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-Trustees-

Patrick Brennan, Deputy Mayor
Lily Dougherty-Johnson

Mary Bess Phillips
Julia Robins

INFORMATION FOR BIDDERS
PROPOSAL
CONTRACT
And
SPECIFICATIONS

For

BID #VOG2026
SEWAGE TREATMENT PLANT IMPROVEMENTS

CONTRACT No. 1 – SCREW PUMP REPLACEMENT

March 2026

IN THE
INC. VILLAGE OF GREENPORT
SUFFOLK COUNTY, NEW YORK

Candace Hall
VILLAGE CLERK

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**INC. VILLAGE OF GREENPORT
SEWAGE TREATMENT PLANT IMPROVEMENTS**

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BID # VOG2026
NOTICE TO BIDDERS

SEWAGE TREATMENT PLANT IMPROVEMENTS
CONTRACT No. 1 – SCREW PUMP REPLACEMENT

IN THE
INC. VILLAGE OF GREENPORT

SEALED BIDS FOR “Sewage Treatment Plant Improvements: Contract No. 1 – Screw Pump Replacement”, will be received by the Board of Trustees at the Village Office, 236 Third Street, Greenport, New York, until **11:00 A.M., on Friday, March 20, 2026** at which time all bids received will be publicly opened and read aloud.

The information for Bidders, Form of Bid, Form of Contract, Plans and Specifications may be viewed at the office of the Village Clerk, 236 Third Street, Greenport, NY 11944 from **9:00 AM to 4:00 PM Monday through Friday beginning Thursday, February 26, 2026**. All Bid documents will be available for download for Bidder use starting Thursday February 26, 2026 through The Village Website: www.villageofgreenport.gov.

Each bidder must deposit with his bid, a certified check of not less than five percent (5%) of the base bid or bid bond with a Bonding Company licensed to do business in the State of New York, in the form and subject to the conditions provided in the Instructions to Bidders.

The Board of Trustees reserves the right to waive any informalities in, or reject any or all bids, and to accept the bids which they deem most favorable to the interest of the Village. Attention of Bidders is particularly called to the requirements as to conditions of employment to be observed and minimum wage rates to be paid under the Contract.

The Village will not accept bids from, nor award a Contract to, anyone who cannot prove to the satisfaction of the Board of Trustees of the Village that he has had sufficient experience in this type of work and is financially able and organized to successfully carry out the work covered by the Specifications in the required time.

Bids shall be addressed to the Board of Trustees, shall be received at the OFFICE OF THE VILLAGE CLERK and marked “**Bid No. VOG2026 – Sewage Treatment Plant Improvements - Contract No. 1 – Screw Pump Replacement.**”

Any contract or contracts awarded under this bid may possibly be funded in part by New York State Financial Assistance programs provided by the New York State Environmental Facilities Corporation (EFC). Bidders shall comply with all the requirements of these programs with all terms and conditions posted here: <https://efc.ny.gov/wiia>. Neither the State of New York nor any of its departments, agencies or employees is or will be a party to this bid or any resulting contracts. This project includes both State and Federal prevailing wages. If Federal Davis-Bacon wages differ from the New York State prevailing wage rates, then the higher of the two rates shall be paid.

It is the Bidder’s responsibility to ensure that their bid is received by the Clerk’s Office in a timely manner. All bids received after the time stated in the Notice to Bidders will not be considered and will be returned unopened to the bidder.

All Bids must be submitted on the prescribed forms and returned intact. All blank spaces for Bid prices must be filled in, both in words and figures. Bidders should include any comments regarding the proposed form of Contract and General Conditions including, but not limited to, any requested revisions to proposed language and cost impacts of particular provisions. Proposals that contain any omissions, erasures, alterations, additions or items not called for in the itemized proposal, or that contain irregularities of any kind, may constitute sufficient cause for rejection of the Bid. In case of any discrepancy in the price or amount Bid for any item in the proposal, the price as expressed in words shall

NOTICE TO BIDDERS

govern.

No oral requests for information, clarification or interpretation will be honored. All such requests should be submitted to the Owner's Consulting Engineer in writing not less than five (5) days prior to the last date for submission of Bids. All replies to such requests will be made in the form of an addendum and will be sent to each prospective Bidder who received initial copies of the Plans, Contract and Specifications.

Bidders are cautioned not to submit proposals until after having inspected the site of the proposed work and having made themselves familiar with local conditions. The attention of persons intending to make proposals is specifically called to that paragraph of the Contract which debars a Contractor from pleading misunderstanding or deception because of estimates of quantities and location or other conditions surrounding same.

All Bidders are encouraged to visit the site of work to take field measurements and examine existing conditions. **A non-mandatory pre-bid meeting will be held on March 9, 2026 at 11:00 A.M.** Interested parties shall meet at the Sewage Treatment Plant site, 2075 Moore's Lane, Greenport, NY 11944. Interested parties may contact Mr. Adam Hubbard of the Village DPW at (631) 477-0390, email: AHubbard@greenportvillage.org or Alexander Policastro, P.E. at (631) 234-2220 ext. 116, email: alex@holzmacher.com. All questions concerning this Project shall be submitted in writing to Mr. Policastro by close of business on or before Friday, March 13, 2026.

By Order of the Board of Trustees of the Incorporated Village of Greenport.

DATE OF NOTICE: FEBRUARY 26, 2026

OFFICE OF THE VILLAGE CLERK

INSTRUCTION TO BIDDERS

1. BIDDING DOCUMENTS

- 1.1 The term "Bidding Documents" includes the following:
- a) Instruction to Bidders
 - b) Bid (Proposal)
 - c) Non-Collusive Bidding Certification
 - d) Bidder's Qualification Statement
 - e) Addenda (when applicable)
 - f) Contract
 - g) General Conditions
 - h) General Specifications
 - i) Technical Specifications
 - j) Drawings
- 1.2 Complete sets of Bidding Documents must be used in preparing Bids; neither Owner nor Engineer assume any responsibility for errors or misinterpretations resulting from the use of incomplete sets of Bidding Documents.
- 1.3 Owner and Engineer make copies of Bidding Documents available only for the purpose of obtaining Bids on the work and do not confer a license or grant for any other use.
- 1.4 Failure to comply with any of the instructions contained herein may constitute cause for which the Bid may be rejected.
- 1.5 Owner: Village of Greenport, 236 Third Street, Greenport, NY 11944.
- 1.6 Engineer: JRH Consulting Engineers + Architects, DPC, 3555 Veterans Memorial Highway, Suite A, Ronkonkoma, New York, 11779, Telephone 631-234-2220, Fax 631-234-2221.
- 1.7 Owner's Representatives may include Owner personnel and/or the Engineer.

2. BID FORM

- 2.1 Each Bid shall be made on the "Proposal" forms attached hereto and shall remain attached hereto as one of the Bid Documents.
- 2.2 All blanks on the Bid Form must be completed in ink, in both words and figures with the unit or total sum, or both, for which the Bid is made.
- 2.3 The Bid shall include the complete costs of furnishing all materials, labor, and equipment necessary to complete the work in accordance with the plans and specifications and all other expenses incidental thereto.
- 2.4 Bids by corporations must be executed in the corporate name by the president or a vice-president (or other corporate officer accompanied by evidence of authority to sign) and the

corporate seal must be affixed and attested by the secretary or an assistant secretary. The corporate address and state of incorporation must be shown below the signature.

- 2.5 Bids by partnerships or limited liability companies must be executed in the partnership or limited liability company name as the case may be, and signed by a general partner, or managing member, as the case may be, whose title must appear under the signature and the official address of the entity must be shown below the signature.
- 2.6 The name of each signer must be printed below the signature.
- 2.7 The Bid shall contain an acknowledgment of the Bidder's receipt of all Addenda (the numbers of which must be filled in on the Bid Form).
- 2.8 The Bidders address and telephone number for communications regarding the Bid must be shown.
- 2.9 If Bids contain any omissions, erasures, alterations, additions or items not called for in the itemized Bid or contain irregularities of any kind, such may constitute cause for rejection of the Bid. In case of any discrepancy in the unit price or amount Bid for any item in the Bid, the unit price, as expressed in written words, shall govern.

3. SUBMISSION OF BIDS

Bids shall be delivered to the Clerk's Office of the Village of Greenport, 236 Third Street, Greenport, NY 11944, by not later than the date and time stipulated in the Notice to Bidders, and shall be enclosed in an opaque sealed envelope, marked with the Project Title and name and address of the Bidder and accompanied by the Bid Security and other required documents. If the Bid is sent through the mail or other delivery system, the sealed envelope shall be enclosed in a separate envelope with the notation "BID ENCLOSED" on the face of it. It is the sole responsibility of the Bidder to see that his Bid is received in the proper time. Any Bid received after the scheduled final date and time for receipt of Bids shall be returned to the Bidder unopened and shall not be considered.

4. BID SECURITY

Bid security shall be submitted with each Bid in the amount of five (5%) percent of the Bid amount. Security shall be in the form of a Bid bond provided by a firm duly licensed to conduct a surety business in the State of New York and listed in the Department of the Treasury's Listing of Approved Sureties, latest version. The surety must furnish its letter, signed by an authorized signatory, confirming that it meets the minimum requirements for a surety under the Contract Documents.

5. CONTRACT TIME

The number of calendar days within which the work is to be completed and ready for final payment is set forth in the Bid within Proposal section "PB". The Contract time shall be the number of calendar days beginning from the commencement date specified in the Notice to Proceed.

6. LIQUIDATED DAMAGES

Contractor recognizes that achieving completion of the Work within the time period set forth above is a material condition of this Agreement, and that if Contractor fails to achieve Substantial Completion of the

Work within such period, Owner will incur damages as a result. Owner and Contractor agree that the amount of such damages is difficult to ascertain with any precision. Contractor and Owner have attempted to estimate reasonable daily figures for liquidated damages, not to penalize the Contractor for late completion, but to reasonably estimate probable losses and damages to the Owner in the event of late completion. In the event Contractor does not achieve Substantial Completion of the Work on or before such date/within such period, Contractor shall pay Owner, as liquidated damages and not as penalty, the amount stipulated in Proposal Section "PB", per day for each day or part thereof that the actual date of completion of the Work extends beyond the specified period. Contractor acknowledges that the liquidated damages amount set forth in above represents a fair and reasonable estimate of the Owner's probable losses, damage and /or expenses, and are not a penalty, for late completion of the Work. Owner shall be entitled to offset any liquidated damages owed by the Contractor against any amounts owing by Owner to Contractor.

7. QUALIFICATIONS OF BIDDERS

All Bidder's must submit with his Bid the "Bidder's Qualification Statement" giving written evidence of experience, ability and financial standing as well as present commitments and an inventory of facilities and equipment. The Owner reserves the right to reject any Bid if the evidence submitted by, or investigation of, such Bidder fails to satisfy the Owner that such Bidder is properly qualified to carry out the obligations of the Contract and to complete the work contemplated therein.

8. EXAMINATION OF BID DOCUMENTS AND FAMILIARITY OF SITE

- 8.1 Before submitting a proposal, all Bidders shall carefully examine the Drawings, Specifications and other Bid Documents, shall visit the site of the proposed work and shall become fully informed of conditions and limitations associated with fulfilling the requirements of the Contract.
- 8.2 No plea of ignorance or misunderstanding of conditions that exist or that may hereafter exist, or of conditions or difficulties that may be encountered in the execution of the work under the Contract, as a result of failure to make the necessary examinations and investigations as may be expected of a reasonable prudent Bidder, will be accepted as an excuse for any failure or omission on the part of a Contractor to fulfill in every detail all of the requirements of the Bid Documents, or will be accepted as a basis for any claims whatsoever for extra compensation, or for an extension of time.
- 8.3 Reference is made to the Plans and Technical Specifications for subsurface information obtained during design of the Project.
- 8.4 If applicable, Bidders are warned that the Engineer's estimate of the quantities of the various items of work and materials is approximate only, is given solely to be used as a uniform basis for the comparison of Bids and is not to be considered as part of this Contract. The quantities actually required to complete the Contract work may be less or more than so estimated and, if so, no action for damages or for loss of profits shall accrue to the Contractor by reasons thereof.
- 8.5 Bidders are warned that if in the opinion of the Engineer, any unit or lump sum price or prices are unbalanced or not representative of near value of the cost of the item of the Work, then the entire bid shall be rejected. The Owner shall be the sole judge in these instances and may reject bids at his discretion.

9. INTERPRETATIONS AND ADDENDA

- 9.1 All questions about the meaning or intent of the Contract Documents are to be directed to the Engineer. Interpretations or clarifications considered necessary by the Engineer in response to such questions will be issued by Addenda mailed or delivered to all parties recorded as having received the Bidding Documents.

Questions received less than five (5) days prior to the scheduled date for opening of Bids may not be answered. Only questions answered by formal written Addenda will be binding.

Without limiting the foregoing, neither the Owner, nor any of its officials, officers, agents, servants or employees, nor the Engineer shall be responsible in any manner for oral responses to inquiries made regarding the meaning of the Specifications or any other item in the Contract Documents prior to the awarding of the Contract.

- 9.2 Addenda may also be issued to modify the Bidding Documents as deemed advisable by Owner and/or Engineer.

10. MODIFICATIONS

Any deviations from the Specifications that are incorporated into any Bid shall be noted and fully explained as part of the Bid. The Owner or its agents may, but shall not be obligated to, consider any such deviation. If the Owner deems any such deviation to be in the best interest of the Owner, it may waive the irregularity of such deviation and consider such Bid despite the deviation from compliance with Bid terms.

11. CORRECTIONS

Erasures or other corrections in the Bid Form must be initialed by the person signing the Bid Form.

12. WITHDRAWAL

- 12.1 Any Bidder may withdraw his Bid, either personally or by written request, if such request is received by the Owner prior to the scheduled final date and time for receipt of Bids.
- 12.2 All Bids will remain subject to acceptance by Owner for forty-five (45) days after the day of the Bid opening, but Owner may, in its sole discretion, accept a Bid or release Bids prior to that date.
- 12.3 If, within the earlier to occur of (i) the awarding of the Contract, or (ii) the third day after Bids are opened, any Bidder files a duly signed, written notice with Owner and promptly thereafter demonstrates to the reasonable satisfaction of Owner that there was a material and substantial mistake in the preparation of its Bid as provided for in General Municipal Law §103 (11), then that Bidder may withdraw its Bid. Thereafter, that Bidder will be disqualified from further Bidding on the work to be provided under the Contract Documents.

13. CONTRACTOR'S WORK CAPABILITY

Bidder must be capable of performing the work required in the Contract and shall perform a substantial portion (at least 51% of the total Contract cost) thereof with his own resources. Reference is made to the General Conditions for work by Subcontractors.

14. MULTIPLE BIDS

No person, firm or corporation shall be allowed to make more than one Bid for the same work, unless alternate Bids are called for. A person, firm or corporation who has submitted a Bid to a Bidder, or who has quoted prices on materials to a Bidder, is not hereby disqualified from submitting a Bid or quoting prices to other Bidders.

15. NON-COLLUSIVE BIDDING CERTIFICATION

Each Bidder submitting a Bid to the Owner for the work contemplated by the Bid Documents on which Bidding is based shall execute and attach thereto an affidavit substantially in the form herein provided (Non-Collusive Bidding Certification), to the effect that it has not colluded with any other person, firm, or corporation in regard to any Bid submitted.

16. AWARD OF CONTRACT

- 16.1 Owner reserves the right to reject any and all Bids, to waive any and all informalities to negotiate Contract terms with the Successful Bidder, and to disregard all nonconforming, nonresponsive, unbalanced or conditional Bids. Also, Owner reserves the right to reject the Bid of any Bidder if Owner believes that it would not be in the best interest of the Owner to make an award to that Bidder, whether because the Bid is not responsive or the Bidder is unqualified or of doubtful financial ability or fails to meet any other pertinent standard or criteria established by Owner. Discrepancies in the multiplication of units of work and unit prices will be resolved in favor of the unit prices. Discrepancies between the indicated sum of any column of figures and the correct sum thereof will be resolved in favor of the correct sum.
- 16.2 In evaluating Bids, Owner will consider the qualifications of the Bidders, whether or not the Bids comply with the prescribed requirements, and such alternates, unit prices and other data, as may be requested in the Bid Form or prior to the Notice of Award. Cost is only one factor in evaluating any Bids received. As well as various other considerations, the nature and extent of proposed contract revisions will be considered as part of the Bid evaluation process. Owner may engage in preliminary contract negotiations with multiple Bidders prior to selecting the winning Bidder.
- 16.3 Owner may conduct such investigations as Owner deems necessary to assist in the evaluation of any Bid and to establish the responsibility, qualifications and financial ability of Bidders to perform and furnish the Work in accordance with the Contract Documents to Owner's satisfaction within the prescribed time.
- 16.4 If the Contract is to be awarded, it will be awarded to the Lowest Bidder whose evaluation by Owner indicates to Owner that the award will be in the best interests of the Owner.

17. PERFORMANCE BOND AND LABOR AND MATERIALS PAYMENT BOND

The General Conditions set forth the Owner's requirements as to Performance and Labor and Materials Payment Bonds. At the time the Successful Bidder delivers the executed Contract to Owner, it must also deliver to Owner the required Performance and Payment Bonds each to be in a Bond amount equal to 100% of Contract amount.

