail to notify the Owner of errors, discrepancies or contradictions, he shall be assumed to have bid the more expensive alternative.

SUBSTITUTIONS

1. Each Bidder represents that his Bid is based upon the materials and equipment described in the Bidding Documents. Where the language "or approved equal" is used in the Bidding Documents, it is intended to require that all such materials and equipment shall be submitted as required by these Instructions to Bidders, and approved by the Owner prior to the receipt of Bids.
2. No substitution will be considered unless written request has been submitted to the Owner for approval at least seven (7) days prior to the date for receipt of Bids. Each such request shall include a complete description of the proposed substitute, the name of the material or equipment for which it is to be substituted, drawings, cuts, performance and test data and any other data or information necessary for a complete evaluation. A statement identifying changes in other materials, equipment or other portions of the Work that incorporation of the proposed substitution would require shall also be included.
3. If a Bidder proposes to use a material which, while suitable for the intended use, deviates in any way from the detailed requirements of the Contract Documents, he shall inform the Owner in writing of the nature of such deviations at the time the material is submitted for approval. It shall be the responsibility of the Bidder to notify the Owner, in writing, of the presence of Asbestos or any other hazardous materials in any proposed substitution. Such written notice shall be in the

form of a cover letter attached to the related documents.

4. In requesting approval of deviations or substitutions, a Bidder shall provide, upon request, evidence leading to a reasonable certainty that the proposed substitution or deviation will provide a quality of result at least equal to that otherwise attainable. If, in the opinion of the Owner, the evidence presented by the Bidder does not provide a sufficient basis for such reasonable certainty, the Owner may reject such substitution or deviation without further investigation.
5. In requesting approval of substitutions, a Bidder represents that he will provide the same warranty and/or guarantee for the substitution that he would for that specified.
6. The Contract Documents are intended to produce a building and site improvements of consistent character and quality of design. The Owner shall judge the design and appearance of proposed substitutes on the basis of their suitability in relationship to the overall design of the project, as well as for their intrinsic merits. The Owner will not approve as equal to materials specified proposed substitutions which, in his opinion, would be out of character, obtrusive, or otherwise inconsistent with the character or quality of design of the project.
7. The Contractor shall be solely responsible for coordinating the installation of accepted substitutions, making such changes as may be required for the Work to be complete in all respects. Any additional cost, or any loss or damage arising from the substitution of any material or any method for those originally specified shall be borne by the Contractor, notwithstanding approval or acceptance of such substitution by the Owner, unless such substitution was made at the written request or direction of the Owner.
8. The burden of proof of the merit of a proposed substitution is upon the proposer. Approval of a proposed substitution is valid only upon issuance by the Owner in written form, and the Owner's decision of approval or disapproval of a proposed substitution shall be considered final.

PRECONSTRUCTION CONFERENCE

1. Either before or soon after the actual award of the Contract (but in any event prior to the start of construction), the Contractor or his representative and his principal subcontractors shall attend a preconstruction conference with representatives of the Owner. The conference will serve to acquaint the participants with the general plan of contract administration and requirements under which the construction operation is to proceed.

END OF INSTRUCTIONS TO BIDDERS

New Hampshire Department of Natural and Cultural Resources
Echo Lake New Park Store Deck & Electrical

SECTION 00 41 00

BID PROPOSAL FORM

Project No. **CAP #2010**

PROJECT: **New Park Store Deck & Electrical**
P.O. Box 565
North Conway, NH 03860

DATE BID OPENING: **November 6, 2019** at 2:00 pm at DNCR's office at 172 Pembroke Road,
Concord, NH

START DATE: **April 15, 2020**

COMPLETION DATE: **June 15, 2020**

Sealed bid proposals for the above project will be accepted until **2:00 p.m., November 6, 2019**. Bids may be deposited in the bid box at DNCR's offices in Concord or mailed to the attention of Scott Coruth, Architect, Department of Natural and Cultural Resources (DNCR), 172 Pembroke Road, Concord NH 03301. Please note on the outside of the sealed envelope: Bid Proposal for Echo Lake New Park Store Deck & Electrical.

DATE: _____

PROPOSAL OF: _____

GRAND TOTAL / LUMP SUM BASE BID (A+B): _____

PROPOSAL

Proposal of...

(name)

(address)

To furnish and deliver all materials except as noted and to perform all work in accordance with the Contract of the State of New Hampshire, Department of Natural and Cultural Resources for the construction of...

Project: **CAP #2010 New Park Store Deck & Electrical**
P.O. Box 565
North Conway, NH 03860

Commissioner
Department of Natural and Cultural Resources
172 Pembroke Road, P.O. Box 1856
Concord, N.H. 03302-1856

Commissioner:

In accordance with the advertisement of the Department of Natural and Cultural Resources inviting proposals for the project herein before named and in conformity with the Plans and Specifications on file in the office of the Department of Natural and Cultural Resources, _____ (firm name) hereby certifies that _____ is/are the only person, or persons, interested in this proposal as principals; that this proposal is made without collusion with any person, firm, or corporation; that an examination has been made of the Plans, of the Standard Specifications, and Special Attentions, Supplemental Specifications, and Special Provisions, all of which are attached hereto, and also of the site of the work; and I, or we, propose to furnish all necessary machinery, equipment, tools, labor, and other means of construction, and to furnish all materials specified in the manner and at the time prescribed; and understand that the quantities of work as shown herein are approximate only and are subject to increase or decrease, and further understand that all quantities of work are to be performed at the quoted prices.

To execute the form of contract and begin work within 15 (fifteen) days after the notice to proceed has been received or otherwise delivered to the contractor and to prosecute said work until its completion.

It is further proposed:

To furnish a contract bond in the amount of one hundred percent (100%) of the contract award, if the contract award is thirty-five thousand dollars (\$35,000) or more, as security for the completion of the contract in accordance with the plans and specifications and contract documents. The form of bond shall be that provided for by the Department, and the surety shall be acceptable to the Commissioner. No contract bond shall be required on contract awards of less than thirty-five thousand dollars (\$35,000).

To guarantee all of the work performed under this contract to be done in accordance with the plans and specifications and contract documents.

New Hampshire Department of Natural and Cultural Resources
Echo Lake New Park Store Deck & Electrical

Enclosed, herewith, find certified check or bid bond in the amount of 5% of the total amount of the Lump Sum Price made payable to the "Treasurer, State of New Hampshire" as a proposal guarantee which is understood, will be forfeited in the event the form of contract is not executed, if awarded to the undersigned. Note: Personal checks will not be accepted as a proposal guarantee.

The undersigned acknowledges receipt of the following addenda, issued during the bidding time, and states that these have been incorporated in the proposal:

Addendum #1 dated _____

Addendum #2 dated _____

Addendum #3 dated _____

Dated _____

ALLOWANCE #1: Unanticipated Modification and/or Additions to Contract Items:

Include in the Contract, a stipulated sum/price of \$5,000 for use upon the Project Managers instruction. This Allowance will make money available for modifications and/or additions to contract items due to owner-initiated changes, or for unknown, latent or differing existing conditions, or for the removal of hazardous materials that are encountered by construction.

- a. Contractor's costs for products, delivery, installation, labor, insurance, payroll, taxes, equipment rental, overhead and profit will be included in Change Orders authorizing expenditure of funds from this Allowance. The cost of the bond for the amount of Allowance shall be included as part of the lump sum base bid.
- b. Funds will be drawn from an Allowance only by Change Order. Contractor can proceed with Change Order Work against Allowance with direction from the Project Manager. The Contractor shall not proceed with any work that will exceed the amount of Allowance remaining.
- c. Credits can only be added to an Allowance by Alteration Order. The Contractor may not use a credit until an Alteration Order is fully executed.
- d. Notwithstanding the Contractors objection, the Project Manager may at any time reduce the funds remaining in the Allowance by Alteration Order.
- e. At Final Payment of the Contract, funds remaining in the Allowance will be credited to the State.

New Hampshire Department of Natural and Cultural Resources
Echo Lake New Park Store Deck & Electrical

SCHEDULE OF VALUES: Echo Lake New Park Store Deck & Electrical

INDICATE DOLLAR AMOUNT OF CONTRACT SUM ALLOCATED TO EACH CATEGORY OF WORK
AS DESIGNATED BELOW:

General Conditions:

Bond Cost:

Metal Fabrications:

Wood Patio Decking:

Electrical:

Earth Moving:

Sub Total (A):

Allowance #1 (B): \$5,000

Grand Total: lump sum base bid (A + B)

NOTE: The Schedule of Values must be completely filled out in order for bid proposal to be considered responsive.

SIGNATURE PAGE

Company Name: _____

Address: _____

Phone: _____

E-mail Address: _____

Signature of Authorized Bidder:

Print: _____

Title: _____

Address of Bidder: _____
(If different than company)

Names and Addresses of Members of the Firm/Corporation

Name	address

Name	address

Name	address

SECTION 00 73 00

SUPPLEMENTARY CONDITIONS

The General Conditions of this Contract are the American Institute of Architect's Document A201, "General Conditions of the Contract for Construction," Fourteenth Edition, 1987, 14 Articles, 24 pages, herein referred to as "AIA General Conditions."

THE SUPPLEMENTARY CONDITIONS

The Supplementary Conditions contain modifications, deletions, and/or additions to the AIA General Conditions. Where any part of the AIA General Conditions is modified, deleted or superseded by the Supplementary Conditions, the unaltered provisions shall remain in full effect.

BIDDING REQUIREMENTS

Bids shall only be accepted on the official Bid Proposal Forms, attached to these specifications. **Any bids submitted that are not on the official bid proposal forms will not be accepted.**

CONDITIONS AT SITE OR BUILDING

Bidders shall visit the site and be responsible for having ascertained pertinent local conditions such as: location, accessibility, general character of the site and the character and extent of existing work to remain, and any other work being performed thereon at the time of the submission of this bid.

PERFORMANCE AND PAYMENT BOND

In the event the bid is \$35,000 or more, the contractor shall furnish security by bond or otherwise in an amount equal to 100% of the contract guaranteeing performance and payment. The payment security shall meet the requirements of New Hampshire RSA 447:16.

The performance and payment bond must be returned with the signed contract within 15 days after the contract has been mailed or otherwise delivered to the bidder.

PROPOSAL GUARANTEE

The Contractor shall furnish a certified check or bid bond in the amount of 5% of the total amount of the Lump Sum Price made payable to the "Treasurer, State of New Hampshire" as a proposal guarantee. This proposal guarantee will be forfeited in the event that the contract is not executed. Personal checks will not be accepted.

DETERMINATION OF RIGHT TO DO BUSINESS WITH STATE OF N.H.

If selected as the low bidder, the bidder must be registered and have a certificate of existence from the Secretary of State, Corporate Division (telephone 603-271-3244) in order to do business with the State of New Hampshire.

PROPOSAL SELECTION

In most cases the proposal submitted by the qualified bidder with the lowest base bid price shall be selected. However, the Department of Natural and Cultural Resources (DNCR) reserves the right to

reject any or all proposals, or advertise for new proposals as it judges to be in the best interest of the state.

CONTRACTORS QUALIFICATIONS

The successful bidder shall provide evidence upon request that they have been successfully performing this type, scale, and quality of work for a minimum of five years. Upon request, a comprehensive list of all similar projects worked on in the past two years by the general contractor shall be submitted along with contact information for 3 references of owner's representatives involved with three different projects completed by the contractor.

EXECUTION OF CONTRACT

The Contractor's attention is called to the following:

EXECUTION AND APPROVAL OF CONTRACT. The contract shall be signed by the successful Bidder and returned, together with the contract bond, if applicable, within 15 days after the contract has been mailed or otherwise delivered to the Bidder. No contract shall be considered as in effect until it has been fully executed by all the parties thereto and, when the contract amount is more than \$25,000, the award has been concurred in by the Governor and Council.

FAILURE TO EXECUTE CONTRACT. Failure to execute the contract within 15 days after the contract has been mailed or otherwise delivered to the successful Bidder shall be just cause for the cancellation of the award and the forfeiture of the proposal guaranty which shall become the property of the Department, not as a penalty, but in liquidation of damages sustained. Award may then be made to the next lowest Bidder, or the work may be re-advertised as the Commissioner of DNCR may decide.

STARTING DATE

The Contractor shall start work after the Notice to Proceed is received. The Notice to Proceed shall be issued immediately upon contract approval by the Governor and Council, and shall establish the actual construction start date. Failure to start work within 15 calendar days after the start date shall be considered a default of the contract. If the actual start date is later than the advertised start date, the completion date shall be extended by an equivalent number of working days.

WORKERS COMPENSATION INSURANCE

Workers compensation insurance is required for all workers on the job site of this project. Per RSA 21-1:81-b At the onset of work on any NH state construction project, the general contractor or designated project construction manager, if any, shall provide to the Department Project Manager a current list of all subcontractors and independent contractors that the general contractor has agreed to use on the job site, with a record of the entity to whom that subcontractor is insured for workers compensation purposes. This list shall be posted on the jobsite and updated as needed to reflect any new subcontractors or independent contractors.

If it is determined that a subcontractor or independent contractor is present on a state construction site without the contractor's name and direct contracting relationship being posted in a visible location at the worksite, the general contractor or designated project manager shall require the subcontractor or independent contractor to provide the information within 36 hours and to post the information in a visible location at the worksite. If the information is not provided within 36 hours of its request, the general contractor shall suspend the contractor until the information is provided and posted.

PROTECTION OF EXISTING PROPERTY

It shall be the responsibility of the contractor to protect existing property from damage. Any damage caused by the contractor in the performance of the work shall be repaired or replaced at his expense to

the satisfaction of the designated DNCR Project Manager.

CODES

All work performed shall meet the provisions, if applicable, of the 2015 IBC, the 2010 ADA standards for Accessible Design, and the 2015 NFPA 101 Life Safety Code.

WORKMANSHIP

All work shall be performed in a neat workmanlike manner by skilled workmen who have been actively engaged in performing the type of work specified under this contract for the last two years.

CLEAN-UP

The site for this project is in a NH State Park and will be open to the public throughout the construction period. It is important to the Department of Natural and Cultural Resources that the site be maintained in a clean and presentable condition for the public. Therefore, all debris from the project shall be cleaned up daily and removed from the site at least on a weekly basis.

DEFAULT AND TERMINATION OF CONTRACT

If the Contractor...