18. INSURANCE

The General Conditions set forth the Owner's requirements as to Insurance. At the time the Successful Bidder delivers the executed Contract to Owner, it must also deliver the required Insurance Certificates.

19. MAINTENANCE BOND

The Successful Bidder will be required to provide a Maintenance Bond of 100% of the final Contract amount, including all change order adjustments for a period of **one (1) year** from the date of acceptance of the final payment requisition and all supporting documents, against any and all omissions and defects which may develop or require attention as a result of his performance of the Contract.

20. SIGNING OF AGREEMENT

If and when Owner delivers a written Notice of Award to the Successful Bidder, the Successful Bidder shall have five (5) business days thereafter to sign and deliver the Contract and attached documents to Owner with the required Bonds and Insurance coverage. Owner shall thereafter sign the Contracts and deliver one fully signed copy of the Contract to Contractor. Each copy is to be accompanied by a complete set of the Drawings with appropriate identification.

If the successful bidder fails for any reason or for no reason to execute and deliver the Contract or the labor and material payment bond or the performance bond or supply proper evidence of insurance required hereunder and described in the Contract, within five (5) days from the date of award, it shall forfeit to the Owner, as liquidated damages for such failure or refusal, the security deposited with its bid. No plea of mistake in such accepted bid shall be available to the bidder for recovery of its deposit or as a defense to any action upon an accepted bid.

The successful bidder shall not assign, transfer, convey, sublet or otherwise dispose of the Contract awarded to it, or its right, title and interest therein, or its power to execute such Contract, to any person, corporation or other entity, without the prior written consent of the Owner. Any attempted or purported assignment in violation of this provision shall be deemed null and void, and of no force or effect.

21. COMPLETION OF WORK

The work to be performed by the Contractor shall be deemed complete only when it is formally accepted by the Owner.

22. WAIVER OF IMMUNITY

Each bidder is hereby directed to the Waiver of Immunity provisions of General Municipal Law §103-(b), strict compliance with which shall be a requirement of the successful bidder.

23. SUBCONTRACTORS AND SUPPLIERS

Each bidder shall submit with its bid a list that names each subcontractor that the bidder will use to perform work on the contract, and the agreed-upon amount to be paid to each. The list shall also include the name and address of the proposed subcontractor, the portion of the Work and materials which he is to perform and furnish, and any other information tending to prove that the proposed subcontractor has the necessary facilities, skill, integrity, past experience, and financial resources to perform the Work in accordance with the terms and conditions of this Contract. The list of subcontractors submitted and the agreed-upon amount to be

paid to each shall require the approval of the Owner.

For all subcontractors not covered above, the names of subcontractors are to be submitted to the Owner for approval at least fifteen (15) days before the subcontractor mobilizes on the site. Failure to provide the names and the information requested below may result in the subcontractor being removed from the site.

Each bidder shall submit with its bid a list that names of all suppliers that the bidder will use to perform work on the contract.

Subcontractors and suppliers are subject to the approval of the Owner. The Owner may disapprove, for any reason which would form the basis for disapproval of the Contractor, any Subcontractor or material supplier selected by the Contractor by giving written notice of its disapproval within ten business days after receiving the names of subcontractors and material suppliers and all information requested to be submitted. Thereupon the Contractor shall promptly notify the Owner of the name of the Subcontractor or material supplier selected in replacement, which shall again be subject to the same approval of the Owner.

NO TEXT THIS PAGE

ITEM 1 – Existing East Pump Removal

Including in general, furnishing of labor, crane, tools, equipment and all associated appurtenances necessary to prepare the east clarifier and to remove the existing east screw pump and to make the site ready for installation work, to facilitate a complete installation.

LUMP SUM _____ (\$ _____)
DOLLARS

ITEM 2 – New East Pump Installation

Including in general, installation of new east screw pump, furnished by Owner, and furnishing of all labor, crane, fittings, tools, equipment, with start-up, testing and all associated appurtenances necessary for a complete installation.

LUMP SUM _____ (\$ _____)
DOLLARS

ITEM 3 – Existing West Pump Removal

Including in general, furnishing of labor, crane, tools, equipment and all associated appurtenances necessary to prepare the east clarifier and to remove the existing west screw pump and to make the site ready for installation work, to facilitate a complete installation.

LUMP SUM _____ (\$ _____)
DOLLARS

ITEM 4 – New West Pump Installation

Including in general, installation of new west screw pump, furnished by Owner, and furnishing of all labor, crane, fittings, tools, equipment, with start-up, testing and all associated appurtenances necessary for a complete installation.

LUMP SUM _____ (\$ _____)
DOLLARS

TOTAL BID (SUM OF ITEMS 1, 2, 3 & 4)

_____ (\$ _____)
DOLLARS

INC. VILLAGE OF GREENPORT
SEWAGE TREATMENT PLANT IMPROVEMENTS
Contract No. 1 – Screw Pump Replacement
BID DATE: Friday March 20, 2026

BIDDER WILL BE EVALUATED BASED ON THE INFORMATION PROVIDED AND AWARD OF THIS CONTRACT WILL BE DEPENDENT ON THE ACCEPTABILITY OF THE QUALIFICATIONS AND LIST OF SUBCONTRACTORS. BY ACKNOWLEDGEMENT, THE BIDDER HEREBY AGREES THAT SHOULD THE CONTRACT BE AWARDED TO IT, THE LISTED SUBCONTRACTORS ARE PROPOSED TO PERFORM ALL WORK AS IT RELATES TO EACH SUBCONTRACTOR FOR THE DURATION OF THE CONTRACT.

THE BOARD OF TRUSTEES RESERVES THE RIGHT TO AWARD THE TOTAL BID OR ANY COMBINATION OF ITEMS AS MAY BE IN THE BEST INTEREST OF THE VILLAGE.

ALL WORK SHOWN AND SPECIFIED IN THE CONTRACT DOCUMENTS AND INCLUDED IN THE BID SHALL BE COMPLETED WITHIN NINETY (90) CONSECUTIVE CALENDAR DAYS (SATURDAYS, SUNDAYS AND HOLIDAYS INCLUDED) FROM THE DATE OF THE NOTICE TO PROCEED ISSUED BY THE ENGINEER OR THE VILLAGE. THE COMPLETION DATE WILL BE SET IN THE NOTICE TO PROCEED. CONTINUED OPERATION OF THE TREATMENT PLANT DURING THE WORK PERIOD IS A CRITICAL ELEMENT OF THE WORK. THE DURATION OF INTERRUPTION OF EACH SCREW PUMP OPERATION SHALL BE MINIMIZED AND SCHEDULED IN ADVANCE WITH OWNER'S APPROVAL.

INC. VILLAGE OF GREENPORT
SEWAGE TREATMENT PLANT IMPROVEMENTS
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FAILURE OF THE CONTRACTOR TO COMPLETE ALL WORK WITHIN THE SPECIFIED TIME PERIODS WILL SUBJECT HIM TO LIQUIDATED DAMAGES AS SET FORTH IN THE CONTRACT, IN THE SUM OF FIVE HUNDRED DOLLARS (\$500.00) PER DAY, COMMENCING WITH THE RESPECTIVE DATE ESTABLISHED FROM THE NOTICE TO PROCEED.

WITHIN TEN (10) CONSECUTIVE CALENDAR DAYS AFTER THE DATE OF THE NOTICE OF AWARD, THE BIDDER SHALL EXECUTE THE CONTRACT AND FURNISH THE REQUIRED PERFORMANCE BOND AND INSURANCES.

THE BOARD OF TRUSTEES RESERVES THE RIGHT TO AWARD THIS CONTRACT OR TO REJECT ANY OR ALL BIDS.

THE BIDDER REPRESENTS HERewith THAT HE IS AWARE OF THE WORKING CONDITIONS, HAS CAREFULLY REVIEWED THE PROPOSAL AND SPECIFICATION, HAS CHECKED AND CERTIFIES THE ACCURACY OF THE BID.

THE UNDERSIGNED HEREBY ACKNOWLEDGE RECEIPT OF THE FOLLOWING ADDENDA, IF ANY.

ADDENDUM

DATED

“Each bidder on a public work contract in Nassau, Suffolk or Westchester Counties, where the entire cost of such public work is under one million five hundred thousand dollars, shall submit with its bid a separate sealed list that names each subcontractor that the bidder will use to perform work on the contract, and the agreed-upon amount to be paid to each, for: a) plumbing and gas fitting, b) steam heating, hot water heating, ventilating and air conditioning apparatus and c) electric wiring and standard illuminating fixtures.”

INC. VILLAGE OF GREENPORT
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Contract No. 1 – Screw Pump Replacement
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THE UNDERSIGNED HEREBY INDICATES THAT IT HAS ENCLOSED A SEALED LIST OF SUBCONTRACTORS FOR THE FOLLOWING TRADES:

A) Plumbing and Gas Fitting	_____Yes	_____No
B) Heating, Ventilation and Air Conditioning	_____Yes	_____No
C) Electric Wiring and Standard Illuminating Fixtures	_____Yes	_____No

BIDDER: _____

BIDDER'S ADDRESS: _____

SIGNED BY: _____ TITLE _____

DATE: _____

FEDERAL NO. OR
SOCIAL SECURITY NO.: _____

TELEPHONE NUMBER WHERE THE CONTRACTOR OR A COMPETENT REPRESENTATIVE CAN ACCEPT A TELEPHONE MESSAGE AND PROVIDE A REASONABLE REPLY AS SOON AS POSSIBLE, BUT NOT LATER THAN 24 HOURS.

IRAN DIVESTMENT ACT CERTIFICATION

The Iran Divestment Act of 2012 ("Act"), Chapter 1 of the 2012 laws of New York, added State Finance Law (SFL) §165-a and General Municipal Law §103-g, effective April 12, 2012. Under the Act, the Commissioner of the New York State Office of General Services ("OGS") developed a list ("Prohibited Entities list") of "persons" who are engaged in "investment activities in Iran" (both are defined terms in the law). In accordance with SFL §165-a(3), the Prohibited Entities list may be found on the OGS website at <http://www.ogs.ny.gov/about/regs/docs/ListofEntities.pdf>.

Pursuant to General Municipal Law §103-g, by signing below, Bidder certifies as true under the penalties of perjury that: By submission of this proposal each Bidder and each person signing on behalf of any Bidder certifies, and in the case of a joint proposal each party thereto certifies as to its own organization, under penalty of perjury, that to the best of its knowledge and belief that each Bidder is not on the list created pursuant to paragraph (b) of subdivision 3 of section 165-a of the State Finance Law.

A proposal shall not be considered for award nor shall any award be made where the certification has not been made, provided, however, that if in any case the Bidder cannot make the certification, the Bidder shall so state and shall furnish with the proposal a signed statement which sets forth in detail the reasons therefor. The County may award a contract to a Bidder who cannot make the required certification on a case-by-case basis if:

- 1) The investment activities in Iran were made before April 12, 2012, the investment activities in Iran have not been expanded or renewed after April 12, 2012, and the person has adopted/ publicized, and is implementing a formal plan to cease the investment activities in Iran and to refrain from engaging in any new investments in Iran; or
- 2) The Village makes a determination that the goods and services are necessary for the Village to perform its functions and that, absent such an exemption, the political subdivision would be unable to obtain the goods or services for which the contract is offered. Such determination shall be made in writing and shall be a public document.

During the term of the Contract, should the Village receive information that a person is in violation of the above-referenced certifications, the Village will offer the person an opportunity to respond. If the person fails to demonstrate that it has ceased its engagement in the investment which is in violation of the Act within 90 days after the determination of such violation, then the Village shall take such action as may be appropriate including, but not limited to, imposing sanctions, seeking compliance, recovering damages, or declaring the contractor in default.

The Village reserves the right to reject any bid, proposal, contract or request for assignment for an entity that appears on the Prohibited Entities List prior to the award or execution of a contract or any renewal thereof, as applicable, and to pursue a responsibility review with respect to any entity that is awarded a contract and appears on the Prohibited Entities list after contract award.

DATE

SIGNATURE

BUSINESS NAME

NAME

TITLE _____

BID BOND

The Bidder shall instruct the Surety Company to follow the exact language of this form as any omission, addition, or change in phraseology may cause rejection of the bid.

KNOW ALL MEN BY THESE PRESENTS, that we, the undersigned _____ as Principal, and _____ as Surety are hereby firmly bound unto the Village of Greenport, 236 Third Street, Greenport, NY 11944 in the penal sum of,

_____ (\$ _____) for payment of which, well and truly to be made, we hereby jointly and severally bind ourselves, our heirs, executors, successors, and assigns.

Signed, this _____ day of _____, 20_____.

The Condition of the above obligation is such that whereas the Principal has submitted to the Village of Greenport, 236 Third Street, Greenport, NY 11944, a certain Bid Proposal attached hereto and hereby made a part hereof, to enter into a contract in writing for the work to be done for the:

**“SEWAGE TREATMENT PLANT IMPROVEMENTS
CONTRACT No. 1 – SCREW PUMP REPLACEMENT”
GREENPORT, SUFFOLK COUNTY, NEW YORK**

If said Bid shall be rejected, or, if said Bid shall be accepted and the Principal shall execute and deliver a contract in the Form of Contract specified and shall furnish a bond for his faithful performance of said Contract, and for the payment of all persons performing labor or furnishing materials in connection therewith and shall in all other respects perform the agreement created by the acceptance of said Bid.

Then, this obligation shall be void, otherwise the same shall remain in force and effect; it being expressly understood and agreed that the liability of the Surety for any and all claims hereunder shall, in no event, exceed the penal amount of this obligation as herein stated.

The Surety, for value received, hereby stipulates and agrees that the obligation of said Surety and its bond shall be in no way impaired or affected by any extension of time within which the Principal may accept such Bid; and said Surety does hereby waive notice of any such extension.

IN WITNESS THEREOF, the Principal and the Surety have unto set their hands and seals, and such of them as are corporation have caused their corporate seals to be hereto affixed and these presents to be signed by their proper officers, the day and year first set forth above.

Principal

Surety

(Seal)

ACKNOWLEDGEMENT OF PRINCIPAL

STATE OF)
) ss.:
COUNTY OF)

On this _____ day of _____, 20____, before me personally came and appeared _____ to me known, who being by me duly sworn, did depose and say that he resides at _____; that he is the _____ of _____ the corporation described in and which executed the foregoing instrument; that he knows the seal of said corporation; that one of the seals affixed to such instrument is such seal; that it was so affixed by order of the directors of said corporation; and that he signed his name thereto by like order.

(SEAL) _____

ACKNOWLEDGMENT OF SURETY

STATE OF)
) ss.:
COUNTY OF)

On this _____ day of _____, 20____, before me personally came and appeared _____ to me known, who being by me duly sworn, did depose and say that he resides at _____; that he is the _____ of _____ the corporation described in and which executed the foregoing instrument; that he knows the seal of said corporation; that one of the seals affixed to such instrument is such seal; that it was so affixed by order of the directors of said corporation; and that he signed his name thereto by like order.

(SEAL) _____

NON-COLLUSIVE BIDDING CERTIFICATION

By submission of this Bid, each bidder and each person signing on behalf of any bidder, certifies and in the case of a joint bid, each party thereto certifies as to its own organization under penalty of perjury, that to the best of his knowledge and belief:

1. The prices in this Bid have been arrived at independently, without collusion, consultation, communication, or agreement for the purpose of restricting competition, as to any matter relating to such prices with any other bidder or with any competitor;
2. Unless otherwise required by law, the prices which have been quoted in this Bid have not been knowingly disclosed by the Bidder and will not knowingly be disclosed by the Bidder and prior to opening, directly or indirectly, to any bidder or to any competitor; and
3. No attempt has been made or will be made by the Bidder to induce any other person, partnership or corporation to submit or not to submit a bid for the purpose of restricting competition.

Dated _____, 20____

Legal Name of Person, Firm or Corporation

By_____

THE FOLLOWING RESOLUTION FORM MUST BE COMPLETED IF THE BIDDER IS A CORPORATION:

Resolved that

(Name and Title of Signatory and Name of Corporation)

be authorized to sign and submit the Bid Proposal of this corporation for the following project.

And to include in such bid the Certificate as to Non-Collusion required by Section 103-D of the General Municipal Law as the act and deed of such corporation and for any inaccuracies or misstatements in such Certificate this Corporate Bidder shall be liable under the penalties of perjury.

The foregoing is a true and correct copy of the resolution adopted by _____

(Name of Corporation) at a meeting of its Board of Directors held on the _____ day of _____, 20____.

(SEAL OF CORPORATION)

(SECRETARY)

NO TEXT THIS PAGE

BIDDER'S QUALIFICATION STATEMENT

The signatory of this questionnaire certifies under the penalties of perjury the truth and correctness of all statements and of all answers to interrogatories hereinafter made.

SUBMITTED BY: _____

a Corporation
a Partnership
a Limited Liability Company
an Individual

WITH PRINCIPAL OFFICE AT:

PRINCIPAL OFFICERS

<u>TITLE</u>	<u>NAME</u>	<u>ADDRESS</u>	<u>BACKGROUND PROFESSION AND/OR TRADE</u>

1. How many years in the construction work of a similar type as this contract has your firm had;

a. as a Prime Contractor _____

b. as a Subcontractor _____

2. You normally perform what percent of the work with your own forces? _____. List trades below:

3. Have you ever failed to complete any work awarded to you? _____. If so, note where and why.

4. Has any officer or partner of your firm ever been an officer or partner of some other firm that failed to complete a construction contract?
5. Has any officer or partner of your firm ever failed to complete a construction contract handled in his name? If so, state name of individual, name of owner and reason therefor:
6. In what other lines of business are you financially interested?
7. Provide names and emergency telephone, cell phone and pager numbers for the proposed Project Superintendent and Principal Officer (attach resumes).

<u>Name</u>	<u>Emergency Phone</u>	<u>Cell Phone</u>	<u>Pager Number</u>

Superintendent:

Principal Officer:

8. List the major construction projects your organization has underway at of this date (Attach separate sheets as necessary):

<u>Project</u>	<u>Owner</u>	<u>Engineer/ Architect</u>	<u>Contract Amount</u>	<u>Percent Complete</u>	<u>Scheduled Completion</u>

9. List all major projects your organization has completed in the past five years (Attach separate sheets as necessary):

<u>Project (Description & Location)</u>	<u>Owner</u>	<u>Engineer/ Architect</u>	<u>Contract Amount</u>

<u>Date of Completion</u>	<u>Work Done With Own Forces % of Work Trades</u>	<u>Name and Phone Number of Person to Contact for Reference</u>

10. List the construction experience of the principal individuals of your organization (particularly the anticipated project supervisors) (attach resumes):

<u>Name</u>	<u>Present Position Or Office</u>	<u>Years of Experience</u>	<u>Type of Work For Which Responsible</u>	<u>In What Capacity</u>

11. List all sub-contractors by name, address, telephone number and contact person, whose services you employed over the past five years (Attach separate sheets as necessary):

12. Do you have, or can you obtain, sufficient men and equipment to commence work when required and complete the work within the Contract Time?

13. List below the equipment that you own that is available for the proposed work, giving present location where it may be inspected (Attach separate sheets as necessary):

<u>Item</u>	<u>Description, Size Capacity, Year, Etc.</u>	<u>Year of Service</u>	<u>Present Location</u>

(use additional blank sheets if additional space is necessary)

- Note: Should the equipment be moved from the above-mentioned location, the submitter hereby agrees upon request of the Owner to state the new location where same may be found.

14. If any of the above equipment is covered by chattel mortgage, conditional bill of sale, lien, or like encumbrance, state the complete details as to nature and amount of encumbrance, the name and address of the holder, etc.

(use additional blank sheets if additional space is necessary)

15. In what manner have you inspected the proposed work? Explain in detail.

(use additional blank sheets if additional space is necessary)

16. Explain your plan and lay out for performing the proposed work.

(use additional blank sheets if additional space is necessary)

17. Bank References:

18. Trade Association Membership:

19. Insurance carried by your firm:

<u>Type</u>	<u>Company</u>	<u>Limits of Coverage</u>	<u>Term</u>

20. Attach current state of financial conditions showing assets, liabilities and net worth. Failure to attach the required documentation may be considered non-responsive on the part of the Bidder and may result in rejection of the Bidder's Proposal.

STATE OF)
COUNTY OF)

_____ being duly sworn deposes and says that he is the _____ of _____ contractor and that answers to the foregoing questions and all statements therein contained are true and correct.

Sworn to before me this _____ day of _____, 20 _____.

Notary Public
Commission Expiration Date:

NOTICE OF AWARD

Date: _____

To: _____

**Re: Village of Greenport, Suffolk County, New York
Sewage Treatment Plant Improvements
Contract No. 1 – Screw Pump Replacement**

Dear _____:

You are hereby notified that you are the Successful Bidder for the above referenced Project. Accordingly and within fifteen (15) business days of the date of delivery of this Notice of Award, that is by _____, 20____, you must sign three (3) copies of the Contract and deliver all Contract Documents along with all required Bonds and Insurance Coverage, as specified in the Contract Documents. Each of the Contract Documents must bear your original signature.

After you comply with the above conditions, Owner shall return to you one (1) fully executed copy of the Contract with the Contract Documents attached.

NO TEXT THIS PAGE

CONTRACT

THIS CONTRACT, made this _____ day of _____ Two Thousand Twenty _____ by and between by the Village of Greenport, 236 Third Street, Greenport, NY 11944, party of the first part (hereinafter called the Owner) and _____ party of the second part (hereinafter called Contractor).

WITNESSETH: That for and in consideration of the premises and the agreements herein contained, and the payments herein provided to be made, the parties hereto agree as follows:

FIRST: The Contractor shall perform all labor, and furnish all the materials, equipment, tools, and implements and will well and faithfully perform and complete the entire work of constructing

BID # VOG2026
SEWAGE TREATMENT PLANT IMPROVEMENTS
CONTRACT No. 1 – SCREW PUMP REPLACEMENT
GREENPORT, SUFFOLK COUNTY, NEW YORK

as described in or reasonably inferable from the Contract Documents made and prepared by JRH Consulting Engineers + Architects, DPC, and as set forth in the Contractor's Bid dated _____, 20____, and in strict and entire conformity and in accordance with the Notice to Bidders, Information for Bidders, Bid, this Contract, Performance Bond, Labor and Material Bond, General Terms and Conditions, Detailed Specifications, Contract Drawings and Addenda hereto annexed and made a part hereof, and hereinafter collectively referred to as "Contract Documents."

SECOND: In Consideration of the Contractor performing this Contract in the manner stated in the Contract Documents, the Owner agrees to pay or cause to be paid to the Contractor the sums of money mentioned in said Contract Documents in the manner and under the conditions therein provided.

THIRD: The Contractor covenants and agrees that, anything in this Contract or in the Contract Documents to the contrary notwithstanding, or regardless of any matter, thing, contingency or condition unforeseen or otherwise, present or future, the Contractor shall not be entitled to receive any additional or further sums of money than the amounts in said Contract Documents provided; and the failure of the Owner or its agents to insist upon strict performance of any of the terms, covenants, agreements, provisions or conditions in this Contract or in the Contract Documents, on any one or more instances, shall not be construed as a waiver or relinquishment for the future of any such terms, covenants, agreements, provisions and conditions and the same shall be and remain in full force and effect with power and authority on the part of the Owner to enforce the same or cause the same to be enforced at any time, without prejudice to any other rights which the Owner may have against the Contractor under this Contract or the Contract Documents.

Terms used in the Contract, which are defined in Article 1 of the General Conditions, shall have the meanings indicated in the General Conditions.

Neither Owner nor Contractor shall, without the prior written consent of the other, assign or sublet in whole or part his interest under any of the Contract Documents; and, specifically, Contractor shall not assign any monies due or to become due without the prior written consent of the Owner.

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

The Contract Documents constitute the entire agreement between Owner and Contractor and may only be altered, amended or repealed by a duly executed written instrument signed by both parties.

IN WITNESS WHEREOF, the parties hereto have executed this Contract the day and year first above written.

VILLAGE OF GREENPORT, NEW YORK

CONTRACTOR

BY _____

BY _____

TITLE _____

TITLE _____

(CORPORATE SEAL)

ACKNOWLEDGMENT OF PRINCIPAL, IF AN INDIVIDUAL

STATE OF _____)

) ss:

COUNTY OF _____)

On this _____ day of _____, 20__, before me personally appeared _____ to me known and known to me to be the person described in and who executed the foregoing instrument and acknowledged that he executed the same.

(SEAL)

Notary Public

ACKNOWLEDGMENT OF THE VILLAGE OF HEMPSTEAD, NEW YORK

STATE OF NEW YORK)

ss:

COUNTY OF _____)

On the ____ day of _____ in the year ____ before me, the undersigned, a Notary Public in and for said State, personally appeared _____ personally known to me or proved to me on the basis of satisfactory evidence to be the individual(s) whose name(s) is (are) subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their capacity(ies), and that by his/her/their signature(s) on the instrument the individual(s), or the person upon behalf of which the individual(s) acted, executed the instrument.

(SEAL)

Notary Public

PERFORMANCE BOND

KNOW ALL MEN BY THESE PRESENTS:

that _____
(here insert the name and address or legal title of the Contractor)

as Principal, hereinafter called "Contractor", and _____, a Corporation of the _____, with its home office in the _____, U.S.A., as Surety, hereinafter called "Surety", are held and firmly bound unto the Village of Greenport, 236 Third Street, Greenport, NY 11944 as Obligee, hereinafter called "Owner", in the amount of _____ Dollars (\$_____), for the payment whereof Contractor and Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, Contractor has by written contract dated _____, 20____, with the Owner for:

**BID No. VOG2026
SEWAGE TREATMENT PLANT IMPROVEMENTS
CONTRACT No. 1 – SCREW PUMP REPLACEMENT

GREENPORT, SUFFOLK COUNTY, NEW YORK**

in accordance with or reasonably inferable from drawings and specifications prepared by JRH Consulting Engineers + Architects, DPC, 3555 Veterans Memorial Highway, Suite A, Ronkonkoma, New York 11779, which Contract is by reference made a part hereof and is hereinafter referred to as the "Contract".

NOW, THEREFORE, THE CONDITION OF THIS OBLIGATION is such that, if Contractor shall promptly and faithfully perform said Contract, then this obligation shall be null and void, otherwise it shall remain in full force and effect.

The Surety hereby waives notice of any alteration or extension of time made by the Owner.

Whenever Contractor shall be, and declared by Owner to be, in default under the Contract, the Owner having performed Owner's obligation thereunder, the Surety may promptly:

1. Complete the Contract in accordance with its terms and conditions, or
2. Obtain a bid or bids for submission to Owner for completing the Contract in accordance with its terms and conditions and upon determination by Owner and Surety of the Lowest Responsible Bidder, arrange for a Contract between such Bidder and Owner, and make available as work progresses (even though there should be a default or a succession of defaults under the Contract or contracts of completion arranged under this paragraph) sufficient funds to pay the cost of completion less the balance of the Contract Price; but not exceeding, including other costs and damages for which the Surety may be liable hereunder, the amount set forth in the first paragraph hereof.

The term "Balance of the Contract Price" as used in this paragraph, shall mean the total amount payable by Owner to Contractor under the Contract and any amendments thereto, less the amount properly paid by Owner to Contractor.

Any suit under this Bond must be instituted before the expiration of two (2) years from the date on which final payment under the Contract falls due.

No right of action shall accrue on this Bond to or for the use of any person or corporation other than the Owner named herein or the heirs, executors, administrators or successors of Owner.

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

(SEAL)

Principal

(Witnessed)

(Title)

(Surety)

(SEAL)

(Witnessed)

(Title)

LABOR AND MATERIAL PAYMENT BOND

Note: This Bond is issued simultaneously with Performance Bond in favor of the Owner conditioned on the full and faithful performance of the Contract.

KNOW ALL MEN BY THESE PRESENTS:

that _____
(here insert the name and address or legal title of the Contractor)

as Principal, hereinafter called "Principal", and _____,
a corporation of the _____ with its home office in the _____
_____ U.S.A., as Surety, hereinafter called "Surety", are held and firmly bound unto the
Village of Greenport, 236 Third Street, Greenport, NY 11944 as Obligee, hereinafter called "Owner", for the
use and benefit of claimants as herein below defined, in the amount of
_____ dollars (\$), for payment whereof Principal and Surety bind themselves, their heirs,
executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, Principal has by written contract dated _____, agreed to perform:

BID #VOG2026
SEWAGE TREATMENT PLANT IMPROVEMENTS
CONTRACT No. 1 – SCREW PUMP REPLACEMENT
GREENPORT, SUFFOLK COUNTY, NEW YORK

in accordance with or reasonably inferable from Drawings and Specifications prepared by JRH Consulting Engineers + Architects, DPC, which Contract is by reference made a part hereof and is hereinafter referred to as the "Contract".

NOW, THEREFORE, THE CONDITION OF THIS OBLIGATION is such that, if Principal shall promptly make payment to all claimants as hereinafter defined, for all labor and material used or reasonably required for use in the performance of the Contract, then this obligation shall be void, otherwise it shall remain in full force and effect, subject, however, to the following conditions:

1. A claimant is defined as one having a direct contract with the Principal or with a subcontractor of the Principal for labor, material, or both, used or reasonably required for use in the performance of the Contract, labor and material being construed to include that part of water, gas, power, light, heat, oil, gasoline, telephone service or rental of equipment directly applicable to the Contract.
2. The above named Principal and Surety hereby jointly and severally agree with the Owner that every claimant as herein defined, who has not been paid in full before the expiration of a period of ninety (90) days after the date on which the last of such claimant's work or labor was done or performed, or materials were furnished by such claimant, may sue on this Bond for the use of such claimant, prosecute the suit to final judgement for such sum or sums as may be justly due claimant and have execution thereon. The Owner shall not be liable for the payment of any costs or expenses of any such suit.

3. No suit or action shall be commenced hereunder by any claimant:

- a. Unless claimant, other than one having a direct contract with the Principal, shall have given written notice to any two of the following: the Principal, the Owner, or the Surety above named, within ninety (90) days after such claimant did or performed the last of the work or labor, or furnished the last of the materials for which said claim is made, stating with substantial accuracy, the amount claimed and the name of the party to whom the materials were furnished, or for whom the work or labor was done or performed.

Such notice shall be served by mailing the same by Registered Mail or Certified Mail, postage prepaid, in an envelope addressed to the Principal, Owner or Surety, at any place where an office is regularly maintained for the transaction of business or served in any manner in which legal process may be served in the state in which the aforesaid Project is located, save that such service need not be made by a Public Officer.

- b. After the expiration of one (1) year following the date on which Principal ceased work on said Contract, it being understood, however, that if any limitation embodied in this Bond is prohibited by any law controlling the construction hereof, such limitation shall be deemed to be amended so as to be equal to the minimum period of limitation permitted by such law.
- c. Other than in a state court of competent jurisdiction in and for the county or other political subdivision of the state in which the Project, or any party thereof, is situated, or in the United States District Court for the district in which the Project, or any part thereof, is situated and not elsewhere.

4. The amount of this Bond shall be reduced by and to the extent of any payments made in good faith hereunder, inclusive of the payment by Surety of mechanics' liens which may be filed on record against said improvement, whether or not claim of the amount of such lien be presented under and against this Bond.

Signed and Sealed this _____ day of _____, 20__.

(SEAL)

(Witnessed)

(Witnessed)

Principal

(Title)

(Surety)

(SEAL)

(Title)

MAINTENANCE BOND

KNOW ALL MEN BY THESE PRESENTS:

that _____
(here insert the name and address or legal title of the Contractor)

as Principal, hereinafter called "Contractor", and _____, a Corporation of the _____, with its home office in the _____, U.S.A., as Surety, hereinafter called "Surety", are held and firmly bound unto the Village of Greenport, 236 Third Street, Greenport, NY 11944 as Obligee, hereinafter called Owner, in the amount of _____ Dollars (\$_____) for payment whereof Contractor and Surety bind themselves, their heirs, executors, administrators, successors, and assigns, jointly and severally, firmly by these presents.

WHEREAS, the Contractor has by written contract dated _____, 20____, with Owner for:

**BID# XX GRPTV 2024-2025
SEWAGE TREATMENT PLANT IMPROVEMENTS
CONTRACT No. 1 – SCREW PUMP REPLACEMENT
GREENPORT, SUFFOLK COUNTY, NEW YORK**

in accordance with or reasonably inferable from Drawings, Plans and Specifications prepared by JRH Consulting Engineers + Architects, DPC, 3555 Veterans Memorial Highway, Suite A, Ronkonkoma, New York 11779, which Contract is by reference made a part hereof and is hereinafter referred to as the Contract.

WHEREAS, the Contractor, contracted to give the Obligee a surety bond in a penalty of One Hundred Percent (100%) of the final Contract price named for said Contract, conditioned that the Contractor would make good and protect the said obligee from and against the results of any faulty materials or workmanship having been incorporated in any part of the work so contracted for, which shall appear and been discovered, and concerning which said Contractor has been given notice, within the period of **one (1) year** from and after the completion and acceptance of the work done under said Contract.

NOW, THEREFORE, if the Contractor, shall comply with any written order made by the proper official of the said Obligee and legally served on said Contractor within the period of **one (1) year** from and after the date of the completion and acceptance of said Contract, to make good and protect the said Obligee against the results of any faulty materials or workmanship appearing to have been incorporated in any part of the work performed under said Contract, which shall have appeared or been discovered within the said **one (1) year** period after completion of the work, then this obligation shall be null and void; otherwise to remain in full force and effect.

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

(SEAL)

(Witnessed)

(SEAL)

(Witnessed)

Principal

(Title)

(Surety)

(Title)

ACKNOWLEDGMENT OF SURETY

STATE OF _____)
) ss.:
COUNTY OF _____)

On this _____ day of _____, 20____,
before me personally came and appeared _____, to me known, who,
being by me duly sworn, did depose and say that he resides at _____ that he is the
_____ of _____ the corporation described in and which executed the foregoing
instrument; that he knows the seal of said corporation; that one of the seals affixed to such instrument is such
seal; that it was so affixed by order of the directors of said corporations; and that he signed his name thereto
by like order.

(SEAL)

NOTICE TO PROCEED

Date: _____

To: _____

**Re: Village of Greenport, Suffolk County, New York
Bid #VOG2026,
Sewage Treatment Plant Improvements
Contract No. 1 – Screw Pump Replacement**

Dear _____:

You are hereby notified to commence work on the referenced Project on or before _____, 20____ and are to fully complete the Work within the Contract Time specified in the Instruction to Bidders. In addition, and prior to commencement of any field activities, you must submit all necessary information requested by the Owner and Owner's Representative to date.