- a) Fails to begin the work under the contract within the time specified in the contract, or
- b) Fails to perform the work with sufficient workmen and equipment or with sufficient materials to assure the prompt completion of said work, or
- c) Performs the work unsuitably or neglects or refuses to remove materials or to perform anew such work as may be rejected as unacceptable and unsuitable, or
- d) Discontinues the prosecution of work, or
- e) Fails to resume work which has been discontinued, within reasonable time after notice to do so, or
- f) Becomes insolvent or is declared bankrupt, or commits any act of bankruptcy or insolvency, or
- g) Makes an assignment for the benefit of creditors, or
- h) For any other cause whatsoever, fails to carry on the work in an acceptable manner...

The Commissioner of DNCR will give notice in writing to the Contractor of such delay, neglect, or default.

If the Contractor or Surety does not proceed in accordance with the Notice, then the Commissioner will, upon written notification from the Project Manager of the fact of such delay, neglect or default, and the Contractor's failure to comply with such notice, have full power and authority without violating the contract, to take the prosecution of the work out of the hands of the Contractor. The Commissioner may enter into an agreement for the completion of said contract according to the terms and conditions thereof, or use such other methods as in his opinion will be required for the completion of said contract in an acceptable manner.

All extra costs and charges incurred by the Department as a result of such delay, neglect or default, together with the cost of completion of the work under the contract will be deducted from any monies due or which may become due said Contractor. If such expenses exceed the sum which would have been payable under the contract, then the Contractor and the Surety shall be liable and shall pay to the Department, the amount of such excess.

FAILURE TO COMPLETE THE WORK ON TIME

If the Contractor fails to complete all of the work or sections of the Project, within the time specified in the Contract, the sum given in the schedule that follows will be deducted from any money due the Contractor. This deduction will be made, not as a penalty, but as fixed, agreed liquidation damages for inconvenience to the State and for reimbursing the Department the cost of the Administration of the Contract, including engineering and inspection. Should the amount of money otherwise due the Contractor be less than the amount of such liquidated damages, the Contractor and his Surety shall be liable to the State for such deficiency.

Permitting the Contractor to continue and finish the work after the time fixed for its completion, shall in no way obligate the State to waive any of its rights under the Contract.

When the final acceptance has been duly made by the Project Manager, any liquidated damage charges shall end.

The fixed, agreed, liquidated damages shall be assessed in accordance with the following schedule.

<u>ORIGINAL CONTRACT AMOUNT</u>		<u>AMOUNT OF LIQUIDATED DAMAGES PER WORKING DAY</u>
From more than:	to and including:	
\$0.00	\$25,000.00	\$ 300.00
\$25,000.00	\$50,000.00	\$ 400.00
\$50,000.00	\$100,000.00	\$ 500.00
\$100,000.00	\$500,000.00	\$ 600.00

SUBSTANTIAL COMPLETION & FINAL INSPECTION

When the work is substantially complete, the Contractor shall submit to the Project Manager, a list of items of work to be completed or corrected. 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. On the basis of an inspection by the Project Manager which determines that the work is substantially complete, a Certificate of Substantial Completion shall establish the date of substantial completion and state the responsibilities for any damage to the work and insurance, and fix the time limit within which the Contractor shall complete the items listed herein. Warranties required by the Contract documents shall commence on the date of Substantial Completion unless otherwise provided in the Certificate of Substantial Completion.

If the Contractor fails to proceed to complete the items on the "punch list", then in addition to the corrective measures listed in the Certificate of Substantial Completion, the Commissioner may use the monies still due the Contractor to have such items completed and the Contractor shall lose any claim to the monies used.

Upon written notice that the Work is ready for final inspection and acceptance, the Project manager shall promptly make such inspection, and when he finds the Work acceptable under the Contract documents and the Contract fully performed, a Certificate of Final Payment will be issued.

Final inspection will be made by the Project Manager. Incomplete items necessary to complete the project shall be done prior to final payment.

GUARANTEE OF WORK

1. Except as otherwise specified, all work shall be guaranteed by the Contractor against defects

resulting from the use of inferior materials, equipment or workmanship for **one year** from the date of substantial completion of the work.

2. If, within any guarantee period, repairs or changes are required in connection with guaranteed work, which in the opinion of the Project Manager, is rendered necessary as a result of the use of materials, equipment or workmanship which are inferior, defective, or not in accordance with the terms of the Contract, the Contractor shall, promptly upon receipt of notice from the Commissioner, and at his own expense:
 - a. Place in satisfactory condition in every particular, all of such guaranteed work; correct all defects therein, and...
 - b. Make good all damage to the building or site, or equipment or contents thereof, which in the opinion of the Project Manager, is the result of the use of materials, equipment or workmanship which are inferior, defective, or not in accordance with the terms of the Contract, and...
 - c. Make good any work or material, or the equipment and contents of said building or site disturbed in fulfilling any such guarantee.
3. In any case, wherein fulfilling the requirements of the Contract or of any guarantee, embraced in or required thereby, the Contractor disturbs any work guaranteed under another contract, he shall restore such disturbed work to a condition satisfactory to the Project Manager and guarantee such restored work to the same extent as it was guaranteed under such other contracts.
4. If the Contractor, after notice, fails to proceed promptly to comply with the terms of the guarantee, the Commissioner may have the defects corrected and the Contractor and his Surety shall be liable for all expense incurred.
5. All special guarantees applicable to definite parts of the work that may be stipulated in the specifications or other papers forming a part of the Contract shall be subject to the terms of this paragraph during the first year of the life of such special guarantee.

PROSECUTION OF WORK

Upon starting the work within the 15 days set forth by this contract, the Contractor shall prosecute the work a minimum of 8 hours daily per working day until completion, excluding breakdowns or inclement weather. If the Contractor finds it impossible to start the work as stated above, he may make a written request to the Project Manager for an extension of time. Any such request shall be made prior to expiration of the allowable 15 days, and shall contain reasons which the Contractor believes will justify the granting of his request. In his request, the Contractor shall submit his proposed starting date.

CHANGES IN THE WORK

The Project Manager may at any time, by a written order, and without notice to the Sureties, make changes in the Drawings and Specifications and completion date of this contract and within the general scope thereof.

In making any change, the additional cost or credit for the change shall be determined as follows:

- The order shall stipulate the mutually agreed upon lump sum price which shall be added to or deducted from the contract price. The contractor shall furnish an itemized breakdown of the prices used in computing the value of any change that might be ordered.
- If the price change is an addition to the contract price and the work is performed by the general contractor and not a subcontractor, it shall include the contractor's indirect costs as follows:

Workmen's Compensation and Employee Liability, Unemployment and Social Security Taxes.

- In addition to the above indirect costs, the general contractor shall be allowed a markup not to exceed ten percent (10%). Said ten percent (10%) shall be all inclusive for overhead, supervision, and profit. In addition to this, an allowance shall be made for performance and payment bond additional premiums.
- If the price change is an addition to the contract price and involves the work of the general contractor and subcontractor, the general contractor would be allowed ten percent (10%) on that part of the work performed by him and five percent (5%) on that part of the work performed by the subcontractor. The same percentages shall apply to subcontractors.
- On any change which involves a net credit to the Owner, no allowance for overhead and profit shall be figured.

INSURANCE REQUIREMENTS

No operations under this contract shall commence unless and until certification of insurance attesting to the below listed requirements have been filed with the Commissioner, approved by the Attorney General, and the Contract approved by the Governor and Council and a Notice to Proceed is issued.

Insurance requirements by paragraphs 1-4 below shall be the responsibility of the Prime Contractor. The Prime Contractor, at his discretion, may make similar requests of any subcontractor.

Following is the summary of minimum insurance requirements:

- 1.) Workmen's Compensation Insurance (In accordance with RSA 281-A.)
 - a. Employers' Liability
 - 1.) \$100,000 each accident
 - 2.) \$500,000 Disease-policy limit
 - 3.) \$100,000 Disease-each employee
- 2.) Commercial General Liability Insurance: Occurrence Form Policy: Include full Contractual Liability (see Indemnification Clause 9), Explosion, Collapse, and Underground coverage's:
 - a. Limits of Liability:
 - 1.) \$1,000,000 Each Occurrence Bodily injury & Property Damage
 - 2.) \$2,000,000 General Aggregate-Include per Project Aggregate Endorsement
 - 3.) \$2,000,000 Products/Completed Operations Aggregate
 - 4.) State shall be named as an additional named insured.
- 3.) If blasting and/or demolition are required by the Contract, the Contractor or subcontractor shall obtain the respective coverage for those activities, and shall furnish to the Commissioner a certificate of Insurance evidencing the required coverage's prior to commencement of any operations involving blasting and/or demolition.
- 4.) Owner's Protective Liability coverage for the benefit of the State of New Hampshire Department of Natural and Cultural Resources.
 - a. Limits of Liability:
 - 1.) \$2,000,000 Each Occurrence
 - 2.) \$3,000,000 Aggregate

- 5.) Commercial Automobile Liability covering all motor vehicles including owned, hired, borrowed, and non-owned vehicles.
 - a. Limits of Liability:
 - 1.) \$1,000,000 Combined Single Limit for Bodily injury & Property Damage
- 6.) Commercial Umbrella Liability
 - a. Limits of Liability:
 - 1.) \$1,000,000 Each Occurrence
 - 2.) \$1,000,000 Aggregate
- 7.) **Builder's Risk Insurance** (Fire and Extended Coverage):

The Contractor shall insure the work included in the Contract, including extras and change orders, on an "All Risk" basis, on a one hundred percent (100%) completed value basis of the Contract, as modified. Builder's Risk coverage shall include materials located at the Contractor's premises, on-site, in-transit, and at any temporary site. The policy by its own terms or by endorsement shall specifically permit partial or beneficiary occupancy prior to completion or acceptance of the entire work. The policies shall be in the names of the State of New Hampshire Department of Natural and Cultural Resources and the Contractor. The policies shall provide for the inclusion of the names of all other Contractors, Subcontractors, and others employed on the premises as insured's. The policies shall stipulate that the insurance companies shall have no right of subrogation against any Contractors, Subcontractors or other parties employed on the premises.
- 8.) General Insurance Conditions

Each policy shall contain a clause prohibiting cancellation or modifications of the policy earlier than thirty (30) days or ten (10) in cases of non-payment of premium after written notice thereof has been received by the State.
- 9.) Indemnification:

The Contractor shall indemnify, defend, and hold harmless the State of New Hampshire, its Agencies, and its agents and employees from and against any and all claims, liabilities, suits or penalties arising out of (or which may be claimed to arise out of) acts of omissions of the Contractor or subcontractors in the performance of work covered by the Contract. This covenant shall survive the termination of the Contract. Notwithstanding the foregoing, nothing herein contained shall be deemed to constitute a waiver of the sovereign immunity of the State, which immunity is hereby reserved by the State.

END OF SUPPLEMENTARY CONDITIONS

SECTION 01 10 00

SUMMARY

PART 1 – GENERAL

1.01 DESCRIPTION

- A. Section includes:
1. Project information.
 2. Work covered by Contract Documents.
 3. Work sequence.
 4. Access to site.
 5. Coordination with occupants.
 6. Work restrictions.
 7. Specification and drawing conventions.
 8. Miscellaneous provisions.
- B. Related Work Specified Elsewhere:
1. SECTION 01 50 00: Temporary Facilities and Controls

1.02 PROJECT INFORMATION

- A. Project Identification: Echo Lake New Park Store Deck & Electrical
1. Project Location: North Conway, NH
- B. Owner: State of New Hampshire, Department of Natural and Cultural Resources
1. Owner's Representative: Scott Coruth, Architect

1.03 WORK COVERED BY CONTRACT DOCUMENTS

- A. The Work of Project is defined by the Contract Documents and consists of the following:
1. Constructing a new wood framed deck with metal rails at the new park store. Installation of an electrical system for the store including trenching from the existing bathhouse.
- B. Type of Contract: Project will be constructed under a stipulated lump sum grand total contract with the State of New Hampshire in accordance with the General Conditions of the Contract for Construction.
- C. The Contractor shall, except as otherwise specifically stated in Contract Documents, provide and pay for all materials, labor, tools, equipment, water, heat, fuel, light, power, transportation, superintendence, temporary construction of every nature, and all other services and facilities or every nature whatsoever necessary to execute, complete, and deliver the work within the specified time.

1.04 WORK SEQUENCE

- A. Work shall commence within 15 days after issuance of Notice to Proceed. Failure to comply shall constitute a Default of Contract.

1.05 ACCESS TO SITE

- A. General: Contractor shall have limited use of Project site for construction operations as indicated by requirements of this Section.
- B. Use of Site: Limit use of Project site to work in areas indicated. Do not disturb portions of Project site beyond areas in which the Work is indicated.
1. Limits: Limit site disturbance, including earthwork and clearing of vegetation to 40-feet beyond building perimeter; 10-feet beyond surface walkways, patios, surface parking, and utilities less than 12-inches in diameter; 15-feet beyond primary roadway curbs and main utility branch trenches; and 25-feet beyond constructed areas with permeable surfaces (such as pervious paving areas, stormwater detention facilities, and playing fields) that require additional staging areas in order to limit compaction in the constructed area.
 2. Driveways, Walkways and Entrances: Keep driveways and entrances serving premises clear and available to Owner, Owner's employees, and emergency vehicles at all times. Do not use these areas for parking or storage of materials.
 - a. Schedule deliveries to minimize use of driveways and entrances by construction operations.
 - b. Schedule deliveries to minimize space and time requirements for storage of materials and equipment on-site.
- C. Condition of Existing Building: Maintain portions of existing building affected by construction operations in a weathertight condition throughout construction period. Repair damage caused by construction operations.

1.06 COORDINATION WITH OCCUPANTS

- A. Full Owner Occupancy: Owner will occupy site and adjacent building(s) during entire construction period. Cooperate with owner during construction operations to minimize conflicts and facilitate Owner usage. Perform the Work so as not to interfere with Owner's day-to-day operations. Maintain existing exits unless otherwise indicated.
1. Maintain access to existing walkways, corridors, and other adjacent occupied or used facilities. Do not close or obstruct walkways, corridors, or other occupied or used facilities without permission from Owner and approval of authorities having jurisdiction.
 2. Notify Owner not less than 72-hours in advance of activities that will affect Owner's operations.

1.07 WORK RESTRICTIONS

- A. Work restrictions, General: Comply with restrictions on construction operations.