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GENERAL CONDITIONS

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GENERAL CONDITIONS

ARTICLE 1 - DEFINITIONS

Wherever used in these General Conditions or in the other Contract Documents, the following terms have the meanings indicated, which are applicable to both the singular and plural thereof:

Act of God - Means an earthquake, flood, cyclone or other cataclysmic phenomenon of nature. Rain, wind or other natural phenomenon of normal intensity for the locality shall not be construed as an act of God.

Application for Payment - The form which is to be used by Contractor in requesting progress payments and which is to include the schedule of values required by paragraph 14.1 and an affidavit of Contractor that progress payments theretofore received on account of the Work have been applied by Contractor to discharge in full all of Contractor's obligations reflected in prior Applications for Payment.

Bid - The offer or proposal of the Bidder submitted on the prescribed form setting forth the prices for the Work to be performed.

Bid Security - A certified check or bidder's bond accompanying the proposal submitted by the Bidder, as a guarantee that the Bidder will enter into a contract with the Owner if the contract is awarded to the Bidder.

Bidder - Any person, firm or corporation submitting a Bid for the Work.

Bonds - Bid, performance and payment bonds, maintenance bonds, and other instruments of security, furnished by Contractor and his surety in accordance with the Contract Documents.

Change Order - a written order to Contractor signed by the Owner authorizing an addition, deletion or revision in the Work, or an adjustment in the Contract Price or the Contract Time issued after execution of the Contract.

Contract - The written Contract between Owner and Contractor covering the Work to be performed; other Contract Documents are attached to the Contract.

Contract Documents - The Contract, Addenda (whether issued prior to the opening of bids or the execution of the Contract). Instructions to Bidders, Contractor's Bid, the Bonds, the Notice of Award, these General Conditions, the Supplementary Conditions, the Specification, and any Drawings and Modifications provided during the contract period.

Contract Price - The total monies payable to the Contractor under the Contract Documents.

Contract Time - The number of days for the completion of the Work, computed as provided in paragraph 16.2.

Contractor - The person, firm or corporation with whom the Owner has executed the Contract.

Day - A calendar day of twenty-four hours measured from midnight to the next midnight.

Drawings - The drawings which show the character and scope of the Work to be performed and which have been prepared or approved by the Engineer and are referred to in the Contract Documents.

Engineer - The firm of JRH Consulting Engineers + Architects, DPC, acting directly, or through properly authorized agents, such agents acting within the scope of the particular duties entrusted to them.

Estimated Amount - The estimated unit quantities as compiled and shown on the proposal sheet are subject to field determination and measure and may either be more or less than the estimated amount. The amounts to be paid for shall be an amount computed by multiplying the prices bid for each unit by the number of actual units used or installed, as accepted and approved by the Owner's Representative.

Field Order - A written order issued by the Owner's Representative which clarifies or interprets the Contract Documents in accordance with paragraph 9.3 or orders minor changes in the Work in accordance with paragraph 10.2.

Furnish - shall mean purchase, deliver, off-load on site, store in place in an on-site location as direction by the Owner and obtain a receipt for material or equipment delivered.

Install - shall mean sign for and transport to final location, install, connect, adjust, test, operate and perform any additional work, in conjunction with the furnishing Contractor or the Owner necessary to make ready for final acceptance.

Modification - (a) A written amendment of the Contract Documents signed by both parties, (b) a Change Order, (c) a written clarification or interpretation issued by the Engineer in accordance with paragraph 9.3 or (d) a written order for a minor change or alteration in the Work issued by the Owner's Representative pursuant to paragraph 10.2. A Modification may only be issued after execution of the Contract.

Notice of Award - The written notice by the Owner to the apparent successful Bidder stating that upon compliance with the conditions precedent to be fulfilled by the Bidder within the time specified, Owner will execute and deliver the Contract to the Bidder.

Notice to Proceed - A written notice given by the Owner to the Contractor fixing the date on which the Contract Time will commence to run and on which the Contractor shall start to perform his obligations under the Contract Documents.

Owner – Inc. Village of Greenport, Suffolk County, New York.

Owner's Representative - The person, firm or corporation authorized to act on behalf of the Owner.

Project - The entire construction to be performed as provided in or reasonably inferable from the Contract Documents.

Proposal - The offer of a bidder to perform the Work described by the bid documents when made out and submitted on the prescribed proposal form, properly signed and guaranteed.

Provide - means furnish, install, connect, adjust, test and operate complete, the specified material, equipment or other item and perform all required labor to make a finished installation.

Resident Project Representative - The authorized representative of the Engineer or Owner who is assigned to the Project site or any part thereof.

Shop Drawings - All drawings, diagrams, illustrations, brochures, schedules and other data, which are prepared by the Contractor, a Subcontractor, manufacturer, supplier or distributor and which illustrate the equipment, material or some portion of the Work.

Specifications - Those portions of the Contract Documents consisting of written technical descriptions of materials, equipment, construction systems, standards and workmanship as applied to the Work.

Subcontractor - An individual, firm, or corporation having a direct contract with the Contractor or with any other Subcontractor for the performance of a part of the Work at the site.

Surety - Is the person, firm or corporation who executes the Contractor's bonds.

Substantial Completion - The date as certified by the Owner's Representative when the construction of the Project or a specified part thereof is sufficiently completed, in accordance with the Contract Documents, so that the Project or specified part can be utilized for the purposes for which it was intended or if there be no such certification, the date when the final payment is due in accordance with paragraph 14.13.

Written Notice - Written notice shall be considered as served when delivered in person or sent by registered mail to the individual, firm or corporation at the last business address of such known to the person who serves the notice.

Work - Any and all obligations, duties and responsibilities necessary to the successful completion of the Project assigned to or undertaken by the Contractor under the Contract Documents, including, without limitation, all labor, materials, equipment and other incidentals, and the furnishing thereof, the obtaining of permits and licenses, and of security and insurance with respect to the performance of the Work.

ARTICLE 2 - PRELIMINARY MATTERS

Execution of Agreement:

2.1 At least three (3) counterparts of the Contract and such other Contract Documents as practicable will be executed and delivered by the Contractor to the Owner within five (5) business days of the Notice of Award and the Owner will execute and deliver one counterpart to the Contractor within ten days of receipt of the executed Contract from the Contractor. The Owner's Representative will identify those portions of the Contract Documents not so signed and such identification will be binding on all parties, the Owner, Contractor and Owner's Representative shall each receive an executed counterpart of the Contract Documents and additional conformed copies as required.

Delivery of Bonds:

2.2 When Contractor delivers the executed Contracts to the Owner, Contractor shall also deliver to the Owner such Bonds as he may be required to furnish in accordance with paragraph 5.1.

Copies of Documents:

2.3 The Owner shall furnish to the Contractor up to two (2) copies of the Contract Documents as reasonably necessary for the execution of the Work. Additional copies will be furnished, upon request, at the sole cost and expense of the Contractor and at the cost of reproduction.

Contractor's Pre-Start Representations - Familiarity with Site:

2.4 The Contractor represents that he has familiarized himself with the nature and extent of the Contract Documents, Work, Locality, and with all local conditions and federal, state and local laws, ordinances, rules and regulations that may in any manner affect performance of the Work and represents that he has correlated his study and observations with the requirements of the Contract Documents. The Contractor also represents that he has studied all surveys and investigation reports of subsurface and latent physical conditions referred in the Supplementary Conditions and made such additional surveys and investigations as he deems necessary for the performance of the Work at the Contract Price in accordance with the requirements of the Contract

Documents and that he has correlated the results of all such data with the requirements of the Contract Documents.

Commencement of Contract Time - Notice to Proceed:

2.5 The Contract Time will commence no later than thirty (30) days after the executed Contract is delivered by the Owner to the Contractor or, if a Notice to Proceed is given, on the day indicated in the Notice to Proceed. A Notice to Proceed may be given at any time within thirty (30) days after the day on which the Owner delivers the executed Contract to the Contractor.

Starting the Project:

2.6 Contractor shall start to perform its obligations under the Contract Documents on the date when the Contract Time commences to run. No Work shall be done at the site prior to the date on which the Contract Time commences to run.

Before Starting Construction:

2.7 Before undertaking each part of the Work, the Contractor shall carefully study and compare the Contract Documents and check and verify pertinent figures shown thereon and all applicable field measurements. He shall at once report in writing to the Owner's Representative any conflict, error or discrepancy which he may discover. If the Contractor performs any construction activity which involves an error, inconsistency or omission in the Contract Documents without first providing notice to the Owner of such condition and receiving authorization to proceed, the Contractor shall assume responsibility for such performance and shall bear an appropriate amount of the attributable costs for correction.

2.8 Within ten (10) days after delivery of the executed Contract by the Owner to the Contractor, the Contractor shall submit to the Owner's Representative for approval, an estimated progress schedule indicating the starting and completion dates of the various stages of the Work and a preliminary schedule of Shop Drawings submissions.

2.9 At the time that the Contractor delivers the Contract, signed by the Contractor, to the Owner and in any event before starting the Work at the site, the Contractor shall furnish the Owner all certificates and other evidence of insurance as required by Article 5 of these General Conditions. Within twenty (20) days after delivery of the executed Contract by the Owner to the Contractor, but before starting the Work at the site, a conference will be held to review the above schedules, to establish procedures for handling Shop Drawings and other submissions and for processing Applications for Payment, and to establish a working understanding between the parties as to the Project. Present at the conference will be the Owner or his representative, Resident Project Representative, Contractor and his Superintendent. Prior to the start of work on the project, the Contractor and the Owner's Representative, or their respective agents will inspect the site. The inspection will be made to review the general nature of the work, to note existing features to be replaced, to note existing regulatory signs to be maintained and to clarify requirements of the Contract Documents.

ARTICLE 3 - CORRELATION, INTERPRETATION AND INTENT OF CONTRACT DOCUMENTS

3.1 It is the intent of the Specifications and Drawings to describe a complete Project to be constructed in accordance with or reasonably inferable from the Contract Documents. The Contract Documents comprise the entire Contract between the Owner and Contractor. They may be altered only by a Modification.

3.2 The Contract Documents are complementary; what is called for by one is as binding as if called for by all. Without limiting the foregoing, any item of Work or Materials shown on the Drawings and not mentioned in Specifications, and any item set forth in the Specifications but not shown on the Drawings, shall be deemed both shown in the Drawings and mentioned in the Specifications. If the Contractor finds a conflict, error or

discrepancy in the Contract Documents, he shall so notify the Owner's Representative in writing, at once, and before proceeding with the work affected. In resolving such conflicts, errors, and discrepancies, the documents shall be given precedence in the following order: Modifications, Contract, Addenda, Supplementary Conditions, Instruction to Bidders, General Conditions, Specifications and Drawings. Figure dimensions on Drawings shall govern over scale dimensions, and detailed Drawings shall govern over general Drawings. Any work that may reasonably be inferred from the Specifications or Drawings as being required to produce the intended result, shall be supplied whether or not it is specifically called for. Work, materials or equipment described in words, which as applied, have a recognized technical or trade meaning, shall be deemed to refer to such recognized meanings. If there is any inconsistency in the Drawings or between the Drawings and the Specifications or between or within any of the Contract Documents that is not resolved by the order of precedence set forth above, unless otherwise ordered in writing by the Owner, the Contractor shall provide the better quality of or the greater quantity of Work, product, or services for the benefit of the Owner unless the result would be unreasonable, in the judgment of the Architect.

ARTICLE 4 - AVAILABILITY OF LANDS: PHYSICAL CONDITIONS, REFERENCE POINTS

Availability of Lands:

4.1 Owner shall furnish as indicated in the Contract Documents and not later than the date when needed by the Contractor, the lands upon which the Work is to be done, rights-of-way for access thereto, and such other lands which are designated for the use of the Contractor. Easements for permanent structures or permanent changes in existing facilities will be obtained and paid for by the Owner, unless otherwise specified in the Contract Documents. If the Contractor believes that any delay in the Owner's furnishing these lands or easements entitles it to an extension of the Contract Time, he may make a claim therefore as provided in Article 12. The Contractor shall provide for all additional lands and access thereto that may be required for temporary construction facilities or storage of materials and equipment.

The Owner will obtain from the property owners, rights-of-way for all work specified in this Contract, and the Contractor shall not enter or occupy with men, tools, or materials, any private ground outside the easements, and rights-of-way without the consent of the Owner. Other Contractors of the Owner may, for all purposes required by their contract, enter upon the Work and premises used by the Contractor, and the Contractor shall give to other Contractors of the Owner all reasonable facilities and assistance for the completion of adjoining work.

Where the Work called for extends upon or through private property, the Owner shall procure all necessary rights, deeds and easements for access to the property and the Contractor shall not proceed with this part of the Work until the Owner has completed negotiations with the property holders and all necessary papers are in the hands of the Owner. If within one (1) year from signing of the Contract, any required rights of easements cannot be obtained, then the Owner reserves the right to eliminate those items of work from the Contract which required the easements prior to construction.

No additional compensation shall be made to the Contractor for such elimination, but reasonable reductions in the Contract Price reflecting those portions of the Work eliminated from the Project as the result thereof shall be made.

Physical Conditions - Surveys and Reports:

4.2 Reference is made to the Contract Documents for identification of those surveys and investigation reports of subsurface and latent physical conditions at the Project site or otherwise affecting performance of the Work, which have been relied upon by the Engineer in preparation of the Drawings and Specifications.

Unforeseen Physical Conditions:

4.3 The Contractor shall promptly notify the Owner in writing of any subsurface or latent physical conditions at the site differing materially from those indicated in the Contract Documents. The Owner's Representative will investigate those conditions and advise the Owner in writing if further surveys or subsurface tests are necessary. Promptly thereafter, the Owner shall obtain the necessary additional surveys and tests and furnish copies to the Engineer and Contractor. If the Owner's Representative finds that the results of such surveys or tests indicate that there are subsurface or latent physical conditions which differ materially from those intended in the Contract Documents, and which could not reasonably have been anticipated by the Contractor, a Change Order shall be issued incorporating the necessary revisions.

Reference Points (bench marks, temporary bench marks, stationing, control points, etc.):

4.4 The Owner shall provide engineering surveys for construction to establish vertical and horizontal reference points and stationing which in his judgment are necessary to enable the Contractor to proceed with the Work. The Contractor shall be responsible for surveying and laying out the Work to conform with reference points and stationing intervals as indicated on the Contract Drawings (unless otherwise provided in the Contract Documents) and shall protect and preserve the established reference points and stationing and shall make no changes or relocations without the prior written approval of the Owner. He shall report to the Owner's Representative whenever any reference point or stationing is lost or destroyed or requires relocation because of necessary changes in grades or locations. The Contractor shall replace and accurately relocate all reference points and or stationing so lost, destroyed or moved.

ARTICLE 5 - BONDS AND INSURANCE

Performance, Payment and Other Bonds:

5.1 The Contractor shall furnish Performance and Payment Bonds as security for the faithful performance and payment of all his obligations under the Contract Documents. Upon application for final payment, the Contractor shall provide the Owner with a Maintenance Bond which shall remain in effect for one (1) year from the date of approval of final payment as a guarantee that the Contractor will make good any faults or defects in the Work arising from improper or defective workmanship or materials which may appear during that period. These Bonds shall be in amounts at least equal to the Contract Price, and (except as otherwise provided in the Contract Documents) in such form and with such sureties as are licensed to conduct business in the state where the project is located and are named in the current list of "Surety Companies Acceptable on Federal Bonds" as published in the Federal Register by the Audit Staff Bureau of Accounts, U.S. Treasury Department. The Maintenance Bond shall be maintained in full force for a period of one (1) year after the date of final certificate as a guarantee that the Contractor will make good any faults or defects in the Work arising from improper or defective workmanship or materials which may appear during that period.

5.2 If the surety on any Bond furnished by the Contractor is declared a bankruptcy or becomes insolvent or its right to do business is terminated in any state where any part of the Project is located or is removed from the list of Surety Companies accepted on Federal Bonds, or if the Owner is for any other reasonable basis dissatisfied with the adequacy of the surety, then the Contractor shall within five (5) days thereafter (or within five (5) days after notice of any of the foregoing is delivered by Owner to Contractor, if earlier) substitute another Bond and Surety, both of which shall be acceptable to the Owner.

Insurance and Indemnity:

5.3.1 The Contractor shall procure and maintain, at its own expense, and without expense to the Owner, until final acceptance by the Owner of the Work, and for terms covered by the Contract, insurance for

damages imposed by law, of the kinds and in amounts hereinafter provided, through insurance companies authorized to do insurance business in the State of New York and be rated at least "A-VIII" by the current "Best Rating Guide", covering all operations under the Contract whether performed by it or its Subcontractors. Before commencing the Work, the Contractor shall furnish to the Owner certified copies of the original policies and such numbers of ACORD Certificates of Insurance in form satisfactory to the Owner showing that the Contractor has complied with this section, each of which certificates shall provide that the policies shall not be changed or canceled until thirty (30) days written notice has been given to the Owner.

5.3.2 The Contractor shall take and assume all responsibility for the Work and take all precautions for the prevention of injuries to persons and property in or about the Work; it shall bear all losses resulting to it on account of the amount or character of the Work, or circumstances upon which the Work is done, differing from that which was estimated or expected, or on account of the weather, elements or other causes, and he and his surety or insurance company shall assume the defense of and indemnify and save harmless the Owner and its officers (including commissioners, elected and appointed officials), employees, agents, and the Engineer and its officers, owners, and employees from any and all claims relating to labor, equipment or material furnished for the Work, or to inventions, patents and patent rights used in doing the Work, or to injuries or damages to person, corporations or property, caused by, or in any way arising out of the Work performed by the Contractor, Subcontractor and their agents and employees under the Contract Documents.

5.3.3 The Contractor shall provide insurance coverage as follows:

Insurance Requirements

Prior to commencement of any work under this Agreement and until completion and until final payment is made for the work, the Contractor and each and every subcontractor (except to the extent waived or modified by Owner) of the Contractor shall, at its sole expense, maintain the following insurance on its own behalf (unless Owner and its lender approves the carrying of lesser amounts by subcontractors), with an insurance company or companies having an A.M. Best Rating of "A-: Class VII" or better and furnish to the Owner and its lender (and any governmental authorities with jurisdiction over the project), Certificates of Insurance evidencing same and reflecting the effective date of such coverage as follows:

The term "Contractor and Subcontractor" as used in this exhibit shall mean and include the Contractor and Subcontractors of every tier.

1. Workers' Compensation, Employers Liability, and Disability Benefits Complying with the laws of the State/Commonwealth of New York and elsewhere as may be required and shall include at least:

Bodily Injury by Accident	\$1,000,000 Each Accident
Bodily Injury by Disease:	\$1,000,000 Each Employee
Bodily Injury by Disease:	\$1,000,000 Policy Limit

2. Comprehensive General Liability: (including Premises - Operations, Independent Contractors, coverage for X, C & U Products Liability and Completed Operations Hazard, Broad Form Property Damage, Contractual Liability and Explosion, Collapse and Underground Coverages).

Occurrence Form:

General Aggregate:	\$ 3,000,000
Liability Each Accident	\$ 1,000,000
Property Damage Each Accident	\$ 1,000,000
Bodily Injury each Person	\$ 1,000,000
Products/Completed Operations	

Aggregate:	\$ 3,000,000
Each Occurrence:	\$ 2,000,000
Personal and Advertising Injury:	\$ 1,000,000
Fire Damage (any one fire):	\$ 500,000
Medical Expense (any one person)	\$ 10,000

Products Liability and Completed Operations Hazard Coverage must be maintained for a period of at least three (3) years after final payment.

These Limits must apply on a Per Project basis.

3. Automobile Liability Including:

- a) All Owned Vehicles
- b) Hired Vehicles
- c) Non-Owned Vehicles

Per Accident Limit	\$1,000,000

4. Contractors Pollution Liability • If Contractor is providing directly or indirectly working with pollution/environmental hazards, Contractor must provide or cause those conducting the work to provide Pollution Liability Insurance coverage. Pollution Liability policy must include contractual liability coverage. • Coverage shall apply to sudden and gradual pollution conditions resulting from the escape or release of smoke, vapors, fumes, acids, alkalis, toxic chemicals, liquids, or gases, natural gas, waste materials, or other irritants, contaminants, or pollutants (including asbestos). Policy shall cover the Contractor's completed operations. • If the coverage is written on a claims-made basis, the Contractor warrants that any retroactive date applicable to coverage under the policy precedes the effective date of this Contract; and that continuous coverage will be maintained or an extended discovery period will be exercised for a period of three (3) years beginning from the time that work under this contract is completed. • The policy shall be endorsed to include the following as **Additional Insureds**: JRH Consulting Engineers + Architects, DPC, Village of Greenport, NY, named as an additional insured with respect to liability and defense of suits arising out of the activities performed by, or on behalf of the Construction Manager, including completed operations. • Contractors Pollution Liability policies must be kept in effect for up to three (3) years after completion of the project. Minimum Limits: Per Loss \$ 5,000,000 Aggregate \$5,000,000. Policy to apply excess and not included in the Commercial General Liability.

5. Commercial Umbrella Liability

A. Contractor

Occurrence Limit	\$10,000,000
Aggregate Limit (where applicable):	\$10,000,000

B. Subcontractors

Occurrence Limit	\$5,000,000
Aggregate Limit (where applicable):	\$5,000,000

Policy to apply excess of the Commercial General Liability (following form Per Project Limit), Commercial Automobile Liability and Employers Liability Coverages.

6. Specific endorsements (CG2010, 2037, 2038 or their equivalent) must be furnished reflecting the inclusion of the interests of Owner, Owner's lenders, and the respective members, agents, consultants, principals, partners, officers, stockholders, directors, affiliates and employees of each, all other indemnitees named in the contract and all other entities and individuals listed in the attachment hereto, as ADDITIONAL INSUREDS. Blanket endorsements are not sufficient.

7. Coverage is to be endorsed to reflect that insurance is to be primary and non-contributory for the Owner, and all other additional insureds named in this Exhibit or its attachments.

8. The policy provided the above insurance shall be endorsed to contain the following:

"Village of Greenport, NY is interested in the maintenance of this insurance and it is agreed that this insurance will not be canceled, materially changed or nonrenewed without at least thirty (30) days advance written notice to Village of Greenport, NY by Certified Mail, Return Receipt Requested."

9. Waiver of Subrogation

a) The Contractor and its Subcontractors waive all rights of subrogation against Owner and all the additional insureds named or referenced in in Section 5 of this Exhibit for loss or damage covered by any of the insurance maintained (excluding Workers' Compensation and Employer's Liability) by the Contractor or its Subcontractors pursuant to this Contract.

b) If any of the policies of insurance required under this contract require an endorsement to provide for waivers of subrogation, then the named insureds of such policies will cause them to be so endorsed.

10. The amount of insurance provided in the aforementioned insurance coverages shall not be construed to be a limitation of the liability on the part of the Contractor or any of its Subcontractors.

11. Any type of insurance or any increase in limits of liability not described above which the Contractor requires for its own protection or on account of statute shall be its own responsibility and at its own expense.

12. The carrying of insurance described shall in no way be interpreted as relieving the Contractor or any Subcontractor of any responsibility or liability under this contract.

13. The Contractor shall provide Certificates of Insurance and copies of required endorsements to Owner prior to the commencement of work and/or payment, which certificates and endorsements shall be subject to the Owner's approval of adequacy of protection and the satisfactory character of the insurer. Project identification must be shown on the Certificate of Insurance.

14. In the event of a failure of Contractor to furnish and maintain said insurance and to furnish satisfactory evidence thereof, the Owner shall have the right (but not the obligation) to take out and maintain the same for all parties on behalf of the Contractor who agrees to furnish all necessary information thereof and to pay the cost thereof to the Owner immediately upon presentation of an invoice.

15. Any work performed without having the Certificate of Insurance received and approved by Owner is at Contractor's own risk.

16. No policy required hereunder shall include any Labor Law 240 exclusion.

17. If any of Owner's lenders have insurance requirements that Contractor must comply with, then they shall be attached hereto and, to the extent there is a conflict between any of the provisions of this Exhibit and

those attachments or between any of the attachments themselves, Contractor shall provide the coverage that complies with each and every set of requirements.

5.3.4 Builder's Risk:

1. The Contractor shall effect and maintain insurance against loss by fire (including Builder's Risk Special Extended Coverage Endorsement) upon all the Work in place and all material stored at the site of the Work, whether or not covered by partial payments made by the Owner. This insurance shall be in an amount equal to the full insurance value thereof at all times and shall be for the benefit of the Owner, the Contractor and such Subcontractors as their interests may respectively appear.
2. Certificates and policies shall provide that coverage may not be canceled or changed without thirty (30) days prior notice to the Owner.
3. The Contractor shall be responsible for protection against vandalism, theft or malicious mischief of all of his work, materials and equipment at all times from the start to the completion of the Work. The Owner will not have any responsibility for or be under any obligation to reimburse any Subcontractor for any losses, which may be due to vandalism, theft or malicious mischief.
- 3a. All original policies, with all declaration and endorsement pages, and certificates of insurance shall be stamped premium paid and delivered to Owner. All liability policies required hereunder shall provide that each of "Inc. Village of Greenport, NY" and "JRH Consulting Engineers + Architects, DPC" shall be additional insured parties thereunder. Certificates from the insurance carrier shall be filed with Owner and shall state the limits of liability and the expiration date for each policy and type of coverage. Renewal certificates covering the renewal of all policies expiring during the life of the Contract shall be filed with Owner not less than thirty (30) days before the expiration of such policies. Each insurance carrier issuing any such liability policy shall be an insurance company that (i) is licensed and in good standing to conduct an insurance business in the State of New York, and (ii) has an A.M. Best rating of at least A-VIII.

5.3.5 Hold Harmless (Indemnity): To the fullest extent permitted by law, Contractor shall defend, indemnify and hold harmless the Owner, its managers, members, trustees, partners, officers, directors, agents, employees and representatives (collectively, "Village of Greenport Indemnitees" and individually, each a "Village of Greenport Indemnatee") from and against all liabilities, claims, damages, losses, and expenses, including but not limited to reasonable attorneys' fees (whether incurred as the result of a third party claim or a claim by an Indemnatee), arising out of or resulting from Contractor's performance or failure to perform the Work or this Agreement to the extent that any such claim, damage, loss or expense (1) is attributable to bodily injury, sickness, disease, death, loss of use, economic injury or destruction of property (including, but not limited to, the Project), and (2) is caused by or arises from, in whole or in part, any act, error, omission or willful misconduct of Contractor, anyone directly or indirectly employed by Contractor, or anyone for whose acts or omissions Contractor may be liable. For the avoidance of doubt, nothing herein shall require Contractor to indemnify an Indemnatee to the extent the liability, claim, damage, loss or expense is caused by the negligence of the Indemnatee and indemnification of such Indemnatee is precluded by applicable Laws. In any and all claims against the Owner, any of its agents or employees or any Village of Greenport Indemnatee by any employee of the Contractor, a Subcontractor, a Sub-subcontractor at any tier, anyone directly or indirectly employed or retained by any of them or anyone for whose acts any of them may be liable, the Contractor's indemnification obligations hereunder shall not be limited in any way by any limitation on the amount or type of damages, compensation or benefits payable by or for the Contractor, the Contractor or any Subcontractor under workers' compensation acts, disability benefit acts or other employee benefit acts.

5.3.6 Continued Coverage Mandatory. The Owner may consider the Contract Documents to be void and of no effect unless the Contractor shall secure and keep in effect all of the above coverage during the life of said Contract Documents, which includes the period of the Maintenance Bond.

ARTICLE 6 - CONTRACTOR'S RESPONSIBILITIES & PERMITS

Supervision:

6.1 The Contractor shall supervise and direct the Work efficiently and in accordance with the skill, care, and diligence of a contractor experienced in performing comparable water system work in the Long Island, New York area. Where the Contract Documents refer to particular construction means, methods, techniques, sequences, or procedures, or indicate or imply that such are to be used in the Work, such mention is intended only to indicate that the operations of the Contractor shall be such as to produce at least the quality of work implied by the operations described, but the actual determination of whether or not the described operations may be safely and suitably employed on the Work shall be the responsibility of the Contractor. For the avoidance of doubt, the Contractor shall be solely responsible for, and have control over, construction means, methods, techniques, sequences, and procedures, and for coordinating all portions of the Work under the Contracts. If the Contract Documents give specific instructions concerning construction means, methods, techniques, sequences, or procedures, the Contractor shall evaluate the jobsite safety thereof and, except as stated below, shall be fully and solely responsible for the jobsite safety of such means, methods, techniques, sequences, or procedures. If the Contractor determines that such means, methods, techniques, sequences or procedures may not be safe, the Contractor shall give timely written notice to the Owner and shall not proceed with that portion of the Work without further written instructions from the Owner. Such notice to the Owner may contain alternative means, methods, techniques, sequences, or procedures, which alternatives the Owner may accept or reject in its sole discretion. All loss, damage, or liability, or cost of correcting defective Work arising from the employment of any construction means, methods, techniques, sequences, or procedures shall be borne by the Contractor, notwithstanding that such construction means, methods, techniques, sequences, or procedures are referred to, indicated, or implied by the Contract Documents. The Contractor shall be responsible to see that the finished Work complies accurately with the Contract Documents.

Superintendence:

6.2 The Contractor shall have on site and in charge of the Work at all times during its progress a thoroughly competent Resident Superintendent, fluent in English, capable of handling the work involved, and acceptable to the Owner's Representative. The Resident Superintendent shall not be replaced without prior written notice to the Owner except under extraordinary circumstances. The Resident Superintendent will be the Contractor's representative at the site and shall have authority to act on behalf of the Contractor. All communications given to the Resident Superintendent shall be as binding as if given to the Contractor. Failure by the Contractor to provide a Resident Superintendent as stipulated herein will subject the Contractor to a daily fine in the sum of \$1,000.00 for each calendar day thereafter (excluding Saturdays, Sundays and legal holidays) that the Contractor does not employ an on-site Construction Superintendent. Owner reserves the right to interview and approve the proposed Superintendent. Any Superintendent not deemed capable or otherwise suitable by the Owner and/or Owner's Representative shall be replaced immediately.

Labor, Materials and Equipment:

6.3 The Contractor shall provide competent, suitably qualified personnel to survey and lay out the Work and perform construction as required by the Contract Documents. He shall at all times maintain good discipline and order at the site. All employees of the Contractor and any Subcontractor who perform any of the Work at the Site shall sign a log-in book provided by Owner's Representative at the Site, with respect to each date on which such employee is present at the Site, setting forth such employee's name and the name and office telephone number of his employer. Any employee of the Contractor or any Subcontractor who

fails to enter such information in the log-book shall not be permitted to be present at the Site. All doors, windows, and gates shall be locked and closed at the end of each workday by Contractor or any Subcontractor whose employees are in attendance on such day.

6.4 The Contractor shall furnish all materials, equipment, labor, transportation, plant construction equipment and machinery, tools, appliances, supplies, fuel, power, light, heat, telephone, water and sanitary plant facilities and all other facilities and incidentals necessary or appropriate for the layout, execution, testing, initial operation and completion of the Work.

6.5 It is the intent of these Specifications to describe definitely and fully the character of materials and workmanship required with regard to all ordinary features, and to require first-class work and materials in all particulars. For any unexpected features arising during the progress of the work and not fully covered herein, the Specifications shall be interpreted by the Owner's Representative to require first-class work and materials, and such interpretation shall be accepted by the Contractor. If any time before the commencement of or during the progress of the work, the materials, labor, and appliances used or to be used appear to the Owner's Representative as insufficient or improper for assuring the quality of work required, or the required rate of progress, he may order the Contractor to increase their efficiency or to improve their character, and the failure of the Owner's Representative to demand any increase of such efficiency or improvements shall not release the Contractor from his obligation to secure the quality of work or the rate of progress specified. During freezing or inclement weather, no work shall be done except such as can be done satisfactorily and in a manner to secure first-class construction throughout. All work shall be done in such a manner as will properly protect and support existing permanent structures, pipelines, etc.

All materials and equipment shall be new, except as otherwise provided in Contract Documents. If required by the Owner's Representative, the Contractor shall furnish satisfactory evidence as to the kind and quality of materials and equipment.

6.6 All materials and equipment shall be applied, installed, connected, erected, used, cleaned and conditioned in accordance with the instructions of the applicable manufacturer, fabricator or processors, except as otherwise provided in the Contract Documents.

6.6.1 On receipt of a signed Contract, Contractor, whether directly or through its Subcontractors, Suppliers or Vendors, will be expected to place firm orders for needed materials in sufficient time to ensure delivery at such times as will ensure speedy and uninterrupted progress of the Work. Contractor shall not be entitled to an increase in the contract price or the contract time for the failure to do so. If deemed necessary to assure timely delivery of materials for the Project, Contractor may accept delivery of such materials at any time with prior written approval of the Owner, and may include the cost of such materials in its applicable monthly application for payment, provided such materials have actually been delivered to Contractor and properly stored by him with approval or under direction of the Engineer or Owner either at the job site or in an approved storage facility, as provided elsewhere in these General Conditions.

Substitute Materials or Equipment:

6.7 Where items of equipment and/or materials are specifically identified hereby by a manufacturer's name, model or, catalog number, only such specific items may be used in the base bid, except as hereinafter provided.

If the Contract Documents, law, ordinance or applicable rules or regulations permit the Contractor to furnish or use a substitute that is equal to any material or equipment specified, and if the Contractor wishes to furnish or use a proposed substitute, he shall, prior to the conference called for by paragraph 2.9, make written application to the Owner's Representative for approval of such a substitute certifying, in writing, that the proposed substitute will perform adequately the functions called for by the general design, be similar and of

equal substance to that specified and be suited to the same use and capable of performing the same functions as that specified, stating whether or not its incorporation in or use in connection with the Project is subject to the payment of any license fee or royalty; and identifying all variations of the proposed substitute from that specified and indicating available maintenance service. No substitute shall be ordered or installed without the written approval of the Owner's Representative who will be the sole judge of quality and adequacy and may require the Contractor to furnish such other data about the proposed substitute as he considers pertinent.

No substitute shall be ordered or installed without such performance guarantee and bonds as the Owner may require, which shall be furnished at the Contractor's expense.