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1. Comply with limitations on use of public streets and other requirements of authorities having jurisdiction.
- B. On-Site Work Hours: Limit work in the existing building to normal business working hours of 7:00 a.m. to 4:30 p.m., Monday through Friday, unless otherwise indicated.
1. Access for work outside of normal working hours shall be requested in writing to the Contract Administrator, at least one week in advance. The Contract Administrator may accept or reject the request.
 2. No access during the following observed holidays:
 - a. New Years' Day.
 - b. Martin Luther King Jr. Civil Rights Day.
 - c. Washington's Birthday.
 - d. Memorial Day.
 - e. Independence Day.
 - f. Labor Day.
 - g. Veterans' Day.
 - h. Thanksgiving Day.
 - i. Day after Thanksgiving.
 - j. Christmas Day.
- C. Existing Utility Interruptions: Do not interrupt utilities serving facilities occupied by Owner or others unless permitted under the following conditions and then only after providing temporary utility services according to requirements indicated:
1. Notify Owner not less than two days in advance of proposed utility interruptions.
 2. Obtain Owners written permission before proceeding with utility interruptions.
- D. Noise, Vibration, and Odors: Coordinate operations that may result in high levels of noise and vibration, odors, or other disruptions to owner occupancy with owner.
1. Notify Owner not less than two days in advance of proposed disruptive operations.
 2. Obtain Owner's written permission before proceeding with disruptive operations.
- E. Controlled Substances: Use of tobacco products and other controlled substances on Project site is not permitted.

1.08 SPECIFICATION AND DRAWING CONVENTIONS

- A. Specification Content: The Specifications use certain conventions for the style of language and the intended meaning of certain terms, words, and phrases when used in particular situations. These conventions are as follows:
1. Imperative mood and streamlined language are generally used in the Specifications. The words "shall," "shall be," or "shall comply with," depending on the context, are implied where a colon (:) is used within a sentence or phrase.
 2. Specification requirements are to be performed by Contractor unless specifically stated otherwise.

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- B. Division 01 General Requirements: Requirements of Sections in Division 01 apply to the Work of all Sections in the Specifications.
- C. Drawing Coordination: Requirements for materials and products identified on Drawings are described in detail in the Specifications. One or more of the following are used on drawings to identify materials and products:
 - 1. Terminology: Materials and products are identified by the typical generic terms used in the individual Specifications Sections.
 - 2. Abbreviations: Materials and products are identified by abbreviations published as part of the U.S. National CAD Standard and scheduled on Drawings.

PART 2 – PRODUCTS (Not Used)

PART 3 – EXECUTION (Not Used)

END OF SUMMARY

SECTION 01 20 00

PRICE AND PAYMENT PROCEDURES

PART 1 – GENERAL

1.01 DESCRIPTION

- A. Section Includes:
1. Schedule of Values
 2. Applications for Payment
 3. Allowances

1.02 SCHEDULE OF VALUES

- A. Submit printed schedule on AIA Form G703 – Continuation Sheet for G702. Contractor's standard for or electronic media printout will be considered.
- B. Submit Schedule of Values in duplicate within 15 days after the date of issuance of Notice to Proceed. Failure to submit within specified time period will constitute Default of Contract.
- C. Utilize Table of Contents of these Specifications and any addenda. Identify each line item with number and title of specification Section. Identify General Conditions, bonds and insurance.
- D. Include separate line item for the amount of each Allowance and Alternates Specified in this section.
- E. Revise schedule to list approved Change Orders, with each Application for Payment.

1.03 APPLICATION FOR PAYMENT

- A. Submit three copies of each application or electronic transmittal along with any supporting materials.
- B. Execute on AIA Form G702 – Application and Certificate for Payment.
- C. Items on the Application for Payment shall be consistent with the items listed on the Proposal Form. Utilize Schedule of Values for listing items in Application for Payment.
- D. Submit updated construction schedule with each Application for Payment.
- E. Payment Period: Submit monthly, or as otherwise allowed by the Owner.

1.04 ALLOWANCES

- A. Contingency Allowances: Use the allowance only as directed by Section 00 41 00 "Bid Proposal Form".

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- B. Contractor's overhead, profit, and related costs for products and equipment ordered by Owner under the contingency allowance are included in the allowance and are not part of the Contract Sum. These costs include delivery, installation, insurance, equipment rental, and similar costs.
- C. Change Orders authorizing use of funds from the contingency allowance will include Contractor's related costs and reasonable overhead and profit margins.
- D. At Project closeout, credit unused amounts remaining in the contingency allowance to Owner by Change Order.

PART 2 – PRODUCTS (Not Used)

PART 3 – EXECUTION (Not Used)

END OF PRICE AND PAYMENT PROCEDURES

SECTION 01 25 00

SUBSTITUTION PROCEDURES

PART 1 – GENERAL

1.01 DESCRIPTION

- A. Section includes administrative and procedural requirements for substitutions.
- B. Related Work Specified Elsewhere:
 - 1. SECTION 01 20 00: Price and Payment Procedures
 - 2. SECTION 01 60 00: Product Requirements

1.02 DEFINITIONS

- A. Substitutions: Changes in products, materials, equipment, and methods of construction from those required by the Contract Documents and proposed by Contractor.
 - 1. Substitution for Cause: Changes proposed by Contractor that are required due to changed Project conditions, such as unavailability of product, regulatory changes, or unavailability of required warranty terms.
 - 2. Substitution for Convenience: Changes proposed by Contractor that are not required in order to meet other Project requirements but may offer advantage to Contractor.

1.03 ACTION SUBMITTALS

- A. Substitution Requests: Submit three copies of each request for consideration. Identify product or fabrication or installation method to be replaced. Include Specification Section number and title and Drawing numbers and titles.
 - 1. Documentation: Show compliance with requirements for substitutions and the following, as applicable:
 - a. Statement indicating why specified product or installation cannot be provided.
 - b. Coordination information, including a list of changes or revisions needed to other parts of the Work and to construction performed by Owner and separate contractors, that will be necessary to accommodate proposed substitution.
 - c. Detailed comparisons of significant qualities of proposed substitution with those of the Work specified. Include annotated copy of applicable Specification Section. Significant qualities may include attributes such as performance, weight, size, durability, visual effect, sustainable design characteristics, warranties, and specific features and requirements indicated. Indicate deviations, if any, from the Work specified.
 - d. Product Data, including drawings and descriptions of products and fabrication and installation procedures.
 - e. Samples, where applicable or requested.
 - f. Certificates and qualification data, where applicable or requested.

- g. List of similar installation for completed projects with project names and addresses and names and addresses of architects and owners.
 - h. Material test reports from qualified testing agency indicating and interpreting test results for compliance with requirements indicated.
 - i. Research reports evidencing compliance with building code in effect for Project, from ICC-ES.
 - j. Detailed comparison of Contractor's construction schedule using proposed substitution with products specified for the Work, including effect on the overall Contract Time, include letter from manufacturer, on manufacturer's letterhead, stating date of receipt of purchase order, lack of availability, or delays in delivery.
 - k. Cost information, including a proposal of change, if any, in the Contract Sum.
 - l. Contractor's certification that proposed substitution complies with requirements in the Contract Documents except as indicated in substitution request, is compatible with related materials, and is appropriate for applications indicated.
 - m. Contractor's waiver of rights to additional payment or time that may subsequently become necessary because of failure or proposed substitution to produce indicated results.
2. Architect's Action: If necessary, Architect will request additional information or documentation for evaluation within seven days of receipt of request for substitution. Architect will notify Contractor of acceptance or rejection of proposed substitution within 15 days of receipt of request, or seven days of receipt of additional information or documentation, whichever is later.
- a. Forms of Acceptance: Change Order, Construction Change Directive, or Architect's Supplemental Instructions for minor changes in the Work.
 - b. Use product specified if Architect does not issue a decision on use of a proposed substitution within time allocated.

1.04 QUALITY ASSURANCE

- A. Compatibility of Substitutions: Investigate and document compatibility of proposed substitution with related products and materials. Engage a qualified testing agency to perform compatibility tests recommended by manufacturers.

1.05 PROCEDURES

- A. Coordination: Revise or adjust affected work as necessary to integrate work of the approved substitutions.

PART 2 – PRODUCTS

2.01 SUBSTITUTIONS

- A. Substitutions for Cause: Submit requests for substitution immediately on discovery of need for change, but not later than 15 days prior to time required for preparation and review of related submittals.

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1. Conditions: Architect will consider Contractor's request for substitution when the following conditions are satisfied. If the following conditions are not satisfied, Architect will return requests without action, except to record noncompliance with these requirements:
 - a. Requested substitution is consistent with the Contract Documents and will produce indicated results.
 - b. Requested substitution provides sustainable design characteristics that specified product provided.
 - c. Substitution request is fully documented and properly submitted.
 - d. Requested substitution will not adversely affect Contractor's construction schedule.
 - e. Requested substitution has received necessary approvals of authorities having jurisdiction.
 - f. Requested substitution is compatible with other portions of the Work.
 - g. Requested substitution has been coordinated with other portions of the Work.
 - h. Requested substitution provides specified warranty.
 - i. If requested substitution involves more than one contractor, requested substitution has been coordinated with other portions of the Work, is uniform and consistent, is compatible with other products, and is acceptable to all contractors involved.

B. Substitutions for Convenience: Not allowed.

PART 3 – EXECUTION (Not Used)

END OF SUBSTITUTION PROCEDURES

SECTION 01 26 00

CONTRACT MODIFICATION PROCEDURES

PART 1 – GENERAL

1.01 DESCRIPTION

- A. Section includes administrative and procedural requirements for handling and processing Contract modifications.
- B. Related Work Specified Elsewhere:
 - 1. SECTION 01 20 00: Price and Payment Procedures
 - 2. SECTION 01 25 00: Substitution Procedures
 - 3. SECTION 01 30 00: Administrative Requirements

1.02 MINOR CHANGES IN THE WORK

- A. Architect will issue supplemental instructions authorizing minor changes in Work, not involving adjustment to the Contract Sum or the Contract Time.

1.03 PROPOSAL REQUESTS

- A. Owner-Initiated Proposal Requests: Architect will issue a detailed description of proposed changes in the Work that may require adjustment to the Contract Sum or the Contract Time. If necessary, the description will include supplemental or revised Drawings and Specification.
 - 1. Work Change Proposal Requests issued by Architect are not instructions either to stop work in progress or to execute the proposed change.
 - 2. Within time specified by Proposal Request or 14 days, when not otherwise specified, after receipt of Proposal Request, submit a quotation estimating cost adjustments to the Contract Sum and the Contract Time necessary to execute the change.
 - a. Include a list of quantities of products required or eliminated and unit costs, with total amount of purchases and credits to be made. If requested, furnish survey data to substantiate quantities.
 - b. Indicate applicable taxes, delivery charges, equipment rental, and amounts of trade discounts.
 - c. Include costs of labor and supervision directly attributable to the change.
 - d. Include and updated Contractor's construction schedule that indicates the effect of the change, including, but not limited to, changes in activity duration, start and finish times, and activity relationship. Use available total float before requesting an extension of the Contract Time.
- B. Contractor-Initiated Proposals: If latent or changed conditions require modifications to the Contract, Contractor may initiate a claim by submitting a request for change to Architect.

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1. Include a statement outlining reasons for the change and the effect of the change on the Work. Provide a complete description of the proposed change. Indicate the effect of the proposed change on the Contract Sum and the Contract Time.
2. Include a list of quantities of products required or eliminated and unit costs, with total amount of purchases and credits to be made. If requested, furnish survey data to substantiate quantities.
3. Indicate applicable delivery charges, equipment rental, and amounts of trade discounts.
4. Include costs of labor and supervision directly attributable to the change.
5. Include an updated Contractor's construction schedule that indicated effect of the change, including, but not limited to, changes in activity duration, start and finish times, and activity relationship. Use available float before requesting an extension of the Contract Time.
6. Comply with requirements in Section 01 25 00 "Substitution Procedures" if the proposed change requires substitution of one product or system for product or system specified.

1.04 CHANGE ORDER PROCEDURES

- A. On Owner's approval of a Work Change Proposal Request, Architect will issue a Contract Change Order for signatures of Owner and Contractor on Owner's standard form.

1.05 CONSTRUCTION CHANGE DIRECTIVE

- A. Construction Change Directive: Architect may issue a Construction Change Directive on Architects standard form. Construction Change Directive instructs Contractor to proceed with a change in Work, for subsequent inclusion in a Change Order.
 1. Construction Change Directive contains a complete description of change in the Work. It also designates method to be followed to determine change in Contract Sum or the Contract Time.
- B. Documentation: Maintain detailed records on a time and materials basis of work required by the Construction Change Directive.
 1. After completion of change, submit an itemized account and supporting data necessary to substantiate cost and time adjustments to the Contract.

PART 2 – PRODUCTS (Not Used)

PART 3 – EXECUTION (Not Used)

END OF CONTRACT MODIFICATION PROCEDURES

SECTION 01 30 00

ADMINISTRATIVE REQUIREMENTS

PART 1 – GENERAL

1.01 DESCRIPTION

- A. Section includes administrative provisions for coordinating construction operations, submittal procedures, delegated design, and Contractor's construction schedule including, but not limited to, the following:
 - 1. Project management and coordination
 - 2. Submittal procedures
 - 3. Delegated design
 - 4. Construction schedule
- B. Related Work Specified Elsewhere:
 - 1. SECTION 01 70 00: Execution and Closeout Requirements

1.02 PROJECT MANAGEMENT AND COORDINATION

- A. Coordinate construction operations included in different Sections of the Specifications to ensure efficient and orderly installation of each part of the Work.
- B. Requests for Information (RFIs): On discovery of the need for additional information or interpretation of the Contract Documents, Contractor shall prepare and submit an RFI. Use forms acceptable to Architect.
- C. Schedule and conduct progress meetings at Project site at biweekly intervals. Notify Owner of meeting dates and times. Require attendance of each subcontractor or other entity concerned with current progress or involved in planning, coordination, or performance of future activities.
 - 1. Contractor will record minutes and distribute to all attendees, including Owner/Architect.