Items of equipment of the Contractor's choice may be offered as alternates to the items named in the Specifications. Alternate proposals must be accompanied by full descriptive and technical data on article proposed, together with statement of amount either of addition to or deduction from the bid if the alternate is accepted.

In case of a difference in price, the Owner shall receive all benefit of the difference in cost involved, in any substitution, and the Contract altered by a Change Order to credit the Owner with any savings so obtained.

The Contractor will be obligated to pay all Engineering fees incurred by Owner in connection with the evaluation of proposed substitutions and any related revisions to the Project drawings and specifications.

Concerning Subcontractors:

6.8 The Contractor shall not employ any Subcontractor or other person or organization (including those who are to furnish the principal items of material or equipment), whether initially or as a substitute, as to whom the Owner objects for any reason whatsoever. A Subcontractor or other person or organization identified in writing to the Owner by the Contractor prior to the Notice of Award and not objected to in writing by the Owner prior to the Notice of Award will be deemed acceptable to the Owner. Acceptance of any Subcontractor, other person or organization by the Owner shall not constitute a waiver of any right of the Owner to reject defective Work or work not in conformance with the Contract Documents.

If the Owner after due investigation has objection to any Subcontractor, other person or organization proposed by the Contractor after the Notice of Award, the Contractor shall submit an acceptable substitute. The Contractor shall not be required to employ any Subcontractor, other person or organization against whom he has objection. The Contractor shall not without the prior written consent of the Owner make any substitution for any Contractor, other person or organization who, has been accepted by the Owner.

6.9 The Contractor shall be fully responsible for all acts and omissions of his Subcontractors and of persons and organizations directly or indirectly employed by them and of persons and organizations for whose acts any of them may be liable to the same extent that he is responsible for the acts and omissions of persons directly employed by him. Nothing in the Contract Documents shall create any contractual relationship between the Owner or the Owner's Representative and any Subcontractor or other person or organization having a direct contract with the Contractor, nor shall it create any obligation on the part of the Owner or the Owner's Representative to pay or to see to the payment of any monies due any Subcontractor or other person or organization, except as may otherwise be required by law. The Owner or Owner's Representative may furnish to any Subcontractor or other person or organization, to the extent practicable, evidence of amounts paid to the Contractor on account of specific work done in accordance with the schedule of values. The Contractor shall be liable for the Owner's legal fees incurred as a result of the Contractor's default in not paying Subcontractor's and/or material men.

6.10 The divisions and sections of the Specifications and the identifications of any Drawings shall not control the Contractor in dividing the Work among Subcontractors or delineating the Work to be performed by any specific trade.

6.11 The Contractor shall, by appropriate written agreement, require each Subcontractor, to the extent of the Work to be performed by the Subcontractor, to be bound to the Contractor by terms of the Contract Documents, and to assume toward the Contractor all the obligations and responsibilities, including the responsibility for safety of the Subcontractor's Work, which the Contractor, by these Documents, assumes toward the Owner and Architect. Each subcontract agreement shall preserve and protect the rights of the Owner and Engineer under the Contract Documents with respect to the Work to be performed by the Subcontractor so that subcontracting thereof will not prejudice such rights. Where appropriate, the Contractor shall require each Subcontractor to enter into similar agreements with Sub-subcontractors. The Contractor shall make available to each proposed Subcontractor, prior to the execution of the subcontract agreement, copies of the Contract Documents to which the Subcontractor will be bound, and, upon written request of the Subcontractor, identify to the Subcontractor terms and conditions of the proposed subcontract agreement that may be at variance with the Contract Documents. Subcontractors will similarly make copies of applicable portions of such documents available to their respective proposed Sub-subcontractors.

6.12 Each agreement with a Subcontractor shall: (a) require that the Subcontractor obtain and maintain the insurance required by the Contract Documents, with the Owner and each Village of Greenport Indemnatee added as additional insureds via specific endorsement; (b) provide that such Subcontractor indemnify the Owner and each Village of Greenport Indemnatee to the same extent that the Contractor is required to do so pursuant to Section 5.3.5 hereof; and (c) contain provisions that waive all rights the contracting parties may have against one another for damages caused by fire or other perils covered by insurance provided in accordance with Article 5. The Contractor shall pay each Subcontractor a just share of any insurance monies received by the Contractor under Article 5.

Patent Fees and Royalties:

6.13 The Contractor shall pay all license fees and royalties and assume all costs incident to the use in the performance of the Work of any invention, design, process, product or device which is the subject of patent rights or copyrights held by others. If a particular invention, design, process, product or device is specified in the Contract Documents for use in the performance of the Work and if to the actual knowledge of the Owner its use is subject to patent rights or copyrights calling for the payment of any license fee or royalty to others, the existence of such rights shall be disclosed by the Owner in the Contract Documents. The Contractor shall indemnify and hold harmless the Owner and the Owner's Representative and anyone directly or indirectly employed by either of them from and against all claims, damages, losses and expenses (including attorneys' fees) arising out of any infringement of patent rights or copyrights incident to the use in the performance of Work of any invention, design, process, product or device not specified in the Contract Documents, and shall defend all such claims in connection with any alleged infringement of such rights.

Permits:

6.14 The Contractor shall obtain and pay for all construction permits and licenses and shall pay all governmental charges and inspection fees necessary for the prosecution of the Work, which are applicable at the time of his Bid. The Owner may assist the Contractor, when necessary, in obtaining such permits and licenses. The Contractor shall also pay all public utility charges. The Contractor shall obtain and pay for all permits necessary to conduct the Work and complete the Contract. All work shall be performed in strict accordance with the regulations and requirements of the various civil agencies having jurisdiction thereof. Upon completion of the Work provided for in the Contract, and before final payment shall be made, the Contractor shall furnish the Engineer with any necessary certificates of approval issued by these various agencies.

Laws and Regulations:

6.15 The Contractor shall give all notices and comply with all laws, ordinances, rules and regulations

applicable to the Work. If the Contractor observes that the Specifications or Drawings are at variance therewith, he shall give the Owner's Representative prompt written notice thereof, and any necessary changes shall be adjusted by an appropriate modification. If the Contractor performs any Work knowing it to be contrary to such laws, ordinances, rules and regulations (or should know same), and without such notice to the Owner's Representative, he shall bear all costs arising there from; however, it shall not be his primary responsibility to make certain that the Specifications and Drawings are in accordance with such laws, ordinances, rules and regulations.

Taxes:

6.16 The New York State Tax Law has been amended to exempt from sales and use taxes, imposed under Article Twenty-Eight and pursuant to Article Twenty-Nine thereof, the sale or use of tangible personal property incorporated in structures, building or real property owned by the exempt organizations. Owner is an exempt organization and tangible personal property to become an integral component part of this project is not subject to Sales Tax in accordance with Paragraph Fifteen of Subdivision (a) of Section Eleven Hundred Fifteen of the Tax Law. The Contractor is not subject to payment of local and state sales tax. The Contractor will provide the vendor with properly executed "Contractor Exempt Purchase Certificate" within 90 days of delivery of the equipment as required by New York State Law.

Record Drawings:

6.17 The Contractor shall keep one record copy of all Specifications, Drawings, Addenda, Modifications, and Shop Drawings at the site in good order and annotated to show all changes made during the construction process. These shall be available to the Owner's Representative and shall be delivered to the Owner upon completion of the Project.

6.17.1 The Contractor shall comply with the further provisions in respect of record drawings specified in the Supplementary Conditions.

Safety:

6.18 The Contractor shall confine his equipment, the storage of materials and equipment and the operations of his workmen to areas permitted by law, ordinances, permits or the requirements of the Contract Documents, and shall not unreasonably encumber the premises with materials or equipment.

6.19 The Contractor shall not load nor permit any part of any structure to be loaded with weights that will endanger the structure, nor shall he subject any part of the Work to stresses or pressures that will endanger it.

6.20 The Contractor shall be responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the Work. He shall take all necessary precautions for the safety of, and shall provide the necessary protection to prevent damage, injury or loss to:

6.20.1 All employees on the Work and other persons that may be affected thereby.

6.20.2 All the Work and all materials or equipment to be incorporated therein, whether in storage on or off the site.

6.20.3 Other property at the site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, structures and utilities not designated for removal, relocation or replacement in the course of construction.

6.20.4 The Contractor shall comply with all applicable laws, ordinances, rules, regulations, and orders of any public body having jurisdiction for the safety of persons or property or to protect them from damage, injury or

loss. He shall erect and maintain, as required by the conditions and progress of the Work, all necessary safeguards or its safety and protection. He shall notify owners of adjacent utilities when prosecution of the Work may affect them. All damage, injury or loss to any property referred to in paragraph 6.20.2 or 6.20.3 caused, directly or indirectly, in whole or in part by the Contractor, any Subcontractor or anyone directly or indirectly employed by any of them for whose acts any of them may be liable, shall be remedied by the Contractor except damage or loss attributable to the fault of Drawings or Specifications or to the acts or omissions of the Owner or the Owner's Representative or anyone employed by either of them or anyone for whose acts either of them may be liable, and not attributable, directly or indirectly, in whole or in part, to the fault of negligence of Contractor. The Contractor's duties and responsibilities for the safety and protection of the Work shall continue until such time as all the Work is completed and the Owner's Representative has issued a notice to the Owner and the Contractor in accordance with paragraph 14.13 that Work is acceptable.

6.20.5 OSHA/Contractor's Safety Obligations: The Contractor is responsible for job site safety, method and means of construction. It shall comply with all requirements of OSHA (defined below) and the regulations promulgated thereunder, the New York State Labor Law and Industrial Code, and all laws and regulations governing work site safety, method and means of construction, as well as the safety provisions contained in the Specifications. The Safety provisions in the Specifications are primarily to protect Owner property and the public against unsafe acts of the Contractor. The Occupational Safety and Health Act of 1970, as amended ("OSHA"), requires that "Each Employer (1) shall furnish to each of his employees employment and a place of employment which are free from recognized hazards that are causing or likely to cause death or serious physical harm to his employees; (2) shall comply with the occupational safety and health standards promulgated under this Act." The regulations promulgated under OSHA may be more stringent than the analogous safety provisions required by the Specifications. The Contractor, however, must conform to the OSHA Regulations, and doing so shall not be reason to demand additional payment or claim extra work.

Such regulations address, but are not limited to, the following subject areas: sanitation, noise, radiation, gases, vapors, fumes, mists, dust, illumination, ventilation, protective equipment, fire protection, waste disposal, electrical hazards, scaffolds and ladders, floor holes and wall openings, and heavy equipment.

All laborers, workers and mechanics working on the site shall be required to complete OSHA 10-hour Construction Safety and Health Course S1537-A. All laborers, workers and mechanics working on the site shall be certified as having successfully completed the OSHA 10-hour construction safety and health course. Proof of current certification shall be required and submitted.

6.21 The Contractor shall designate a responsible member of his organization at the site whose duty shall be the prevention of accidents. This person shall be the Contractor's superintendent unless otherwise designated in writing by the Contractor to the Owner.

Emergencies:

6.22 In emergencies affecting the safety of persons or the Work or property at the site or adjacent thereto, the Contractor, without special instruction or authorization from the Owner, is obligated to act, at his discretion, to prevent threatened damage, injury or loss. He shall give the Owner's Representative prompt written notice of any significant changes in the Work or deviations from the Contract Documents caused thereby, and a Change Order shall thereupon be issued covering the changes and deviations involved. Furthermore, in any such instance, the Contractor shall take such actions related thereto or the Owner's Representative may require.

Shop Drawings and Samples:

6.23 After checking and verifying all field measurements, the Contractor shall submit to the Owner's Representative for approval, in accordance with the accepted schedule of Shop Drawings submissions (see

paragraph 2.8) electronic copies (pdf format) of all Shop Drawings, which shall have been checked by and stamped with the approval of the Contractor and identified as the Owner's Representative may require. The data shown on the Shop Drawings will be complete with respect to dimensions, design criteria, materials of constructions and the like to enable the Owner's Representative to review the information as required.

6.24 The Contractor shall also submit to the Owner's Representative for approval with such promptness as to cause no delay in the Work, all samples required by the Contract Documents. All samples will have been checked by and stamped with the approval of the Contractor, identified clearly as to materials, manufacturer, any pertinent catalog numbers and the use for which intended.

6.25 At the time of each submission, the Contractor shall in writing, call the Owner's Representative's attention to any deviations that the Shop Drawings or sample may have from the requirements of the Contract Documents.

6.26 The Owner's Representative will review within fourteen (14) business days of submission Shop Drawings and samples, but his review and approval shall be only for conformance with the design concept of the Project and for compliance with the information given in the Contract Documents. The approval of a separate item as such will not indicate approval of the assembly in which the item functions. The Contractor shall make any corrections required by the Owner's Representative and shall return the required number of corrected copies of Shop Drawings and resubmit new samples until approved. The Contractor shall direct specific attention in writing or on resubmitted Shop Drawings to revisions other than the corrections called for by the Owner's Representative on previous submissions. The Contractor's stamp of approval on any Shop Drawing or sample shall constitute a representation to the Owner that the Contractor has either determined and verified all quantities, dimensions, field construction and criteria, materials, catalog numbers, and similar data or he assumes full responsibility for doing so and that he has reviewed or coordinated each Shop Drawing with the requirements of the Work and the Contract Documents.

6.27 Where a Shop Drawing or sample submission is required by the Specifications, no related Work shall be commenced until the submission has been approved by the Owner's Representative. A copy of each approved Shop Drawing and each approved sample shall be kept in good order by the Contractor at the site and shall be available to the Owner's Representative. Any portion of the Work performed prior to review and approval by the Owner and Engineer of required Shop Drawings, Product Data, Samples, or other Submittals, is performed at Contractor's risk. No Contract adjustments will be made to correct or modify Work that was installed without such prior written approval of the Owner and Engineer.

6.28 The Owner's Representative approval of Shop Drawings or samples shall not relieve the Contractor from his responsibility for any deviations from the requirements of the Contract Documents unless the Contractor has in writing called the Owner's Representatives attention to such deviation at the time of submission and the Owner's Representative has given written approval to the specific deviation, nor shall approval by the Owner's Representative relieve the Contractor from responsibility for errors or omissions in the Shop Drawings.

Cleaning:

6.29 The Contractor, at its cost and expense, shall keep the premises free from accumulations of waste materials, rubbish and other debris resulting from the Work, throughout the period during which the Work is being performed, and in no event later than one day after notice from the Owner or the Owner's Representative that accumulations thereof must be removed, and at the completion of the Work he shall remove all waste materials, rubbish and debris from and about the premises as well as all tools, construction equipment and machinery, and surplus materials, and shall leave the site clean and ready for occupancy by the Owner.

The Contractor shall restore to their original condition those portions of the site not designated for alteration by the Contract Document. The Contractor shall comply with the further provisions in respect of cleaning specified in Article 17.

Contractor's Construction Schedule:

6.30 The Contractor, promptly after being awarded the Contract, shall submit for the Owner's and Engineer's information and approval the Contractor's construction schedule for the Work ("Construction Schedule"). The Construction Schedule shall contain detail appropriate for the Project, including (1) the date of commencement of the Work, interim schedule milestone dates, and the date of Substantial Completion; (2) an apportionment of the Work by construction activity; and (3) the time required for completion of each portion of the Work. The schedule shall provide for the orderly progression of the Work to completion and shall not exceed time limits current under the Contract Documents. Any modifications to the Construction Schedule must be agreed to by the Contractor and Owner and contained in a Change Order signed by the Contractor and Owner. The Contractor shall cooperate with the Owner in scheduling and performing the Contractor's Work to avoid conflict with, and as to cause no delay in, the work or activities of other Contractors, or the construction or operations of the Owner's own forces.

If the Contractor neglects to carry out the Work in accordance with the Construction Schedule or progress of the Work indicates it will not timely achieve Substantial Completion of the Work, the Owner shall have the right to direct the Contractor to take corrective measures necessary to expedite the progress of construction, including, without limitation: (1) working additional shifts or overtime; (2) supplying additional manpower, equipment, facilities; (3) rescheduling activities, and; (4) any other similar measures (hereinafter referred to collectively as "Recovery Measures"). Such Recovery Measures shall continue until the progress of the Work complies with the state of completion required by the Construction Schedule. The Owner's right to require Recovery Measures is for the purpose of ensuring the Contractor's compliance with the Construction Schedule.

Project Liens:

6.31 Contractor agrees to pay, when due, all claims for labor and/or materials furnished for Work, and to prevent the filing of any liens, attachments, garnishments or suits involving the title of the property on which the Work is performed or the Owner's funding for the project. Contractor agrees to cause the effect of any such suit or lien to be removed from the premises or the Owner's funding for the project within fifteen (15) days after written demand from the Owner.

Project Records:

6.32 Contractor agrees to maintain sufficient on-site records and information necessary for the documentation of any and all facets of program operation specified by this Contract. Contractor agrees to permit on-site inspection and auditing of all records, books, papers and documents associated with this Contract by authorized representatives of the Owner, and further agrees to provide necessary staff support in the performance of such audit. Contractor agrees to maintain for a period of five (5) consecutive years following termination of this Contract, any and all records, reports and other documentation arising from the performance of this Contract.

ARTICLE 7 - WORK BY OTHERS

7.1 Owner may perform additional work related to the Project by itself, or he may let other direct contracts therefor, which shall contain General Conditions similar to these. Contractor shall afford the other Contractors who are parties to such direct contracts (or Owner, if he is performing the additional work itself), reasonable opportunity for the introduction and storage of materials and equipment and the execution of work,

and shall properly connect and coordinate his Work with theirs.

7.2 If any part of Contractor's work depends for proper execution or results upon the work of any such other Contractor (or Owner), Contractor shall inspect and promptly report to Owner's Representative in writing any defects or deficiencies in such work that render it unsuitable for such proper execution and results. His failure to so report shall constitute an acceptance of the other work as fit and proper for the relationship of his Work except as to defects and deficiencies, which may appear in the other work after the execution of his Work.

7.3 Contractor shall do all cutting, fitting and patching of his Work that may be required to make its several parts come together properly and fit to receive or be received by such other work. Contractor shall not endanger any work of others by cutting, excavating or otherwise altering their work and will only cut or alter their work with the written consent of Owner's Representative and of the other Contractors whose work will be affected.

7.4 If the performance of additional work by other Contractors or Owner's is not noted in the Contract Documents prior to the execution of the Contract, written notice thereof shall be given to Contractor prior to starting any such additional work. If Contractor believes that the performance of such additional work by Owner or others involves it in additional expense or entitles it to an extension of the Contract Time, he may make a claim therefore as provided in Article 11 and 12.

ARTICLE 8 - OWNER'S RESPONSIBILITIES

8.1 In general, the Owner shall issue all communications to Contractor through his Representative.

8.2 In case of termination of the employment of Engineer, Owner shall appoint a Representative against whom Contractor makes no reasonable objection, whose status under the Contract Documents shall be that of the former Engineer.

8.3 Owner shall furnish the data required of it under the Contract promptly and shall make payments to Contractor promptly after they are due as provided in paragraphs 14.2 and 14.13.

8.4 Owner's duties in respect of providing lands and easement and providing engineering surveys to establish reference points are set forth in paragraphs 4.1 and 4.4. Paragraph 4.2 refers to Owner's identifying and making available to Contractor copies of surveys and investigation reports of subsurface and latent physical conditions at the site or otherwise affecting performance of the Work which have been relied upon by Engineer in preparing the Drawings and Specifications.

8.5 Owner's responsibility in respect of certain inspections, tests and approvals is set forth in paragraph 13.2.

8.6 In connection with Owner's right to stop Work or suspend Work, see paragraphs 13.8 and 15.1. Paragraph 15.2 deals with Owner's right to terminate services of Contractor under certain circumstances.

ARTICLE 9 - OWNER'S REPRESENTATIVE'S STATUS DURING CONSTRUCTION

Owner's Representative:

9.1 The Engineer may be the Owner's Representative during the construction period. The specific duties and responsibilities and the limitations of authority of the Owner's Representative during construction are set forth in Articles 1 through 17 of these General Conditions and shall not be extended without written consent of the Owner. Generally, the Owner's Representative shall have the power in general to direct the order and

sequence of the Work, which be such as to permit the entire Work under this Contract to be begun and to proceed as rapidly as possible, and such as to bring the several parts of the Work to a successful completion at about the same time.

Visits to Site:

9.2 The Owner's Representative may make periodic visits to the site to observe the progress and quality of the executed Work and to determine, in general, if the Work is proceeding in accordance with the Contract Documents. He will not be required to make exhaustive or continuous on-site inspections to check the quality or quantity of the Work. His efforts will be directed toward providing assurance for the Owner that the completed Project will conform to the requirements of the Contract Documents. On the basis of his on-site observations as an experienced and qualified design professional he will keep the Owner informed of the progress of the Work and will endeavor to guard the Owner against delays, defects and deficiencies in the Work of Contractors.

Clarifications and Interpretations:

9.3 The Owner's Representative will issue with reasonable promptness such written clarifications or interpretations of the Contract Documents (in the form of Drawings or otherwise) as he may determine necessary, which shall be consistent with or reasonably inferred from the overall intent of the Contract Documents. If the Contractor believes that a written clarification and interpretation entitles him to an increase in the Contract Price, he may make a claim therefore as provided in Article 11.

Rejecting Defective Work:

9.4 Owner's Representative will have the authority to disapprove or reject Work which is "defective" (which term is hereinafter used to describe Work that is unsatisfactory, faulty or defective, or does not conform to the requirements of the Contract Documents or does not meet the requirements of any inspection, test or approval referred to in paragraph 13.2 or has been damaged prior to approval of final payment). He will also have authority to require special inspection or testing of the Work as provided in paragraph 13.7 whether or not the Work is fabricated, installed or completed.

Shop Drawings, Change Order and Payments:

9.5 In connection with the Owner's Representative responsibility for Shop Drawings and samples, see paragraphs 6.23 and 6.28 inclusive.

9.6 In connection with the Owner's Representative responsibility for Change Orders, see Articles 10, 11, and 12.

9.7 In connection with the Owner's Representative responsibilities in respect to Applications for Payment, etc., see Article 14.

Resident Project Representatives:

9.8 The Owner may furnish a Resident Project Representative and assistants to assist Owner's Representative in carrying out his responsibilities at the site.

The Resident Project Representative shall be authorized to observe all work done and materials furnished. Such observation may extend to all parts of the Work, and to the preparation or manufacture of the materials to be used. In case of any dispute arising between the Contractor and Resident Project Representative, as to materials furnished or the manner of performing the Work, the Resident Project Representative shall have the

authority to reject material or suspend the Work until the questions at issue can be referred to and decided by the Owner's Representative.

The Resident Project Representative shall not be authorized to revoke, alter, enlarge, relax or release any requirements of these Specifications or to approve or accept any portion of the Work or to issue instructions contrary to the Plans and Specifications. The Resident Project Representative shall in no case act as foreman or perform other duties for the Contractor or interfere with the management of the Work by the latter. Any advice, which the Resident Project Representative may give the Contractor, shall in no way be construed as binding the Engineer nor the Owner in any way nor releasing the Contractor from the fulfillment of the terms of the Contract Documents.

Decisions on Disagreements:

9.9 The Owner's Representative will be the interpreter of the requirements of the Contract Documents and the judge of the performance thereunder. In his capacity as interpreter and judge, he will exercise his best efforts to insure faithful performance by both the Owner and Contractor. He will not be liable for the result of any interpretation or decision rendered in good faith. Claims, disputes and other matters relating to the execution and progress of the Work or the interpretation of or performance under the Contract Documents shall be referred to the Owner's Representative for decision, which he will render in writing within a reasonable time.

Limitations on Owner's Representative's Responsibilities:

9.10 Neither the Owner's Representative's authority to act under this Article 9 or elsewhere in the Contract Documents nor any decision made by it in good faith either to exercise or not exercise such authority shall give rise to any duty, or responsibility of the Engineer to the Contractor, any Subcontractor, any material man, fabricator, supplier or any of their agents or employees or any other person performing any of the Work.

9.11 The Owner's Representative and Engineer will not be responsible for the Contractor's means, methods, techniques, sequences or procedures of construction, or the safety precautions and programs incident thereto, and he will not be responsible for the Contractor's failure to perform the Work in accordance with the Contract Documents.

9.12 The Owner's Representative and Engineer will not be responsible for the acts or omissions of the Contractor, or any Subcontractors, or any of his or their agents or employees, or any other persons at the site or otherwise performing any of the Work.

ARTICLE 10 - CHANGES IN THE WORK

10.1 Without invalidating the Contract, Owner may, at any time or from time to time, order additions, deletions or revisions in the Work; these will be authorized by Change Orders. Upon receipt of a Change Order, Contractor shall proceed with the Work involved. All such Work shall be executed under the applicable conditions of the Contract Documents. If any Change Order causes an increase or decrease in the Contract Price or an extension or shortening of the Contract Time, an equitable adjustment will be made as provided in Article 11 or Article 12 on the basis of a claim made by either party.

10.2 The Owner may authorize minor changes or alterations in the Work not involving extra cost and not inconsistent with the overall intent of the Contract Documents. These may be accomplished by a Field Order. If Contractor believes that any minor change or alteration authorized by the Owner entitles it to an increase in the Contract Price, he must submit a claim request therefore as provided in Article 11 prior to performing the work.

10.3 Additional work performed by Contractor without authorization of a Change Order will not entitle it to an increase in the Contract Price or an extension of the Contract Time, except in the case of an emergency as provided in paragraph 6.22 and except as provided in paragraph 10.2.

10.4 Owner shall execute appropriate Change Orders prepared by the Owner's Representative covering changes in the work to be performed as described in paragraph 10.1 and Work performed in an emergency as provided in paragraph 6.22 and any other claim of Contractor for a change in the Contract Time or the Contract Price which is approved by Owner's Representative.

10.5 It is Contractor's responsibility to notify his Surety of any changes affecting the general Scope of the Work or change in the Contract Price and the amount of the applicable bonds shall be adjusted accordingly. Contractor shall furnish proof of such adjustment to Owner.

10.6 One complete set of all plans and specifications shall be maintained by the Contractor at the job site and shall be available to the Engineer at all times. These plans shall be currently marked up to reflect the exact in place construction caused by any field changes. They shall be delivered to the Owner by the Contractor at the completion of the Work.

10.7 Agreement on any Change Order shall constitute a final settlement of all matters relating to the change in the Work which is the subject of the Change Order, including, but not limited to, all direct and indirect costs associated with such change and any and all adjustments to the Contract Sum and the construction schedule.

ARTICLE 11 - CHANGE OF CONTRACT PRICE

11.1 The Contract Price constitutes the total compensation payable to Contractor for performing the Work. All duties, responsibilities and obligations assigned to or undertaken by Contractor shall be at his expense without change in the Contract Price.

11.2 The Contract Price may only be changed by a Change Order. Any claim for an increase in the Contract Price shall be based on written notice delivered to Owner within two days of the occurrence of the event giving rise to the claim. Notice of the amount of the claim with supporting data shall be delivered within two days of such occurrence unless Owner's Representative allows an additional period of time to ascertain accurate cost data. All claims for adjustment in the Contract Price shall be determined by the Owner. Any change in the Contract Price resulting from any such claim shall be incorporated in a Change Order.

11.3 The value of any Work covered by a Change Order or of any claim for an increase or decrease in the Contract Price shall be determined in one of the following ways:

11.3.1 Where the Work involved is covered by unit prices contained in the Contract Documents, by application of unit prices to the quantities of the items involved. Any work to be performed under a unit price in excess of the estimated quantities of the unit price work approved by the Owner is acknowledged to be a change in the Work and will require a Change Order based upon an agreement among the Owner and Contractor. Compensation and final unit price costs for any such work shall be subject to negotiation and approval by the Owner through a Change Order prior to the work being performed.

11.3.1.1 If unit prices are stated in the Contract Documents or subsequently agreed upon, and if quantities originally contemplated are materially changed so that application of such unit prices to the actual quantities causes substantial inequity to the Owner or Contractor, the applicable unit prices shall be equitably adjusted.

11.3.2 By mutual acceptance of a lump sum, with a breakdown showing negotiated unit prices, labor rates,

etc.

11.3.3 On the basis of the Cost of the Work (determined as provided in paragraph 11.4 and 11.5) plus a Contractor's Fee for overhead and profit (determined as provided in paragraph 11.6).

11.4 The term Cost of the Work means the sum of all costs necessarily incurred and paid by the Contractor in the proper performance of the Work. Except as otherwise may be agreed to in writing by Owner, such cost shall be in amounts no higher than those prevailing in the locality of the Project, shall include only the following items and shall not include any of the costs itemized in paragraph 11.5.

11.4.1 Payroll costs for employees in the direct employ of Contractor in the performance of the Work under schedules of job classifications agreed upon by Owner and Contractor. Payroll costs for employees not employed full time on the Work shall be apportioned on the basis of their time spent on the Work. Payroll costs shall include, but not be limited to, salaries and wages plus the cost of fringe benefits which shall include social security contributions, unemployment, excise and payroll taxes, workmen's compensation, health and retirement benefits, bonuses, sick leave, vacation and holiday pay applicable thereto. Such employees shall include superintendents and foremen at the site. The expenses of performing work after regular working hours, on Sunday or legal holidays shall be included in the above to the extent authorized by Owner.

11.4.2 Cost of all materials and equipment furnished and incorporated in the Work, including costs of transportation and storage thereof and manufacturers' field services required in connection therewith. All cash discounts shall accrue to Contractor unless Owner deposits funds with Contractor with which to make payments in which case the cash discounts shall accrue to Owner. All trade discounts, rebates and refunds, and all returns from sale of surplus materials and equipment shall accrue to Owner; and Contractor shall make provisions so that they may be obtained.

11.4.3 Payments made by Contractor to the Subcontractors for work performed by Subcontractors. If required by Owner, Contractor shall obtain competitive bids from Subcontractors acceptable to it and shall deliver such bids to Owner who will then determine with the advice of Engineer, which bids will be accepted. If a subcontract provides that the Subcontractor is to be paid on the basis of Cost of the Work plus a Fee, the Cost of the Work shall be determined in accordance with paragraphs 11.4 and 11.5. All subcontracts shall be subject to the other provisions of the Contract Documents insofar as applicable.

11.4.4 Costs of special consultants (including, but not limited to, engineers, architects, testing laboratories, surveyors, lawyers and accountants) employed for services specifically related to the Work. However, no such special consultants may be retained without the prior written consent of Owner.

11.4.5 Supplemental Costs:

11.4.5.1 The proportion of necessary transportation, traveling and subsistence expenses of Contractor's employees incurred in discharge of duties connected with the Work.

11.4.5.2 Cost, including transportation and maintenance of all materials, supplies, equipment, machinery, appliances, office and temporary facilities at the site and hand tools not owned by the workmen, which are consumed in the performance of the Work and cost less market value of such items used but not consumed which remain the property of Contractor.

11.4.5.3 Rentals of all construction equipment and machinery and the parts thereof whether rented from Contractor or others in accordance with rental agreements approved by Owner and the cost of transportation, loading, unloading, installation, dismantling and removal thereof - all in accordance with terms of said rental agreement. The rental of any such equipment, machinery or parts shall cease when the use thereof is no

longer necessary for the Work.

11.4.5.4 Sales, use or similar taxes related to the Work, and for which Contractor is liable, imposed by any governmental authority.

11.4.5.5 Deposits lost for causes other than Contractor's negligence, royalty payments and fees for permits and licenses.

11.4.5.6 Losses, damages and expenses, not compensated by insurance or otherwise, sustained by Contractor in connection with the execution of, and to, the Work, provided they have resulted from causes other than the negligence of Contractor, and Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable. Such losses shall include settlements made with the written consent and approval of Owner. No such losses, damages and expenses shall be included in the cost of the Work for the purpose of determining Contractor's Fee. If, however, any such loss or damage requires reconstruction and Contractor is placed in charge thereof, he shall be paid for his services a fee proportionate to that stated in paragraph 11.6.2.

11.4.5.7 The cost of utilities, fuel and sanitary facilities at the site.

11.4.5.8 Minor expenses such as telegrams, long distance telephone calls, telephone service at the site, express packages and similar petty cash items in connection with the Work.

11.5 Excluded Costs:

11.5.1 Payroll costs and other compensation of the Contractor's officer, executives, principals (of partnership and sole proprietorships), general managers, engineers, architects, estimators, lawyers, auditors, accountants, purchasing and contracting agents, expeditors, timekeepers, clerks and other personnel employed by the Contractor whether at the site or in his principal or a branch office for general administration of the Work and not specifically included in the schedule referred to in subparagraph 11.4.4 - all of which are to be considered administrative costs covered by the Contractor's Fee.

11.5.2 Expenses of the Contractor's principal and branch offices other than his office at the site.

11.5.3 Any part of the Contractor's capital expenses, including interest on the Contractor's capital employed for the Work and charges against the Contractor for delinquent payments.

11.5.4 Cost of premiums for all bonds and for all insurance policies whether or not the Contractor is required by the Contract Documents to purchase and maintain the same.

11.5.5 Costs due to the negligence or willful misconduct of the Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, including but not limited to, the correction of defective work, disposal of materials or equipment wrongly supplied and making good any damage to property.

11.5.6 Other overhead or general expense costs of any kind and the costs of any item not specifically and expressly included in paragraph 11.4.

Contractor's Fee:

11.6 The Contractor's Fee, which shall be allowed to the Contractor for his overhead and profit, shall be determined as follows:

11.6.1 A mutually acceptable fixed fee or if none can be agreed upon:

11.6.2 A fee based on the following percentages of the various portions of the Cost of the Work:

11.6.2.1 For costs incurred under paragraphs 11.4.1 and 11.4.2 the Contractor's Fee shall be fifteen (15%) percent. However, the fifteen (15%) percent shall not be applied to unemployment insurance, FICA, Workman's Compensation, Personnel Liability and Property Damage Insurance.

11.6.2.2 For costs incurred under paragraph 11.4.3 the Contractor's Fee shall be five (5%) percent; and if a subcontract is on the basis of Cost of the Work Plus a Fee, the maximum allowable to the Subcontractor as a fee for overhead and profit shall be ten (10%) percent, and

11.6.2.3 No fee shall be payable on the basis of costs itemized under paragraphs 11.4.4, 11.4.5, and 11.5.

11.7 The amount of credit to be allowed by the Contractor to Owner for any such change, which results in a net decrease in cost, will be the amount of the actual net decrease. When both additions and credits are involved in any one change, the combined overhead and profit shall be figured on the basis of the net increase, if any.