1.03 SUBMITTAL ADMINISTRATIVE REQUIREMENTS

- A. Coordinate each submittal with fabrication, purchasing, testing, delivery, other submittals, and related activities that require sequential activity.
 - 1. No extension of the Contract Time will be authorized because of failure to transmit submittals enough in advance of the Work to permit processing, including resubmittals.
 - 2. Architect will discard submittals received from sources other than Contractor.
- B. Electronic Submittals: Identify and incorporate information in each electronic submittal file as follows:

1. Assemble complete submittal package into a single indexed file incorporating submittal requirements of a single Specification Section and transmittal form with links enabling navigation to each item.
 2. Name file with unique identifier, including project identifier, Specification Section number, and revision identifier.
 3. Provide means for insertion to permanently record Contractor's review and approval markings and action taken by Architect.
- C. Identify options requiring selection by Architect.
- D. Identify deviations from the Contract Documents on submittals.

PART 2 – PRODUCTS

2.01 SUBMITTAL PROCEDURES

- A. General Submittal Procedure Requirements: Prepare and submit submittals required by individual Specification Sections.
1. Submit electronic submittals via email as PDF electronic files.
- B. Architect will return annotated file. Annotate and retain one copy of file as an electronic Project record document file.

2.02 ACTION SUBMITTALS

- A. Submit two paper copies of each submittal, or an electronic copy, unless otherwise indicated. Architect will return one copy.
- B. Product Data: Mark each copy to show applicable products and options. Include the following:
1. Manufacturer's written recommendations, product specifications, and installation instructions.
 2. Wiring diagrams showing factory-installed wiring.
 3. Printed performance curves and operational diagrams.
 4. Testing by recognized testing agency.
 5. Compliance with specified standards and requirements.
- C. Shop Drawings: Prepare Project-specific information, drawn accurately to scale. Do not base Shop Drawings on reproductions of the Contract Documents or standard printed data. Submit on sheets at least 8-1/2 by 11-inches but not larger than 24 by 36-inches. Include the following:
1. Dimensions and identification of products.
 2. Fabrication and installation drawings and roughing-in and setting diagrams.
 3. Wiring diagrams showing field-installed wiring.
 4. Notation of coordination requirements.
 5. Notation of dimensions established by field measurement.

- D. Samples: Submit Samples for review of kind, color, pattern, and texture and for comparison of these characteristics between submittal and actual component as delivered and installed. Include name of manufacturer and product name on label.
 - 1. If variation is inherent in material or product, submit at least three sets of paired units that show variations.

2.03 INFORMATIONAL SUBMITTALS

- A. Informational Submittals: Submit two copies of each submittal, or an electronic copy, unless otherwise indicated. Architect will return one copy.
- B. Qualification Data: Include lists of completed projects with project names and addresses, names and addresses of architects and owners, and other information specified.
- C. Product Certificates: Prepare written statements on manufacturer's letterhead certifying that product complies with requirements in the Contract Documents.

2.04 DELEGATED DESIGN SERVICES

- A. Performance and Design Criteria: Where professional design services or certifications by a design professional are specifically required of Contractor by the Contract Documents, provide products and systems complying with specific performance and design criteria indicated.
 - 1. If criteria indicated are not sufficient to perform services or certification required, submit a written request for additional information to Architect.
- B. Delegated-Design Submittal: In addition to Shop Drawings, Product Data, and other required submittals, submit four copies of a statement, signed and sealed by the responsible design professional, for each product and system specifically assigned to Contractor to be designed or certified by a design professional.
 - 1. Indicate that products and systems comply with performance and design criteria in the Contract Documents. Include list of codes, loads, and other factors used in performing these services.

2.05 CONTRACTOR'S CONSTRUCTION SCHEDULE

- A. Preparation: Indicate each significant construction activity separately. Identify first workday of each week with a continuous vertical line.

PART 3 – EXECUTION

3.01 SUBMITTAL REVIEW

- A. Review each submittal and check for coordination with other Work of the Contract and for compliance with the Contract Documents. Note corrections and field dimensions. Mark with approval stamp before submitting to Architect.

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- B. Architect will review each action submittal, make marks to indicate corrections or modification required, will signify each submittal with an action stamp, and will signify appropriately to indicate action.
- C. Informational Submittals: Architect will review each submittal and will return a copy. Architect will forward each submittal to appropriate party.
- D. Submittals not required by the Contract Documents may not be reviewed and may be discarded.

3.02 CONTRACTOR'S CONSTRUCTION SCHEDULE

- A. Updating: At monthly intervals, update schedule to reflect actual construction progress and activities. Issue schedule a minimum of one day before each regularly scheduled progress meeting.
 - 1. As the Work progresses, indicate Actual Completion percentage for each activity.
- B. Distribute copies of approved schedule to Owner/Architect, subcontractors, testing and inspecting agencies, and parties identified by Contractor with a need-to-know schedule responsibility. When revisions are made, distribute updated schedules to the same parties.

END OF ADMINISTRATIVE REQUIREMENTS

SECTION 01 40 00

QUALITY REQUIREMENTS

PART 1 – GENERAL

1.01 DESCRIPTION

- A. This Section includes administrative and procedural requirements for quality assurance and quality control.

1.02 CONFLICTING REQUIREMENTS

- A. Referenced Standards: If compliance with two or more standards is specified and the standards establish different or conflicting requirements for minimum quantities or quality levels, comply with most stringent requirement. Refer conflicting requirements that are different, but apparently equal, to Architect for a decision before proceeding.
- B. Minimum Quantity or Quality Level: The quantity or quality level shown or specified shall be the minimum provided or performed. The actual installation may comply with the minimum quantity or quality specified, or it may exceed the minimum within reasonable limits. To comply with these requirements, indicated numeric values are minimum or maximum, as appropriate, for the context of requirements. Refer uncertainties to Architect for a decision before proceeding.

1.03 QUALITY ASSURANCE

- A. General: Qualifications paragraphs in this Article establish the minimum qualification levels required; individual Specification Sections specify additional requirements.
- B. Installer Qualifications: A firm or individual experienced in installing, erecting, or assembling work similar in material, design, and extent to that indicated for this Project, whose work has resulted in construction with a record of successful in-service performance.
- C. Manufacturer Qualifications: A firm experienced in manufacturing products or systems similar to those indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to produce required units.
- D. Fabricator Qualifications: A firm experienced in producing products similar to those indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to produce required units.
- E. Professional Engineer Qualifications: A professional engineer who is legally qualified to practice in jurisdiction where Project is located and who is experienced in providing engineering services of the kind indicated. Engineering services are defined as those performed for installation of the system, assembly, or products that are similar to those indicated for this Project in material, design, and extent.

1.04 QUALITY CONTROL

New Hampshire Department of Natural and Cultural Resources
Echo Lake New Park Store Deck & Electrical

- A. Contractor Responsibilities: Tests and inspections not explicitly assigned to Owner are Contractor's responsibility. Unless otherwise indicated, provide quality-control services specified and those required by authorities having jurisdiction. Perform quality-control services required of Contractor by authorities having jurisdiction, whether specified or not.
- B. Retesting/Reinspecting: Regardless of whether original tests or inspections were Contractor's responsibility, provide quality-control services, including retesting and reinspecting, for construction that replaced Work that failed to comply with the Contract Documents.
- C. Associated Services: Cooperate with agencies performing required tests, inspections, and similar quality-control services, and provide reasonable auxiliary services as requested. Notify agency sufficiently in advance of operations to permit assignment of personnel. Provide the following:
 - 1. Access to the Work.
 - 2. Incidental labor and facilities necessary to facilitate tests and inspection.
 - 3. Adequate quantities of representative sample of materials that require testing and inspecting. Assist agency in obtaining samples.
 - 4. Facilities for storage and of test samples.
 - 5. Delivery of samples to testing agencies.
- D. Coordination: Coordinate sequence of activities to accommodate required quality-assurance and -control services with a minimum of delay and to avoid necessity of removing and replacing construction to accommodate testing and inspecting.

PART 2 – PRODUCTS (Not Used)

PART 3 – EXECUTION

3.03 REPAIR AND PROTECTION

- A. General: On completion of testing, inspecting, sample taking, and similar services, repair damaged construction and restore substrates and finishes.
 - 1. Provide materials and comply with installation requirements specified in other Specification Sections or matching existing substrates and finishes. Restore patched areas and extend restoration into adjoining areas with durable seams that are as invisible as possible. Comply with Contract Document requirements for cutting and patching in Section 01 70 00 "Execution and Closeout Requirements."
- B. Protect construction exposed by or for quality-control service activities.
- C. Repair and protection are Contractor's responsibility, regardless of the assignment of responsibility for quality-control services.

END OF QUALITY REQUIREMENTS

SECTION 01 50 00

TEMPORARY FACILITIES AND CONTROLS

PART 1 – GENERAL

1.01 DESCRIPTION

- A. Section includes requirements for temporary utilities, support facilities, and security and protection facilities.
 - 1. The Work shall include, but shall not necessarily be limited to:
 - a. Use charges
 - b. Temporary utilities
 - c. Construction facilities
 - d. Temporary controls
- B. Related Work Specified Elsewhere:
 - 1. SECTION 01 26 00: Contract Modification Procedures
 - 2. SECTION 01 70 00: Execution and Closeout Requirements

1.02 USE CHARGES

- A. General: Installation and removal of and use charges for temporary facilities shall be included in the Contract Sum. Allow other entities to use temporary services and facilities without cost, including, but not limited to, Owner's construction forces, Architect, Engineers, occupants of Project, testing agencies, and authorities having jurisdiction.
- B. Sewer Service: Owner will pay sewer-service use charges for sewer usage by all entities for construction operations.
- C. Water Service: Owner will pay water-service use charges for water used by all entities for construction operations.
- D. Electric Power Service: Owner will pay electric-power-service use charges for electricity used by all entities for construction operations.

1.03 QUALITY ASSURANCE

- A. Electric Service: Comply with NECA, NEMA, and UL standards and regulations for temporary electric service. Install service to comply with NFPA 70.
- B. Tests and Inspections: Arrange for authorities having jurisdiction to test and inspect each temporary utility before use. Obtain required certifications and permits.

1.04 PROJECT CONDITIONS

- A. The Contractor shall be permitted to utilize the existing Owner utilities at the site.

PART 2 – PRODUCTS

2.01 EQUIPMENT

- A. Fire Extinguishers: Portable, UL rated; with class and extinguishing agent as required by locations and classes of fire exposures.

PART 3 – EXECUTION

3.01 INSTALLATION, GENERAL

- A. Locate facilities where they will serve Project adequately and result in minimum interference with performance of the Work. Relocate and modify facilities as required by progress of the Work.
- B. Provide each facility ready for use when needed to avoid delay. Do not remove until facilities are no longer needed or are replaced by authorized use of completed permanent facilities.

3.02 TEMPORARY UTILITY INSTALLATION

- A. General: Install temporary service or connect to existing service.
 - 1. Arrange with utility company, Owner, and existing users for time when service can be interrupted, if necessary, to make connections for temporary services.
- B. Water Service: Connect to Owner's existing water service facilities. Clean and maintain water service facilities in a condition acceptable to Owner. At Substantial Completion, restore these facilities to condition existing before initial use.
- C. Electric Power Service: Connect to Owner's existing electric power service. Maintain equipment in a condition acceptable to Owner.

3.03 SUPPORT FACILITIES INSTALLATION

- A. General: Comply with the following:
 - 1. Provide construction for temporary offices, shops, and sheds located within construction area or within 30-feet of building lines that is noncombustible according to ASTM E 136. Comply with NFPA 241.
 - 2. Maintain support facilities until Architect schedules Substantial Completion inspection. Remove before Substantial Completion. Personnel remaining after Substantial Completion will be permitted to use permanent facilities, under conditions acceptable to Owner.
- B. Parking: Use designated areas of Owner's existing parking areas for construction personnel.

3.04 SECURITY AND PROTECTION FACILITIES INSTALLATION

New Hampshire Department of Natural and Cultural Resources
Echo Lake New Park Store Deck & Electrical

- A. Protection of Existing Facilities: Protect existing vegetation, equipment, structures, utilities and other improvements at Project site and on adjacent properties, except those indicated to be removed or altered. Repair damage to existing facilities.
- B. Environmental Protection: Provide protection, operate temporary facilities, and conduct construction as required to comply with environmental regulations and that minimize possible air, waterway, and subsoil contamination or pollution or other undesirable effects.
- C. Site Enclosure Fence: Before construction operations begin, furnish and install site enclosure fence in manner that will prevent people and animals from easily entering site except by entrance gate.
- D. Barricades, Warning Signs, and Lights: Comply with authorities having jurisdiction for erecting structurally adequate barricades, including warning signs and lighting.

3.05 OPERATION, TERMINATION, AND REMOVAL

- A. Supervision: Enforce strict discipline in use of temporary facilities. To minimize waste and abuse, limit availability of temporary facilities to essential and intended uses.
- B. Termination and Removal: Remove each temporary facility when need for its service has ended, when it has been replaced by authorized use of a permanent facility, or no later than Substantial Completion. Complete or, if necessary, restore permanent construction that may have been delayed because of interference with temporary facility. Repair damaged Work, clean exposed surfaces, and replace construction that cannot be satisfactorily repaired.

END OF TEMPORARY FACILITIES AND CONTROLS

SECTION 01 60 00

PRODUCT REQUIREMENTS

PART 1 – GENERAL

1.01 DESCRIPTION

- A. Section includes administrative and procedural requirements for selection of products for use in Project.
1. The Work shall include, but shall not necessarily be limited to:
- a. Product delivery, storage, and handling
 - b. Manufacturers' standard warranties
 - c. Special warranties
 - d. Comparable products
- B. Related Work Specified Elsewhere:
- 1. SECTION 01 20 00: Price and Payment Procedures
 - 2. SECTION 01 25 00: Substitution Procedures

1.02 ACTION SUBMITTALS

- A. Comparable Product Requests: Submit request for consideration of each comparable product. Identify product or fabrication or installation method to be replaced. Include Specification Section number and title and drawing numbers and titles. Note that no substitutions for convenience are allowed per Section 01 25 00.
1. Include data to indicate compliance with the requirements specified in "Comparable Products" Article.
2. Architect's Action: If necessary, Architect will request additional information or documentation for evaluation within one week of receipt of comparable product request. Architect will notify Contractor of approval or rejection of proposed comparable product request within 15 days of receipt of request, or seven days of receipt of additional information or documentation, whichever is later.
- a. Form of Approval: As specified in Section 01 30 00 "Administrative Requirements."
 - b. Use product specified if Architect does not issue a decision on use of a comparable product request within time allocated.
- B. Basis-of-Design Product Specification Submittal: Comply with requirements in Section 01 30 00 "Administrative Requirements."

1.03 QUALITY ASSURANCE

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Echo Lake New Park Store Deck & Electrical

- A. Compatibility of Options: If contractor is given option of selecting between two or more products for use on Project, select product compatible with products previously selected, even if previously selected products were also options.

1.04 DELIVERY, STORAGE AND HANDLING

- A. Deliver, store, and handle products using means and methods that will prevent damage, deterioration, and loss, including theft and vandalism. Comply with manufacturer's written instructions.
- B. Delivery and Handling:
1. Schedule delivery to minimize long-term storage at Project site and to prevent overcrowding of construction spaces.
 2. Coordinate delivery with installation time to ensure minimum holding time for items that are flammable, hazardous, easily damaged, or sensitive to deterioration, theft, and other losses.
 3. Deliver products to Project site in an undamaged condition in manufacturer's original sealed container or other packaging system, complete with labels and instructions for handling, storing, unpacking, protecting, and installing.
 4. Inspect products on delivery to determine compliance with the Contract Documents and to determine that products are undamaged and properly protected.
- C. Storage:
1. Store products to allow for inspection and measurement of quantity or counting of units.
 2. Store materials in a manner that will not endanger Project structure.
 3. Store products that are subject to damage by elements, under cover in a weathertight enclosure above ground, with ventilation adequate to prevent condensation.
 4. Protect foam plastic from exposure to sunlight, except to extent necessary for period of installation and concealment.
 5. Comply with product manufacturer's written instructions for temperature, humidity, ventilation, and weather-protection requirements for storage.
 6. Protect stored products from damage and liquids from freezing.
 7. Provide a secure location and enclosure at Project site for storage of materials and equipment by owner's construction forces. Coordinate location with owner.

1.05 PRODUCT WARRANTIES

- A. Warranties specified in other Sections shall be in addition to, and run concurrent with, other warranties required by the Contract Documents. Manufacturer's disclaimers and limitations on product warranties do not relieve Contractor of obligations under requirements of the Contract Documents.
1. Manufacturer's Warranty: Written warranty furnished by individual manufacturer for a particular product and specifically endorsed by manufacturer to owner.
 2. Special Warranty: Written warranty required by Contract Documents to provide specific rights for Owner.

- B. Submittal Time: Comply with requirements in Section 01 70 00 "Execution and Closeout Requirements."

PART 2 – PRODUCTS

2.01 PRODUCT SELECTION PROCEDURES

- A. General Product Requirements: Provide products that comply with the Contract Documents, are undamaged and, unless otherwise indicated, are new at time of installation.
1. Provide products complete with accessories, trim, finish, fasteners, and other items needed for a complete installation and indicated use and effect.
 2. Standard Products: If available, and unless custom products or nonstandard options are specified, provide standard products of types that have been produced and used successfully in similar situations on other projects.
 3. Owner reserves the right to limit selection to products with warranties not in conflict with requirements of the Contract Documents.
 4. Where products are accompanied by the term "as selected", Architect will make selection.
 5. Descriptive, performance, and reference standard requirements in the Specifications establish salient characteristics of products.
- B. Product Selection Procedures:
1. Product: Where Specifications name a single manufacturer and product, provide the named product complies with requirements. Comparable products or substitutions for Contractor's convenience will not be considered.
 2. Manufacturer/Source: Where Specifications name a single manufacturer or source, provide a product by the named manufacturer or source that complies with requirements. Comparable products or substitutions for Contractor's convenience will not be considered.
 3. Products:
 - a. Restricted List: Where Specifications include a list of names of both manufacturers and products, provide one of the products listed that complies with requirements.
 4. Manufacturers:
 - a. Restricted List: Where Specifications include a list of manufacturers' names, provide a product by one of the manufacturers listed that complies with requirements.
- C. Visual Selection Specification: Where Specifications include the phrase "as selected by Architect from manufacturer's full range" or similar phrase, select a product that complies with requirements. Architect will select color, gloss, pattern, density, or texture from manufacturer's product line that includes both standard and premium items.

2.02 COMPARABLE PRODUCTS

- A. Conditions for Consideration: Architect will consider Contractor's request for comparable products when the following conditions are satisfied. Note that substitutions for convenience are not allowed per Section 01 25 00. If the following conditions are not satisfied, Architect may return requests without action, except to record noncompliance with these requirements:
1. Evidence that the proposed product does not require revisions to the Contract Documents, that it is consistent with the Contract Documents and will produce the indicated results, and that it is compatible with other portions of the Work.
 2. Detailed comparison of significant qualities of proposed product with those named in the Specifications. Significant qualities include attributes such as performance, weight, size, durability, visual effect, and specific features and requirements indicated.
 3. Evidence that proposed product provides specified warranty.
 4. List of similar installations for completed projects with project names and addresses and names and addresses of architects and owners, if requested.
 5. Samples, if requested.

PART 3 – EXECUTION (Not Used)

END OF PRODUCT REQUIREMENTS

SECTION 01 70 00

EXECUTION AND CLOSEOUT REQUIREMENTS

PART 1 – GENERAL

1.01 DESCRIPTION

- A. Section includes general administrative and procedural requirements governing execution and closeout of the Work including, but not limited to, the following:
 - 1. Execution
 - 2. Cutting and patching
 - 3. Cleaning
 - 4. Closeout procedures
- B. Related Work Specified Elsewhere:
 - 1. SECTION 01 10 00: Summary
 - 2. SECTION 01 30 00: Administrative Requirements

1.02 EXECUTION REQUIREMENTS

- A. Cutting and Patching:
 - 1. Structural Elements: When cutting and patching structural elements, notify Architect of locations and details of cutting and await directions from Architect before proceeding. Shore, brace, and support structural elements during cutting and patching.
 - 2. Operational Elements: Do not cut and patch operating elements and related components in a manner that results in reducing their capacity to perform as intended or that result in increased maintenance or decreased operational life or safety.
 - 3. Visual Elements: Do not cut and patch construction in a manner that results in visual evidence or cutting and patching. Do not cut and patch exposed construction in a manner that would, in Architect's opinion, reduce the buildings aesthetic qualities.
- B. Manufacturer's Installation Instructions: Obtain and maintain on-site manufacturer's written recommendations and instructions for installation of products and equipment.

1.03 CLOSEOUT SUBMITTALS

- A. Contractor's List of Incomplete Items: Initial submittal at Substantial Completion.
- B. Certified List of Incomplete Items: Final submittal at Final Completion.
- C. Operation and Maintenance Data: Submit two copies of manual.
- D. PDF Electronic File: Assemble manual into a composite electronically indexed file. Submit on digital media.

- E. Record Drawings: Submit two set of marked-up record prints.
- F. Record Product Data: Submit two paper copy and annotated PDF electronic files and directories of each submittal.

1.04 SUBSTANTIAL COMPLETION PROCEDURES

- A. Prepare a list of items to be completed and corrected (punch list), the value of items on the list, and reasons why the Work is not complete.
- B. Submittals Prior to Substantial Completion: Before requesting Substantial Completion inspection, complete the following:
 - 1. Obtain and submit releases from authorities having jurisdiction permitting Owner unrestricted use of the Work and access to services and utilities. Include occupancy permits, operating certificates, and similar releases.
 - 2. Submit closeout submittals specified in other Sections, including project record documents, operation and maintenance manuals, property surveys, similar final record information, warranties, workmanship bonds, maintenance service agreements, final certifications, and similar documents.
 - 3. Submit maintenance material submittals specified in other Sections, including tools, spare parts, extra materials, and similar items, and deliver to location designated by Architect.
 - 4. Submit test/adjust/balance records.
 - 5. Submit Changeover information related to owner's occupancy, use, operation, and maintenance.
- C. Procedures Prior to Substantial Completion: Before requesting Substantial Completion inspection, complete the following:
 - 1. Advise owner of pending insurance changeover requirements.
 - 2. Make final changeover or permanent locks and deliver keys to Owner.
 - 3. Complete startup and testing of systems and equipment.
 - 4. Perform preventative maintenance or equipment prior to Substantial Completion.
 - 5. Advise owner of changeover in heat and other utilities.
 - 6. Participate with owner in conducting inspection and walkthrough with local emergency responders.
 - 7. Remove temporary facilities and controls.
 - 8. Complete final cleaning requirements, including touchup painting.
 - 9. Touch up and otherwise repair and restore marred exposed finishes to eliminate visual defects.
- D. Inspection: Submit a written request for inspection for Substantial Completion. On receipt of request, Architect will proceed with inspection or advise Contractor of unfulfilled requirements. Architect will prepare the Certificate of Substantial Completion after inspection or will advise Contractor of items that must be completed or corrected before certificate will be issued.

1.05 FINAL COMPLETION PROCEDURES

New Hampshire Department of Natural and Cultural Resources
Echo Lake New Park Store Deck & Electrical

- A. Submittals Prior to Final Completion: Before requesting inspection for determining final completion, complete the following:
 - 3. Submit a final Application for Payment.
 - 4. Submit certified copy of Architect's Substantial Completion inspection list of items to be completed or corrected (punch list). Certified copy of the list shall state that each item has been completed or otherwise resolved.
 - 5. Certificate of Insurance: Submit evidence of final, continuing insurance coverage complying with insurance requirements.
- B. Submit a written request for final inspection and acceptance. On receipt of request, Architect will either proceed with inspection or notify Contractor of unfulfilled requirements. Architect will prepare final Certificate for Payment after inspection or will advise Contractor of items that must be completed or corrected before certificate will be issued.
 - 1. Reinspection: Request reinspection when the Work identified in previous inspections as incomplete is completed or corrected.

PART 2 – PRODUCTS

2.01 MATERIALS

- A. In-Place materials: Use materials for patching identical to in-place materials. For exposed surfaces, use materials that visually match in-place adjacent surfaces to the fullest extent possible.
- B. Cleaning Agents: Use cleaning materials and agents recommended by manufacturer or fabricator of the surface to be cleaned. Do not use cleaning agents that are potentially hazardous to health or property or that might damage finished surfaces.

2.02 OPERATION AND MAINTENANCE DOCUMENTATION

- A. Directory: Prepare a single, comprehensive directory of emergency, operation, and maintenance data and materials, listing items and their location to facilitate ready access to desired information.
- B. Organization: Unless otherwise indicated, organize manuals into separate sections for each system and subsystem, and separate sections for each piece of equipment not part of a system.
- C. Organize data into three-ring binders with identification on front and spine of each binder, and envelopes for folded drawings. Include the following:
 - 1. Manufacturer's operation and maintenance documentation.
 - 2. Maintenance and service schedules.
 - 3. Maintenance service contracts. Include name and telephone number of service agent.
 - 4. Emergency instructions.
 - 5. Spare parts list and local source of maintenance materials.
 - 6. Wiring diagrams.

7. Copies of warranties. Include procedures to follow and required notifications for warranty claims.

2.03 RECORD DRAWINGS

- A. Record Prints: Maintain a set of prints of the Contract Drawings and Shop Drawings, incorporating new and revised drawings as modification are issued. Mark to show actual installation where installation varies from that shown originally. Accurately record information in an acceptable drawing technique.
 1. Record drawings are to be updated at a minimum weekly.
 2. Review markings with Architect and Owner at Project Meetings.
 3. Identify and date each record Drawing; include the designation "PROJECT RECORD DRAWING" in a prominent location.
- B. Record Digital Data Files: Immediately before inspection for Certificate of Substantial Completion, review marked-up record prints with Architect.

PART 3 – EXECUTION

3.01 EXAMINATION AND PREPARATION

- A. Existing Conditions: The existence and location of underground and other utilities and construction indicated as existing are not guaranteed. Before beginning sitework, investigate and verify the existence and location of underground utilities, mechanical and electrical systems, and other construction affecting the Work.
 1. Comply with the "Underground Utility Damage Prevention System" per NH RSA 374 by notification to DIG-SFAE SYSTEM, Inc., of intent to excavate within 100 feet of an underground utility. Contact DIG-SAFE at least seventy-two (72) hours in advance of starting any excavation.
- B. Before proceeding with each component of the Work, examine substrates, areas, and conditions, with Installer or Applicator present where indicated, for compliance with requirements for installation tolerances and other conditions affecting performance.
 1. Verify compatibility with and suitability of substrates.
 2. Examine roughing-in for mechanical and electrical systems.
 3. Examine walls, floors, and roofs for suitable conditions.
- C. Proceed with installation only after unsatisfactory conditions have been corrected.
- D. Take field measurements as required to fit the Work properly. Where portions of the Work are indicated to fit to other construction, verify dimensions of other construction by field measurements before fabrication.
- E. Verify space requirements and dimensions of items shown diagrammatically on Drawings.

3.02 CONSTRUCTION LAYOUT AND FIELD ENGINEERING

- A. Before proceeding to lay out the Work, verify layout information shown on Drawings, in relation to the property survey and existing benchmarks.
- B. Engage a land surveyor to lay out Work using accepted surveying practices.
- C. Engage a land surveyor to prepare a final property survey showing significant features (real property) for project and finish floor elevations.
 - 1. At Substantial Completion, have the final property survey recorded by or with authorities having jurisdiction as the official "property survey."

3.03 INSTALLATION

- A. Locate the Work and components of the Work accurately, in correct alignment and elevation, as indicated.
 - 1. Make vertical work plumb and horizontal work level.
 - 2. Conceal pipes, ducts, and wiring in finished areas unless otherwise indicated.
 - 3. Maintain minimum headroom clearance of 96-inches in occupied spaces and 90-inches in unoccupied spaces, unless otherwise noted.
- B. Comply with manufacturer's written instructions and recommendations.
- C. Conduct construction operations so no part of the Work is subjected to damaging operations or loading in excess of that expected during normal conditions of occupancy.
- D. Templates: Obtain and distribute to the parties involved templates for work specified to be factory prepared and field installed.
- E. Attachment: Provide blocking and attachment plates and anchors and fasteners of adequate size and number to securely anchor each component in place. Where size and type of attachments are not indicated, verify size and type required for load conditions.
- F. Joints: Make joints uniform in width. Where joint locations in exposed work are not indicated, arrange joints for the best visual effect. Fit exposed connections together to form hairline joints.
- G. Use products, cleaners, and installation materials that are not considered hazardous.

3.04 CUTTING AND PATCHING

- A. Provide temporary support of work to be cut.
- B. Protection: Protect in-place construction during cutting and patching to prevent damage. Provide protection from adverse weather conditions for portions of Project that might be exposed during cutting and patching operations.
- C. Where existing services/systems are required to be removed, relocated, or abandoned, bypass such services/systems before cutting to minimize interruption to occupied areas.

- D. Cutting: Cut in-place construction using methods least likely to damage elements retained or adjoining construction.
 - 1. Cut holes and slots neatly to minimum size required, and with minimum disturbance of adjacent surfaces. Temporarily cover openings when not in use.
- E. Patch with durable seams that are as invisible as possible. Provide materials and comply with installation requirements specified in other Sections.
 - 1. Restore exposed finishes of patched areas and extend finish restoration into adjoining construction in a manner that will minimize evidence of patching and refinishing.
 - 2. Where walls or partitions that are removed extend one finished area into another, patch and repair floor and wall surfaces in the new space. Provide an even surface of uniform finish, color, texture, and appearance.
 - 3. Where patching occurs in a painted surface, prepare substrate and apply primer and intermediate paint coats appropriate for substrate over the patch, and apply final paint coat over entire unbroken surface containing patch. Provide additional coats until patch blends with adjacent surfaces.

3.05 CLEANING

- A. Clean Project site and work areas daily, including common areas. Dispose of materials lawfully.
 - 1. Remove liquid spills promptly.
 - 2. Where dust would impair proper execution of the Work, broom-clean or vacuum the entire work area, as appropriate.
 - 3. Remove debris from concealed spaces before enclosing space.
- B. Complete the following cleaning operations before requesting inspection for certification of Substantial Completion:
 - 1. Clean Project site, yard, and grounds, in areas disturbed by construction activities. Sweep paved areas; remove stains, spills, and foreign deposits. Rake grounds that are neither planted nor paved to a smooth, even-textured surface.
 - 2. Remove labels that are not permanent.
 - 3. Clean transparent materials, including mirrors. Remove excess glazing compounds.
 - 4. Clean exposed finishes to a dust-free condition, free of stains, films, and foreign substances. Sweep concrete floors broom clean.
 - 5. Vacuum carpeted surfaces and wax resilient flooring.
 - 6. Wipe surfaces of mechanical and electrical equipment. Remove excess lubrication and foreign substances. Clean plumbing fixtures. Clean light fixtures, lamps, globes, and reflectors.
 - 7. Replace disposable air filters and clean permanent air filters. Clean exposed surfaces of diffusers, registers, and grills.

3.06 OPERATION AND MAINTENANCE MANUAL PREPARATION

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- A. Operation and Maintenance Manuals: Assemble a complete set of operation and maintenance data indicating operation and maintenance of each system, subsystem, and piece of equipment not part of a system.
- B. Manufacturer's Data: Where manuals contain manufacturers' standard printed data, include only sheets pertinent to product or component installed. Mark each sheet to identify each product or component incorporated into the Work. If data include more than one item in a tabular format, identify each item using appropriate references from the Contract Documents. Identify data applicable to the Work and delete references to information not applicable.
 - 1. Prepare supplementary text if manufacturers' standard printed data are unavailable and where the information is necessary for proper operation and maintenance of equipment or systems.
- C. Drawings: Prepare drawings supplementing manufacturers' printed data to illustrate the relationship of component parts of equipment and systems and to illustrate control sequence and flow diagrams.

END OF EXECUTION AND CLOSEOUT REQUIREMENTS

SECTION 05 50 00

METAL FABRICATIONS

PART 1 – GENERAL

1.01 DESCRIPTION

- A. Provide all labor, materials, equipment, services, etc. required to furnish and install all Metal Fabrications as indicated on the Drawings, Specified herein, or otherwise required for a complete and proper job.
 - 1. The Work shall include, but shall not necessarily be limited to:
 - a. Miscellaneous framing, supports and trim
 - b. Steel pipe handrails
 - c. Miscellaneous installation hardware and accessories

1.02 SUBMITTALS

- A. Product Data: Submit product data for products used in metal fabrications, including load and deflection tables, anchor details, paint products, grout, fasteners and standard installation details for each product submitted.
- B. Shop Drawings: Submit shop drawings for each metal fabrication indicated; include plans, elevations; sections showing construction, installation and fastenings; method of joining materials.

1.03 QUALITY ASSURANCE

- A. Codes and Standards: Comply with provisions of the following, except as otherwise indicated. Where conflicts occur, comply with the more stringent requirements.
 - 1. ANSI 14.3
 - 2. AWS D1.1 and D1.3
 - 3. NFPA 101
- B. Fabricators Qualifications: A company experienced in successfully producing metal fabrications similar to that shown on the Drawings, with sufficient production capacity to produce required units without causing delay in the Work.
- C. Qualify welding processes and welding operators in accordance with AWS D1.1 and D1.3. Certify that each welder has satisfactorily passes AWS qualification tests for welding processes involved and, if pertinent, has undergone recertification.
- D. All materials used shall be free of lead and asbestos fibers.

1.04 DELIVERY, STORAGE AND HANDLING

- A. Store metal fabrications above grade on platforms, skids, or other required supports and protect from corrosion or damage.

- B. Piece mark each fabricated piece as noted on shop drawings.

1.05 PROJECT CONDITIONS

- A. Contractor shall verify actual locations of walls and any other adjoining construction by field measurements and communicate via approved shop drawings to fabricator prior to start of order fabrication.

PART 2 – PRODUCTS

2.01 FERROUS METALS

- A. Metal Surfaces, General: Form metal fabrications exposed to view upon completion of the work, provide materials selected for their surface flatness, smoothness, and freedom from surface blemishes. Do not use materials whose exposed surfaces exhibit pitting, seam marks, roller marks, rolled trade names, roughness, and, for steel sheet, variations in flatness exceeding those permitted by referenced standards for stretcher-leveled sheet.
- B. Steel Plates, Shapes, and Bars: ASTM A36
- C. Steel Pipe: ASTM A53, Type S, Grade B, standard weight (schedule 40), black finish, unless otherwise indicated
- D. Brackets, Flanges and Anchors: Cast or formed metal of the same type material and finish as supported rails, unless otherwise indicated.
- E. Concrete Inserts: Threaded or wedge type; galvanized ferrous castings, either malleable iron, ASTM A47, or cast steel, ASTM A27. Provide bolts, washers, and shims as required, hot-dip galvanized per ASTM A153
- F. Welding Rods and Bare Electrodes: Select in accordance with AWS specifications for the metal alloy to be welded.

2.02 GROUT

- A. Non-shrink Nonmetallic Grout: Premixed, factory-packaged, non-staining, non-corrosive, non-gaseous grout complying with ASTM C1107. Provide grout specifically recommended by manufacturer for interior and exterior applications of type specified in this Section. Subject to compliance with requirements, products that may be incorporated in the work include, but are not limited to the following:
1. Euco N-S Grout – Euclid Chemical Co.
 2. Kemset – Chem-Masters Corp.
 3. Crystex – L & M Construction Chemicals, Inc.
 4. SonogROUT – Sonneborn Building Products Div., Rexnord Chemical Products, Inc.

2.03 STEEL PIPE GUARDRAILS AND HANDRAILS

New Hampshire Department of Natural and Cultural Resources
Echo Lake New Park Store Deck & Electrical

- A. Delegated Design: Design railings, including comprehensive engineering analysis by a qualified professional engineer, using performance requirements and design criteria indicated.
- B. General: In engineering railings to withstand structural loads indicated, determine allowable design working stresses of railing materials based on the following:
 - 1. Steel: 72 percent of minimum yield strength.
- C. Structural Performance: Railings shall withstand the effects of gravity loads and the following loads and stresses within limits and under conditions indicated:
 - 1. Handrails and Top Rails of Guards:
 - a. Uniform load of 50 lbf/ft. applied in any direction
 - b. Concentrated load of 200 lbf applied in any direction
 - c. Uniform and concentrated loads need not be assumed to act concurrently
 - 2. Infill of Guards:
 - a. Concentrated load of 50 lbf applied horizontally on an area of 1 sq. ft.
 - b. Infill load and other loads need not be assumed to act concurrently
- D. General: Fabricate pipe guardrails and handrails to comply with requirements indicated for dimensions, details, finish, and member sizes, including thickness of pipe, post spacing's, and anchorage.
- E. Interconnect guardrails and handrail members by butt-welding or welding with internal connectors, at fabricator's option, unless otherwise indicated. At tee and cross intersections, cope ends of intersecting members to fit contour of pipe to which end is joined, weld all around and grind smooth.
- F. Form changes in direction of railing members as follows:
 - 1. By use of welded prefabricated steel elbow fittings.
 - 2. By bending, of radius indicated.
 - 3. By mitering at elbow bends.
- G. Form simple and compound curves by bending pipe in jigs to produce uniform curvature for each repetitive configuration required; maintain cylindrical cross-section of pipe throughout entire bend without buckling, twisting, cracking, or otherwise deforming exposed surfaces of pipe.
- H. Close exposed ends of pipe by welding 3/16-inch thick steel plate in place or by use of prefabricated fittings, except where clearance of end of pipe and adjoining wall surface is 1/4-inch or less.
- I. Brackets, Flanges, Fittings, and Anchors: Provide wall brackets, end enclosures, flanges, miscellaneous fittings, and anchors for interconnections of pipe and attachment of guardrails and handrails to other work.

2.04 STEEL AND IRON FINISHES

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- A. General: Shop-paint uncoated surfaces of metal fabrications, except those to be embedded in concrete or masonry or to receive sprayed-on fireproofing, surfaces and edges to be welded, and galvanized surfaces, unless otherwise indicated. Comply with requirements of SSPC-PA 1 for shop painting.
- B. Galvanizing: For those items indicated for galvanizing, apply zinc-coating by the hot-dip process in compliance with the following requirements:
1. ASTM A123 for galvanizing both fabricated and non-fabricated iron and steel products made of uncoated rolled, pressed, and forced shapes, plates, bars, and strip 0.0299-inches thick and heavier.
 2. ASTM A153 for galvanizing iron and steel hardware.
- C. Surface Preparation for Shop Priming: Prepare uncoated ferrous metal surfaces to comply with minimum requirements indicated below:
1. Remove oil, grease and similar contaminants in accordance with SP-1, "Solvent Cleaning".
 2. Remove loose rust, scale, spatter, slag and other deleterious materials in accordance with SSPC.
- D. Painting: Immediately after surface preparation, apply structural steel primer paint in accordance with manufacturer's instructions and at a rate to provide dry film thickness of not less than 3.0 mils. Use painting methods that result in full coverage of joints, corners, edges, and exposed surfaces. Apply 2 coats of paint to surfaces that are inaccessible after assembly or erection.
1. Ferrous Metal, Galvanized Metal and Aluminum:
 - Prime Coat: Primer, water-based, anti-corrosive for metal: S-W Pro Industrial Pro-Cryl Universal Primer, B66-310 Series, 5.0 to 10.0 mils wet, 2.0 to 4.0 mils dry.
 - Intermediate Coat: Light industrial coating, exterior, water based, matching topcoat.
 - Topcoat: Light industrial coating, exterior, water based, gloss: S-W Pro Industrial Acrylic Gloss Coating, B66-600 Series, at 2.5 to 4.0 mils dry, per coat.

PART 3 – EXECUTION

3.01 EXAMINATION

- A. Installer shall examine the areas and conditions under which metal fabrication items are to be installed. Notify the Owner in writing of conditions detrimental to the proper and timely completion of the work. Do not proceed with the work until unsatisfactory conditions have been corrected in a manner acceptable to the Installer and Owner.

3.02 INSTALLATION, GENERAL

- A. Fastening to In-Place Construction: Provide anchorage devices and fasteners where necessary for securing miscellaneous metal fabrications to in-place construction; include threaded fasteners for concrete and masonry inserts, toggle bolts, and through-bolts, lag bolts, wood screws and other connectors as required.
- B. Cutting, Fitting and Placement: Perform cutting, drilling, and fitting required for installation of miscellaneous metal fabrications. Set metal fabrications accurately in location, alignment, and elevation; with edges and surfaces level, plumb, true, and free of rack; and measured from established lines and levels.
- C. Fit exposed connections accurately together to form hairline joints. Weld connections that are not to be left as exposed joints, but cannot be shop-welded because of shipping size limitations. Do not weld, cut, or abrade the surfaces of exterior units which have been hot-dip galvanized after fabrication, and are intended for bolted or screwed field connections.
- D. Field Welding: Comply with AWS Code for procedures of manual shielded metal- arch welding, appearance and quality of welds made, methods used in correcting welding work, and the following:
 - 1. Use materials and methods that minimize distortion and develop strength and corrosion resistance of base metals.
 - 2. Obtain fusion without undercut or overlap.
 - 3. Remove welding flux immediately.
 - 4. At exposed connections, finish exposed welds and surfaces smooth and blended so that no roughness shows after finishing and contour of welded surfaces matches those adjacent.
- E. Grout: Follow manufacturer's recommendations for substrate preparation and application.
- F. Corrosion Protection: Coat concealed surfaces of aluminum that will come into contact with grout, concrete, masonry, wood, or dissimilar metals with a heavy coat of bituminous paint or zinc chromate primer.

3.03 INSTALLATION OF STEEL PIPE GUARDRAILS AND HANDRAILS

- A. Adjust railings prior to anchoring to ensure matching alignment at abutting joints. Space posts at spacing indicated, or if not indicated, as required by design loadings. Plumb posts in each direction. Secure posts and railing ends to building construction with slip-fit metal sockets.
- B. Expansion Joints: Provide expansion joints at locations indicated, or if not indicated, at intervals not to exceed 40-feet. Provide slip joint with internal sleeve extending 2-inches beyond joint on either side; fasten internal sleeve securely to one side; locate joint within 6-inches of posts.

3.04 ADJUSTING AND CLEANING

- A. Touch-Up Painting of Steel Items: Immediately after erection, clean field welds, bolted connections, abraded areas of shop paint, and paint exposed areas with same material as used for shop painting to comply with SSPC-PA 1 requirements for touch-up of field painted surfaces. Apply by brush or spray to provide a minimum dry film thickness of 3.0 mils.
- B. For galvanized surfaces clean welds, bolted connections and abraded areas and apply galvanizing repair paint to comply with ASTM A780.

END OF METAL FABRICATIONS

SECTION 06 15 33

WOOD PATIO DECKING

PART 1 – GENERAL

1.01 DESCRIPTION

- A. Provide all labor, materials, equipment, services, etc. required to furnish and install all Wood Patio Decking as indicated on the Drawings, Specified herein, or otherwise required for a complete and proper job.
 - 1. The Work shall include, but shall not necessarily be limited to:
 - a. Wood decking
 - b. Support framing for elevated decks

1.02 SUBMITTALS

- A. Lumber Schedule: Indicating lumber sizes, species and grade, grading agency, moisture content and application location.
- B. Product Data: For each product specified
 - 1. Preservative-treated wood products: Include chemical treatment manufacturer's written instructions for handling, storing, installing, and finishing treated material.
 - 2. Metal Framing Anchors: Include installation instructions.
- C. Material Certificates:
 - 1. For preservative-treated wood products. Indicate type of preservative used and net amount of preservative retained. For products receiving a waterborne treatment, include statement that moisture content of treated materials was reduced to levels specified before shipment to Project site.
- D. Certificates of Inspection: Issued by lumber grading agency for exposed wood products not marked with grade stamp.
- E. Evaluation Reports: For the following, from ICC-ES:
 - 1. Preservative-treated wood products
 - 2. Decking fasteners

1.03 DELIVERY, STORAGE AND HANDLING

- A. Store materials under cover and protected from weather and contact with damp or wet surfaces. Stack lumber flat with spacers between each bundle to provide air circulation. Provide for air circulation around stacks and under coverings.

PART 2 – PRODUCTS

2.01 LUMBER, GENERAL

- A. Comply with DOC PS 20 and with grading rules of lumber grading agencies certified by ALSC's Board of Review as applicable. If no grading agency is indicated, comply with the applicable rules of any rules-writing agency certified by ALSC's Board of Review.
1. Factory mark each item with grade stamp of grading agency.
 2. For items that are exposed to view in the completed Work, omit grade stamp and provide certificates of grade compliance issued by grading agency.
 3. Where nominal sizes are indicated, provide actual sizes required by DOC PS 20 for moisture content specified. Where actual sizes are indicated, they are minimum dressed sizes for dry wood products.
 4. Provide dressed lumber, S4S, unless otherwise indicated.
- B. Maximum Moisture Content:
1. Boards: 15 percent
 2. Dimension Lumber: 15 percent
 3. Timber: 19 percent

2.02 WOOD DECKING

- A. Hand select wood for freedom from characteristics, on exposed surfaces and edges, that would impair finish appearance, including decay, honeycomb, knot holes, shake, splits, torn grain, and wane.
- B. Board Decking: Minimum 1-1/4 inch actual thickness radius edged decking of any of the following species and grades:
1. Douglas fir-larch or Douglas fir-south, Patio 1; WWPA
 2. Douglas fir-larch, Select Dex; WCLIB
 3. Douglas fir-larch (North), Select Patio; NLGA
 4. Hem-fir, Patio 1; WWPA
 5. Hem-fir, Select Dex; WCLIB
 6. Hem-fir (North), Select Patio; NLGA
 7. Southern Pine, Premium; SPIB

2.03 PRESERVATIVE TREATMENT

- A. Pressure treat boards and dimension lumber with waterborne preservative according to AWPA U1; Use Category UC3b for exterior construction not in contact with the ground. For lumber in contact with the ground, provide Use Category UC4b.
- B. Preservative Chemicals: Acceptable to authorities having jurisdiction.
1. Do not use chemicals containing arsenic or chromium
- C. Use process for boards and lumber that includes water-repellent treatment.

- D. After treatment, re-dry boards and dimension lumber to 19 percent maximum moisture content.
- E. Mark treated wood with treatment quality mark of an inspection agency approved by ALSC's Board or Review.
 - 1. For items that are to be exposed to view in the finish Work, or indicated to receive a stained or natural finish, mark each piece on surface that will not be exposed or omit marking and provide certificates of treatment compliance issued by inspection agency.
- F. Application: treat all wood unless otherwise indicated.

2.04 FASTENERS

- A. General: Provide fasteners of size and type indicated, acceptable to authorities having jurisdiction, and that comply with requirements specified in this article for materials and manufacture. Provide nails or screws, in sufficient length, to penetrate not less than 1-1/2 inches into wood substrate.
 - 1. Use stainless steel or fasteners with hot-dip zinc coating complying with ASTM A 153/A 153 M or ASTM F 2329 unless otherwise indicated.
 - 2. For pressure-preservative-treated wood, use stainless-steel fasteners.
 - 3. For wood decking, use stainless-steel fasteners where fasteners are exposed to view.
- B. Nails: ASTM F 1667
- C. Power-Driven Fasteners: ICC-ES AC70
- D. Wood Screws and Lag Screws: ASME B18.2.1, ASME B18.6.1, or ICC-ES AC233
- E. Carbon-Steel Bolts: ASTM A 307 with ASTM A 563 hex nuts and, where indicated, flat washers all hot-dip zinc coated.
- F. Stainless-Steel Bolts: ASTM F 593, Alloy Group 1 or 2; with ASTM F 594, Alloy Group 1 or 2 hex nuts and, where indicated, flat washers.

2.05 METAL FRAMING ANCHORS

- A. Allowable Design Loads: Provide products with allowable design loads, as published by manufacturer that meet or exceed those of products of manufacturers listed. Manufacturer's published values shall be determined from empirical data or by rational engineering analysis and demonstrated by comprehensive testing performed by a qualified independent testing agency.
- B. Galvanized-Steel Sheet: Hot-dip, zinc-coated steel sheet complying with ASTM A 653/A 653M
- C. Joist Hangers: U-shaped, with 2-inch long seat and 1-1/4 inch wide nailing flanges at least 85 percent of joist depth

PART 3 – EXECUTION

3.01 EXAMINATION

- A. Examine substrates and conditions, with installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of the Work.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.02 PREPARATION

- A. Clean substrates of projections and substances detrimental to application.
- B. Stain wood indicated to be stained, including both faces and edges. Cut to required lengths and stain ends. Comply with requirements in Section 09 93 00 Staining and Transparent Finishing.

3.03 INSTALLATION, GENERAL

- A. Set work to required levels and lines, with members plumb, true to line, cut and fitted. Fit work to other construction; scribe and cope as needed for accurate fit.
- B. Framing Standard: Comply with AF&PA WCD1 unless otherwise indicated.
- C. Install wood decking with crown up (bark side down).
- D. Secure decking to framing with screws.
- E. Install metal framing anchors to comply with manufacturer's written instructions.
- F. Do not splice structural members between supports unless otherwise indicated.
- G. Provide blocking and framing as indicated and as required to support facing materials, fixtures, specialty items, and trim.
- H. Sort and select lumber so that natural characteristics do not interfere with installation or with fastening other materials to lumber. Do not use materials with defects that interfere with function of members or pieces that are too small to use with minimum number of joints or optimum joint arrangement.
- I. Apply copper naphthenate field treatment to comply with AWPAC M4, to cut surfaces or preservative-treated lumber.
- J. Securely attach exterior rough carpentry work to substrate by anchoring and fastening as indicated, complying with the following:
 - 1. ICC-ES AC70 for power-driven fasteners
 - 2. "Fastening Schedule" in ICC's International Building Code
- K. Use common wire nails unless otherwise indicated. Select fasteners of size that do not fully penetrate members where opposite side is exposed to view. Make tight connections between

members. Install fasteners without splitting wood; do not countersink nail heads unless otherwise indicated.

- L. For exposed work, arrange fasteners in straight rows parallel with edges of members, with fasteners evenly spaced and with adjacent rows staggered.

3.04 ELEVATED DECK JOIST FRAMING INSTALLATION

- A. General: Install joists with crown edge up and support ends of each member with not less than 1-1/2 inches of bearing on wood or metal, or 3 inches on masonry. Attach floor joists where framed into wood supporting members by using wood ledgers as indicated or, if not indicated, by using metal joist hangers. Do not notch joists.
- B. Frame openings with headers and trimmers supported by metal joist hangers; double headers and trimmers where span of header exceeds 48 inches.
- C. Lap members framing from opposite sides of beams or girders not less than 4 inches or securely tie opposing members together. Provide solid blocking or 2-inch nominal thickness by depth of joist over supports.
- D. Provide solid blocking of 2-inch nominal thickness by depth of joist at intervals of 96 inches o.c., between joists.

END OF WOOD PATIO DECKING

SECTION 26 00 00

ELECTRICAL

PART 1 – GENERAL

1.01 DESCRIPTION

- A. Provide all labor, materials, equipment, services, etc. required to furnish and install all Electrical systems as indicated on the Drawings, Specified herein, or otherwise required for a complete and proper job. The Electrical Contractor shall provide all design build services as required to properly size all equipment and accessories for a complete system.
 - 1. The Work shall include, but shall not necessarily be limited to:
 - a. Electrical Service entrance
 - b. Electrical service
 - c. Panelboards
 - d. Conductors and grounds
 - e. Wiring devices and plates
- B. The information shown on the Drawings is diagrammatic only and indicates the general arrangement of systems and equipment. Basic design concepts must be followed or bettered. The Contractor shall be responsible for coordinating and designing a complete and functional system.
- C. Coordinate utility service work with local utility companies, general contractor, building conditions and site conditions prior to installation. Provide advance coordination as required for timely connections of temporary and permanent services. Contact utility companies prior to submission of bid. Include all utility fees and costs related to this project in bid.

1.02 ACTION SUBMITTALS

- A. Product Data: For all products, equipment and materials.
- B. Record Drawings: Shall be submitted at the conclusion of the electrical work. They shall show any revisions, deviations, or changes from the electrical drawings in the contract set of documents. A print of the contract documents neatly marked up and annotated will be acceptable.
- C. Operating and Maintenance Manuals: Before final acceptance of project, submit three (3) copies of complete operating instructions and service manuals neatly bound and consisting of a neatly typewritten index, instructions on equipment operation, parts replacement information, guarantees and warranties, testing reports, service manuals, control drawings and diagrammatic charts.

1.03 QUALITY ASSURANCE

- A. All material and equipment shall bear a certification of a national certifying organization such as Underwriters Laboratory or Factory Mutual and be installed according to the National Electric

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Code, local rules and regulations and all other codes and standards listed elsewhere in these Specifications or on the Drawings.

- B. Execute work in a neat and workmanlike manner in conformance with best modern trade practice, (i.e. IEEE, NEC, ANSI, NFPA, NEMA) by competent, experienced, licensed electricians, presenting a neat appearance when completed. Replace work not approved by Owner's representative without additional charge.

1.04 DELIVERY, STORAGE AND HANDLING

- A. All materials and related accessories shall be delivered and stored in strict compliance with the manufacturer's instructions.
- B. Materials shall be delivered to the site in the original sealed containers or packages bearing the manufacturer's name and brand designation. All materials shall be stored in a clean, well-ventilated, warm area. Care shall be exercised in handling materials during delivery, storage and installation.

1.05 PROJECT CONDITIONS

- A. Maintain environmental conditions (temperature, humidity and ventilation) within the limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's absolute limits.

1.06 WARRANTY

- A. The Contractor shall warranty all materials and installations under normal use to be free from defects and poor workmanship for a period of one (1) year from the date of Substantial Completion. Any replacement of parts or adjustments, including labor made necessary by inherent defects, shall be provided by the Contractor without cost to the Owner within the warranty period.

1.07 CODES AND STANDARDS

- A. The complete installation shall be in compliance with the applicable latest or accepted edition of the International Building Code as adopted by the State of New Hampshire, NFPA and other applicable rules and regulations prescribed by the authority having jurisdiction.

PART 2 – PRODUCTS

2.01 MATERIALS, GENERAL

- A. Unless otherwise indicated, the materials to be furnished under this Section shall be the standard products of manufacturer's regularly engaged in the production of such equipment and shall be the manufacturer's latest standard design that complies with the Specification requirements.
- B. Source Limitation: Obtain products from a single source from a single manufacturer.

2.02 EQUIPMENT MOUNTING AND SUPPORTS

- A. Provide all supports including supplementary steel, channels, chains, rods and guys required for the proper installation, mounting and support of all equipment.
- B. Supports shall be firmly attached to building structural elements and constructed in an approved manner. Continuously threaded rods less than 3/8-inch in diameter, tie wire, or metal straps are not approved.
- C. Except as otherwise required by the Contract Documents the type and size of supports shall be as determined by the Contractor and shall be of sufficient strength and size to allow only a minimum deflection as required by codes of standards and support the manufacturer's requirements for loading.
- D. Inform all parties as to the location, size, details and method of attachment of supports and the weight which support is to carry, so that the installation may be coordinated.
- E. Supports shall be installed in a neat and workmanlike manner, perpendicular or parallel to walls, floor, columns, beams or ceiling.

2.03 GROUNDING

- A. Furnish and install grounding systems conforming to IEEE std. 142-1982 and 241. Comply with requirements of NEC, Article 250 pertaining to electrical grounding system. Comply with applicable requirements of U.L. Standards numbers 467 and 869 pertaining to electrical grounding and bonding. Provide grounding products which are U.L. listed and labeled.
- B. Provide electrical grounding systems required including but not limited to cables, wires, connectors, terminals (solderless lugs), grounding rods/electrodes, plate electrodes, bonding jumper braid, surge arrestors, and additional accessories needed for complete installation.
- C. Provide electrical bonding plates, connectors, terminals, lugs, and clamps as recommended by manufacturer for required applications.
- D. Ground rods shall be solid copper 5/8-inch diameter and 10-feet long.
- E. Upon Completion of installation of electrical grounding systems, test ground resistance. Where tests show resistance to ground is over 3 ohms take appropriate action to reduce resistance to 3 ohms or less by driving additional ground rods and/or by chemically treating soil encircling ground rod. Then retest to demonstrate compliance.
- F. All feeder, subfeeders, lighting branch circuits and all receptacle circuits shall contain a grounding conductor minimum No. 12 copper with green insulation.
- G. Grounding terminal on receptacles shall be bonded to outlet box with grounding conductor to establish grounding continuity
- H. Flexible conduit and electric metallic tubing feeder raceways shall include grounding conductor.
- I. Grounding conductors shall be stranded copper wire with THHN green insulation.

- J. Grounding bushings shall be provided for all raceways.

2.04 PANELBOARDS

- A. Panelboard cabinets shall be of the dead-front or safety type, provided with the size and number of single, double or triple pole branches required. Cabinets shall be constructed of zinc coated steel and shall conform to Underwriters Laboratories, Inc. Standard for Cabinets and Boxes. Cabinet height shall not exceed 72-inches and shall be mounted so that the distance from the floor to center of the top circuit breaker will not exceed 72-inches. Cabinets shall be provided with trims having adjustable trim clamps. Trims shall be fitted with hinged doors. A directory shall be mounted in each frame.
- B. Panelboards shall be surface mounted with branch circuit breakers and main breaker as required.
- C. Panel with main breaker shall be Cutler Hammer, "BR Load Center" or approved equal. Panel shall accommodate a single phase, 100 amp service and have space for 20 circuits.
- D. All branch circuit breakers installed in the panels shall have a minimum short circuit rating as indicated on the panel diagram. Provide factory-assembled molded case circuit breakers of frame size required. Provide breakers with permanent thermal and instantaneous magnetic trips in each pole and with 10,000 AIC minimum fault current limiting protection and ampere rating as required. Construct with over center, trip free, toggle type operating mechanisms with quick make, quick break actions and positive handle trip indication. Provide breaker with mechanical screw type removable connector lugs, AL/CU rated.
- E. At indicated circuits provide circuit breaker with integral ground fault interrupter with 5 milliamperes ground fault trip level.

2.05 WIRING IN CONDUIT

- A. Type MC (metal clad cable) shall be used for branch circuits including power, lighting and control per NEC.
- B. Electrical metallic tubing (EMT) shall be used for all feeders and empty conduit systems. EMT may be used for branch circuits including power, lighting and control per NEC. EMT shall not be used where subject to water or moisture conditions. Threadless couplings and connectors used with EMT shall be made up tight. Minimum size of conduit to be 3/4-inch.
- C. Connections to portable equipment from junction boxes and conduit termination to motors shall be made with liquid-tight flexible metal conduit, finished black or grey to match equipment. Flexible connections shall be maximum of 18-inches long with grounding conductor.

2.06 CONDUCTORS

- A. All conductors installed in raceway shall be insulated, type THW or THWN, 600 volt service, within building and for secondaries. All such wiring shall be color coded. Conductors with higher insulation temperature ratings shall be provided as required.

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- B. Conductor and conduit sizes shown on the drawings are based on copper conductors with THW insulation, unless otherwise noted.
- C. Joints and splices shall be made in a manner equivalent electrically and mechanically to the conductor itself. Connections shall be of the compression type.
- D. Where receptacles or convenience outlets are specified to serve equipment, furnish, install and connect approved flexible cable and cap to equipment.
- E. Make all final connections, flexible or fixed as required to all equipment shown requiring final electrical connections.
- F. Wire, conductors and cable shall be as manufactured by General Electric Company, Rome Cable, General Cable Corporation or approved equal.

2.07 WIRING DEVICES

- A. Switches, receptacles and other utilization devices shall be as manufacture by Leviton, General Electric, Hubbell or approved equal. Symbols and nomenclature is that of Leviton. Switches shall have a minimum rating of 20 amperes.
- B. All receptacles and switches shall have a grounding pole and grounding terminal, which shall be connected to the outlet box with grounding conductor to establish grounding continuity.
- C. Verify mounting height of all devices prior to roughing.
- D. Provide heavy-duty duplex receptacles, 2 pole, 3 wire grounding, 20 amperes, 125 volts, with metal plaster ears, back and side wiring, NEMA configuration 5-20R.
- E. Provide device plates for all devices, switches, and receptacles and miscellaneous outlets. Plates shall be stainless steel with ganging and cut-outs appropriate to the indicated circuiting.

2.08 PULL BOXES AND JUNCTION BOXES

- A. Pull boxes and junction boxes shall be of code gauge galvanized steel with screw covers to match, shall be as required and shall be as shown on the Drawings.
- B. Conductors passing through pull boxes shall be identified to indicate their origin and termination.
- C. Pull and junction boxes and covers shall be for indoor use, except provide other types as required because of location.
- D. Covers shall not be installed until installation has been observed. Provide nameplate on cover.

2.09 NAMEPLATES

- A. Provide nameplates for panelboards, switch panels, relays, empty raceways, contactors, pull boxes, junction boxes, motor disconnect switches, and remote switches designating equipment controlled and function.

2.10 OUTLETS

- A. Outlets shall be centered in panels and spaces provided therefore.
- B. Where outlets of any system occur provide suitable boxes and conduit so that they may be built in as the work progresses. Box offsets shall be made at all outlets to provide proper adjustment to structural finish.
- C. Receptacle outlet boxes shall have factory installed grounding conductor which shall be connected to receptacle grounding terminal.
- D. Fixture outlet boxes shall have 3/8-inch solid male fixture studs.
- E. Raised covers in open frame construction where no other finish is to be applied, shall have 90 degree corners and edges. Boxes in wall panel finish shall have raised stainless steel covers with rounded edges and corners.
- F. Exposed outlet boxes shall have threaded conduit hubs.

2.11 LIGHTING FIXTURES AND LAMPS

- A. Fixtures shall be complete with all accessories such as close nipples, extension couplings, connecting straps, screws, locknuts, hickies and plaster rings, to provide complete fixture installation for use with any type of standard outlet or switch box. Special fittings required to support fixtures shall be supplied.
- B. Fixture Schedule: As indicated on Drawings.

2.12 TERMINAL STRIPS

- A. All terminal strips for electrical wiring shall be mounted on a separate 3/8-inch select grade backboard within cabinets or boxes. All terminal strips shall be rated for the ampacity of the wire intended to be connected, but in no case less than twenty amps. All terminal strips shall be identified and each wire at every terminal shall be identified by means of a Brady wire tag.

2.13 SAFETY SWITCHES

- A. Safety switches shall be heavy duty, with ampere rating number of poles, fusible or non-fusible as indicated or required. Manufacturer shall be ITE, G.E., Sylvania, Square D or Westinghouse.

PART 3 – EXECUTION

3.01 RACEWAYS AND CONDUIT

- A. Raceways shall be supported and secured at intervals of not more than 10 feet, with minimum of two supports. Tie wire or perforated metal straps shall not be used to support or secure raceways or other equipment. Electric metallic tubing shall be supported within 18-inches of each

coupling or connector. In finished areas, furnish and install escutcheons for all exposed conduit passing through or entering finished floors or walls.

- B. Raceways shall have runs installed parallel or perpendicular to walls, structural members or intersections of vertical planes and ceilings. Field-made bends and offsets shall be avoided where possible, but where necessary, shall be made within an approved hickey or conduit bending machine. Crushed or deformed raceways shall not be installed. Trapped raceways shall be avoided. Care shall be taken to prevent the lodgement of plaster, dirt or trash in raceway boxes, fittings and equipment during the course of construction. Clogged raceways shall be entirely free of obstructions or shall be replaced. Wooden plugs inserted in concrete or masonry are not acceptable as a base for raceway fastenings nor shall raceways or pipe straps be welded to steel structures. Raceways shall be secured by pipe straps or shall be supported by wall brackets, strap hangers or ceiling trapeze fastened by wood screws on wood, toggle bolts on hollow units, expansion bolts on concrete or brick and machine screws or welded studs on steel work.

3.02 OUTLETS

- A. Each outlet in the wiring or raceway systems shall be provided with an outlet box to suit the conditions encountered. Each box shall have sufficient volume to accommodate the number of conductors entering the box in accordance with the requirements of the National Electric Code. Boxes shall not be less than 1-1/2 inches deep unless shallower boxes are required by structural conditions and are specifically approved.
- B. Ceiling and bracket outlet boxes shall be not less than 4-inches except smaller boxes may be used where required by the particular fixture to be installed. Boxes shall be installed in a rigid and satisfactory manner and shall be fastened directly with wood screws on wood, bolts and expansion shield on concrete or brick, toggle bolts on hollow masonry units and machine screws or welded threaded studs on steel work. Threaded studs driven in by a powder charge and provided with lock washers and nuts are acceptable in lieu of wood screws, expansion shields or machine screws if permitted by local authorities.

3.03 FIXTURES

- A. All fixtures shall be supported by building structural elements independent of furred or suspended ceilings.
- B. The minimum number of supports for surface mounted or suspended fixtures shall equal one for each 48-inches of length plus one additional support. Additional supports shall be provided if required.

END OF ELECTRICAL

SECTION 31 20 00

EARTH MOVING

PART 1 – GENERAL

1.01 DESCRIPTION

- A. Provide all labor, materials, equipment, services, etc. required to furnish and install all Earth Moving as indicated on the Drawings, Specified herein, or otherwise required for a complete and proper job.
 - 1. The Work shall include, but shall not necessarily be limited to:
 - a. Excavating and backfilling trenches for utilities and pits for buried utility structures.

1.02 PROJECT CONDITIONS

- A. Traffic: Minimize interference with adjoining roads, streets, walks, and other adjacent occupied or used facilities during earth moving operations.
 - 1. Do not close or obstruct streets, walks, or other adjacent occupied or used facilities without permission from Owner and authorities having jurisdiction.
 - 2. Provide alternate routes around closed or obstructed traffic ways if required by Owner or authorities having jurisdiction.
- B. Utility Locator Service: Notify “Dig Safe System” for area where Project is located before beginning earth moving operations.

PART 2 – PRODUCTS

2.01 SOIL MATERIALS

- A. General: Provide borrow soil materials when sufficient satisfactory soil materials are not available from excavations.
- B. Satisfactory Soils: Soil Classification Groups A-1, A-2-4, A-2-5, and A-3 according to AASHTO M 145, or a combination of these groups; free of rock or gravel larger than 3-inches in any dimension, debris, waste, frozen materials, vegetation, and other deleterious matter.
- C. Unsatisfactory Soils: Soil Classification Groups A-2-6, A-2-7, A-4, A-5, A-6, and A-7 according to AASHTO M 145, or a combination of these groups.
 - 1. Unsatisfactory soils also include satisfactory soils not maintained within 2 percent of optimum moisture content at time of compaction.
- D. Sand: ASTM C 33; fine aggregate.

2.02 ACCESSORIES

- A. Detectable Warning Tape: Acid and Alkali-resistant, polyethylene film warning tape manufactured for marking and identifying underground utilities, a minimum of 6-inches wide and 4 mils thick, continuously inscribed with a description of the utility, with metallic core encased in a protective jacket for corrosion protection, detectable by metal detector when tape is buried up to 30-inches deep; colored as follows:
 - 1. Red: Electric.

PART 3 – EXECUTION

3.01 PREPARATION

- A. Protect structures, utilities, sidewalks, pavements, and other facilities from damage caused by settlement, lateral movement, undermining, washout, and other hazards created by earth moving operations.
- B. Protect subgrades and foundation soils from freezing temperatures and frost. Remove temporary protection before placing subsequent materials.

3.02 DEWATERING

- A. Prevent surface water and ground water from entering excavations, from ponding on prepared subgrades, and from flooding Project site and surrounding area.
- B. Protect subgrades from softening, undermining, washout, and damage by rain or water accumulation.
 - 1. Reroute surface water runoff away from excavated areas. Do not allow water to accumulate in excavations. Do not use excavated trenches as temporary drainage ditches.

3.03 EXCAVATION FOR UTILITY TRENCHES

- A. Excavate trenches to indicated gradients, lines, depths, and elevations.
 - 1. Beyond building perimeter, excavate trenches to allow installation of top of pipe below frost line.
- B. Excavate trenches to uniform widths to provide the following clearance on each side of pipe or conduit. Excavate trench walls vertically from trench bottom to 12-inches higher than top of pipe or conduit unless otherwise indicated.
 - 1. Clearance: As indicated.
- C. Trench Bottoms: Excavate and shape trench bottoms to provide uniform bearing and support of pipes and conduit. Shape subgrade to provide continuous support for bells, joints, and barrels of

pipes and for joints, fittings, and bodies of conduits. Remove projecting stones and sharp objects along trench subgrade.

1. For pipes and conduit less than 6-inches in nominal diameter, hand-excavate trench bottoms and support pipe and conduit on an undisturbed subgrade.
2. Excavate trenches 6-inches deeper than elevation required in rock or other unyielding bearing material to allow for bedding course.

3.04 UTILITY TRENCH BACKFILL

- A. Place and compact bedding course on trench bottoms and where indicated. Shape bedding course to provide continuous support for bells, joints, and barrels of pipes and for joints, fittings, and bodies of conduits.
- B. Backfill voids with satisfactory soils while removing shoring and bracing.
- C. Place and compact initial backfill of satisfactory soil, free of particles larger than 1-inch in any dimension, to a height of 12-inches over the pipe or conduit.
 1. Carefully compact initial backfill under pipe haunches and compact evenly up on both sides and along the full length of piping or conduit to avoid damage or displacement of piping or conduit. Coordinate backfilling with utilities testing.
- D. Place and compact final backfill of satisfactory soil to final subgrade elevation.
- E. Install warning tape directly above utilities, 12-inches below finished grade, except 6-inches below subgrade under pavements and slabs.

3.05 COMPACTION OF SOIL BACKFILLS AND FILLS

- A. Place backfill and fill soil materials in layers not more than 8-inches in loose depth for material compacted by heavy compaction equipment, and not more than 4-inches in loose depth for material compacted by hand-operated tampers.
- B. Compact soil materials to not less than the following percentages of maximum dry unit weight according to AASHTO T 191, AASHTO T 310:
 1. For utility trenches, compact each layer of initial and final backfill soil material at 85 percent.

3.06 PROTECTION

- A. Repair and reestablish grades to specified tolerances where completed or partially completed surfaces become eroded, rutted, settled, or where they lose compaction due to subsequent construction operations or weather conditions.
 1. Scarify or remove and replace soil material to depth as directed by Architect; reshape and recompact.

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- B. Where settling occurs before project correction period elapses, remove finished surfacing, backfill with additional soil material, compact, and reconstruct surfacing.
 - 1. Restore appearance, quality, and condition of finished surfacing to match adjacent work, and eliminate evidence of restoration to greatest extent possible.

3.07 DISPOSAL OF SURPLUS AND WASTE MATERIALS

- A. Remove surplus satisfactory soil and waste materials, including unsatisfactory soil, trash, and debris, and legally dispose of them off Owner's property.
- B. Transport surplus satisfactory soil to designated storage areas on Owner's property. Stockpile or spread soil as directed by Architect.
 - 1. Remove waste materials, including unsatisfactory soil, trash, and debris, and legally dispose of them off Owner's property.

END OF EARTH MOVING