11.8 Whenever the cost of any Work is to be determined pursuant to paragraphs 11.4 and 11.5, the Contractor will submit in form prescribed by Owner's Representative an itemized cost breakdown together with supporting data.

Cash Allowances:

11.9 It is understood that the Contractor has included in the Contract Price all allowances so named in the Contract Documents and shall cause the Work so covered to be done by such material men, suppliers or Subcontractors and for such sums within the limits of the allowances as Owner's Representative may approve. Upon final payment, the Contract Price shall be adjusted as required and an appropriate Change Order issued. The Contractor agrees that the original Contract Price includes such sums, as he deems proper for costs and profit on account of cash allowances. No demand for additional costs or profit in connection therewith will be allowed.

11.10

ARTICLE 12 - CHANGE OF THE CONTRACT TIME

12.1 The Contract Time may only be changed by a Change Order. Any claim for an extension in the Contract Time shall be based on written notice delivered to the Owner and the Engineer within fifteen (15) days of the occurrence of the event giving rise to the claim. Notice of the extent of the claim with supporting data shall be delivered within forty-five (45) days of such occurrence unless the Owner's Representative allows an additional period of time to ascertain more accurate data. All claims for adjustment in the Contract Time shall be determined by the Owner's Representative if the Owner and Contractor cannot otherwise agree.

Any change in the Contract Time resulting from any such claim shall be incorporated in a Change Order. Such extension of time shall not be deemed a waiver by the Owner of any other provisions of the Contract.

12.2 The Contractor expressly covenants and agrees that in undertaking to complete the Work within the completion time indicated in the Contract he has taken into consideration and made allowance for all of the ordinary delays and hindrances incident to such Work.

12.3 The Contract time will be extended in an amount equal to time lost due to delays beyond the control of the Contractor if he makes a claim therefor as provided in paragraph 12.1. Such delays shall include, but not be restricted to, acts or neglect by any separate contractor employed by the Owner, fires, floods, labor

disputes through no fault of the Contractor, epidemics, abnormal weather conditions, insurrection of war or acts of God.

12.4 TIME IS OF THE ESSENCE. ALL TIME LIMITS STATED IN THE CONTRACT DOCUMENTS ARE OF THE ESSENCE OF THE CONTRACT. The provisions of this Article 12 shall not exclude any recovery for damages (including compensation for additional professional services) for delay by either party.

ARTICLE 13 - WARRANTY AND GUARANTEE: TESTS AND INSPECTIONS: CORRECTION, REMOVAL OR ACCEPTANCE OF DEFECTIVE WORK

Warranty and Guarantee:

13.1 The Contractor warrants to the Owner, for a one-year period after final payment, that materials and equipment furnished under the Contract will be of good quality and new unless otherwise required or permitted by the Contract Documents, that the Work will be free from defects not inherent in the quality required or permitted, and that the Work will conform with the requirements of the Contract Documents. Work not conforming to these requirements, including substitutions not properly approved and authorized, will be considered defective. The Contractor's warranty excludes remedy for damage or defect to the extent caused by abuse, modifications not executed by the Contractor, improper or insufficient maintenance, improper operation or normal wear and tear and normal usage. The warranty shall include all parts and labor and other replacement costs, both on and off site, together with all necessary transportation and shipping charges. The foregoing one-year warranty by Contractor shall not reduce the warranty period under any warranty provided by subcontractors and material suppliers. In the event any product warranty runs to the benefit of the ultimate user of the product in question, Owner shall reasonably cooperate with Contractor to provide Contractor access to such warranty protection for the purposes of satisfying Contractor's warranty obligations hereunder. However, Contractor acknowledges that it bears primary responsibility to Owner for the one-year warranty period and for ensuring that the Work conforms to the requirements of the Contract Documents. Contractor shall, at its expense (including, without limitation, payment of all in-and-out-costs, and similar charges) remedy all deficiencies appearing within the warranty period and, at its option, repair or replace all defective work as required to accomplish this. All such repair and/or replacement work shall be warranted for one year following the date such repair and/or replacement was completed and accepted by Owner. If the Contractor fails to remedy such deficiencies within a reasonable time after written notice from Owner, the Owner may cause such remedies to be performed and charge the expense thereof to the Contractor. If, at the end of Contractor's one-year warranty period, any manufacturer or vendor warranty remains in effect that do not, by their terms, run to the benefit of the ultimate user of the product in question, then Contractor shall assign such warranty to Owner. When securing any such warranties, Contractor shall ensure they are assignable without any charge to Owner, without additional consent from the applicable manufacturer or vendor, and without limiting the coverage provided by such warranty.

Tests and Inspections:

13.2 If the Contract Documents, laws, ordinances, rules, regulations or orders of any public authority having jurisdiction require any work to specifically be inspected, tested, or approved by some public body, the Contractor shall assume full responsibility therefor, pay all costs in connection therewith and furnish the Owner's Representative the required certificates of inspection, testing or approval. All other inspections, tests and approvals required by the Contract Documents shall be performed by organizations acceptable to the Owner and Contractor and the costs thereof shall be borne by the Contractor unless otherwise specified.

13.3 The Contractor shall give the Owner's Representative timely notice of readiness of the Work for all inspections, tests or approvals. If any such work required so to be inspected, tested or approved is covered without written approval of the Owner's Representative, it must, if requested by the Owner's Representative, be uncovered for timely observation, and such uncovering has given the Owner's Representative timely notice

of his intention to cover such work and Owner's Representative has not acted with reasonable promptness in response to such notice.

13.4 Neither observations by the Owner's Representative nor inspections, tests or approvals by persons other than the Contractor shall relieve the Contractor from his obligations to perform the Work in accordance with the requirements of the Contract Documents.

Access and Inspection of Work:

13.5 Representatives of the Owner including Local, State and Federal Personnel shall have access to the Work. Contractor shall provide proper and safe facilities for such access and observation of the Work and also for any inspection of testing thereof by others.

No Work, except such shop work as may be so permitted, shall be done except in the presence of the Owner's Representative. The Contractor shall notify the Owner's Representative forty-eight (48) hours in advance as to when he intends to start or resume the work.

Any Work necessary to be performed after regular hours, on Saturdays, Sundays or legal holidays, shall first be approved by the Owner's Representative and shall be performed without additional expense to the Owner, with the Contractor responsible to reimburse the Owner for all costs of inspection to include employee base salary, overtime and fringe benefits.

Uncovering Work:

13.6 If any Work is covered contrary to the written request of the Owner's Representative, it must, if requested by Owner's Representative, be uncovered for his observation and replaced, at Contractor's expense.

13.7 If any Work has been covered which the Owner's Representative has not specifically requested to observe prior to its being covered, or if the Owner's Representative considers it necessary or advisable that covered work be inspected or tested by others, the Contractor, at the Owner's Representative request, shall uncover, expose or otherwise make available for observation, inspection or testing as the Owner's Representative may require, that portion of the Work in questions, furnishing all necessary labor, materials and equipment. If it is found that such work is defective, the Contractor shall bear all the expenses of such uncovering, exposure, observation, inspection and testing and of satisfactory reconstruction, including compensation for additional professional services, and an appropriate deductive Change Order shall be issued.

If, however, such Work is not found to be defective, the Contractor shall be allowed an increase in the Contract Price or an extension of the Contract Time, or both, directly attributable to such uncovering, exposure, observation, inspection, testing and reconstruction if he makes a claim therefore as provided in Articles 11 and 12.

Owner May Stop the Work:

13.8 If the Work is defective, or the Contractor fails to supply sufficient skilled workman or suitable materials or equipment, or if the Contractor fails to make prompt payments to Subcontractors or for labor, materials or equipment, or otherwise fails to perform properly and timely any of Contractor's obligation hereunder, then, in any such case, the Owner may order the Contractor to stop the Work, or any portion thereof, until the cause for such order has been eliminated; however, this right of the Owner to stop the Work shall not give rise to any duty on the part of the Owner to exercise this right for the benefit of the Contractor or any other party.

Correction or Removal of Defective Work:

13.9 If required by the Owner's Representative prior to approval of final payment, the Contractor shall promptly, without cost to the Owner and as specified by the Owner's Representative, either correct any defective work, whether or not fabricated, installed or completed, or if the Work has been rejected by the Owner's Representative, remove it from the site and replace it with non-defective Work. If the Contractor does not correct such defective Work or remove and replace such rejected Work within a reasonable time, all as specified in a written notice from the Owner, then the Owner may have the deficiency corrected or the rejected Work removed and replaced. All direct or indirect costs of such correction or removal and replacement, including compensation for additional professional services, shall be paid by the Contractor and an appropriate deductive Change Order shall be issued. The Contractor shall also bear the expenses of making good all Work of others destroyed or damaged by his correction, removal or replacement of his defective work.

One (1) Year Correction Period:

13.10 If, after the approval of final payment and prior to the expiration of one (1) year after the date of approval of final payment or such longer period of time as may be prescribed by law or by the terms of any applicable special guarantee required by the Contract Documents, any Work is found to be defective, the Contractor shall promptly, without cost to the Owner, and in accordance with Owner's written instructions, either correct such defective work, or, if it has been rejected by the Owner, remove it from the site and replace it with non-defective work. If the Contractor does not promptly comply with the terms of such instructions, the Owner may have the defective Work corrected or the rejected Work removed and replaced, and all direct and indirect costs, of such removal and replacement, including compensation for additional professional services and attorney's fees shall be paid by the Contractor.

Acceptance of Defective Work:

13.11 If, instead of requiring correction or removal and replacement of defective Work, the Owner elects to accept it, the Owner may do so. In such case, if acceptance occurs prior to approval of final payment, a Change Order shall be issued incorporating the necessary revisions in the Contract Documents, including appropriate reduction in the Contract Price; or, if the acceptance occurs after approval of final payment, an appropriate amount shall be paid by the Contractor to the Owner.

Neglected Work by the Contractor:

13.12 If the Contractor should fail to prosecute the Work in accordance with the Contract Documents, including any requirements of the progress schedule, the Owner, after seven (7) days written notice to the Contractor may, without prejudice to any other remedy he may have, make good such deficiencies and the cost thereof (including compensation for additional professional services) shall be charged against the Contractor if the Owner's Representative approves such action, in which case a Change Order shall be issued incorporating the necessary revisions in the Contract Documents including an appropriate reduction in the Contract Price. If the payments then or thereafter due the Contractor are not sufficient to cover such amount, the Contractor shall pay the difference to the Owner.

Acceleration Clause:

13.13 The Owner reserves the right to accelerate the work of the Contract. In the event that the Owner directs acceleration, such directive will be only in written form. The Contractor shall keep cost and other project records related to the written acceleration directive separately from normal project costs and records and shall provide a written record of acceleration cost to the Owner on a daily basis.

In order to recover additional costs due to a written acceleration directive, the Contractor must document that additional expenses were incurred and paid by the Contractor. Labor costs recoverable will be only overtime or shift premium costs or the cost of additional laborers brought to the site to accomplish the accelerated work effort. Equipment costs recoverable will be only the cost of added equipment mobilized to the site to accomplish the accelerated work effort.

ARTICLE 14 - PAYMENTS AND COMPLETION

Schedules:

14.1 At least ten (10) days prior to submitting the first Application for a progress payment, Contractor shall submit a progress schedule, a final schedule of Shop Drawing submission and a schedule of values of the Work. These schedules shall be satisfactory in form and substance to Owner's Representative. The schedule of values shall include quantities and unit prices aggregating the contract Price and shall subdivide the Work into component parts in sufficient detail to serve as the basis for progress payments during construction. Upon approval of the schedules of values by Owner's Representative, it shall be incorporated into the form of Application for Payment.

Application for Progress Payment:

14.2 At least ten (10) calendar days before each progress payment falls due (but not more often than once a month), Contractor shall submit to Owner's Representative for review an Application for Payment completed and signed by Contractor covering the Work completed as of the date of the Application and accompanied by waivers (satisfactory to the Owner) of liens and such other data and schedules as Owner's Representative may reasonably require. If payment is requested on the basis of materials and equipment not incorporated in the Work but delivered and suitably stored at the site or at another location agreed to in writing, the Application for Payment shall also be accompanied by such data, satisfactory to Owner, as will establish Owner's title to the material and equipment and protect his interest therein, including applicable insurance. Each subsequent Application for Payment shall include an affidavit of Contractor stating that all previous progress payments received on account of the Work have been applied to discharge in full all of Contractor's obligations reflected in prior Applications for Payment.

The application for payment shall be presented to the Owner by the Owner's Representative and shall indicate the value of the Work in accordance with the Contract.

Each Application for Payment shall be accompanied by duly executed unconditional waivers of liens from Contractor and each Subcontractor for any amounts included in the previous month's Application for Payment and duly executed conditional waivers of liens from Contractor and each Subcontractor for any amounts included in the current Application for Payment. All such waivers shall be in a form acceptable to Owner in its reasonable discretion.

Payroll Records

14.3 In accordance with paragraph "a" of subdivision 3-a of Section 220 of the New York State Labor Law, the Contractor shall submit, and shall cause each Sub-Contractor through which the Contractor performs any of its obligations hereunder to submit, to the Owner a transcript of each original payroll issued by the Contractor or the Sub-Contractor, as applicable, with respect to the work performed hereunder. Each such transcript must be received by the Owner within thirty (30) days after the relevant payroll is issued and shall be subscribed by a duly authorized officer of the Contractor or Sub-Contractor, as applicable, in the following manner:

“The undersigned, a duly authorized officer of (name of Contractor or Sub-Contractor) does hereby certify as true this transcript of the corporation’s original payroll record dated _____, for the pay period beginning _____ and ending _____, and relating to all work or materials furnished during such period in connection with the (Identify Contract), and hereby affirms said transcript as true, under penalties of perjury, pursuant to Labor Law § 220 (3-a) (a) and Penal Law § 210.45.”

Contractor and his/her Sub-Contractor to comply at all times with State Labor Law requirements and with the prevailing rate schedule indicated in these specifications.

Contractor's Warranty of Title - Liens

14.4 Contractor warrants and guarantees that title to all work, materials and equipment covered by any Application for Payment, whether incorporated in the Project or not, will pass to Owner at the time of payment free and clear of all liens, claims, security interests and encumbrances (hereafter in these General Conditions referred to as "Liens"). The Contractor further warrants that the Contractor shall acquire no work, materials or equipment, directly or indirectly through a subcontractor, subject to any agreement under which a lien is retained by the seller or otherwise imposed by the Contractor, any Subcontractor or any other person or entity. If at any time any notices of lien or actual liens are filed for labor performed or product manufactured, furnished, or delivered to or for the Work, Contractor shall within ten (10) days after the date of receipt of notice of the filing of such notice of lien or actual lien, discharge or remove or bond such lien and until such discharge or removal or bonding, Owner shall have the right to retain from any amounts payable hereunder an amount equal to the amount of such liens together with the costs and expenses, including reasonable attorneys’ fees, of defending any actions brought to enforce the same, or incurred in connection therewith or by reason thereof unless such liens resulted from Owner’s wrongful nonpayment of amounts due. Owner may apply any amounts retained hereunder to reimburse it for any and all costs, expenses, losses, damage and damages, liabilities, suits, judgments and awards incurred, suffered or sustained by Owner and chargeable to Contractor under this section.

Approval of Payments:

14.5 Owner's Representative will, within ten (10) days after receipt of each Application for Payment, either indicate in writing his approval of payment and present the Application to Owner or return the Application to Contractor indicating in writing his reasons for refusing to approve payment. In the latter cases, Contractor may make the necessary corrections and resubmit the Application. Owner shall, within thirty (30) days of approval of an approved Application for Payment and as soon as practicable thereafter, pay the Contractor an amount equal to ninety-five (95%) percent of the value of such work, materials and equipment indicated on the periodical estimate, less the amount of all previous payments. The five (5%) percent shall be deducted from each and every estimate made under the entire Contract and shall be retained until final completion of all Work covered by the Contract and upon final acceptance by the Owner's Representative.

14.6 Owner's Representative approval of any payment requested in an Application for Payment will constitute a representation by it to Owner, based on Owner's Representative on-site observations of the Work in progress as an experienced and qualified design professional and on his review of the Application for Payment and the accompanying data and schedules, that the Work has progressed to the point indicated; that, to the best of his knowledge, information and belief, the quantity of the Work is in accordance with the Contract Documents (subject to an evaluation of the Work as a functioning Project upon Substantial Completion, to the results of any subsequent tests called for in the Contract Documents and any qualifications stated in his approval); and that Contractor is entitled to payment of the amount approved. However, by approving any such payment, Owner's Representative will not thereby be deemed to have represented that he

made exhaustive or continuous on-site inspections to check the quality or the quantity of the Work, or that he has reviewed the means, methods, techniques, sequences, and procedures of construction, or that he has made any examination to ascertain how or for what purpose Contractor has used the monies paid or to be paid to it on account of the Contract Price, or that title to any Work, materials or equipment has passed to Owner free and clear of any Liens.

14.7 Owner's Representative approval of final payment will constitute an additional representation by him or her to Owner that the conditions precedent to Contractor's being entitled to final payment as set forth in paragraph 14.13 have been fulfilled.

14.8 Owner's Representative may refuse to approve the whole or any part of any payment if, in his opinion, it would be incorrect to make such representations to Owner. He may also resume to approve any such payment, or because of subsequently discovered evidence of the results of subsequent inspections or tests, nullify any such payment previously approved, to such extent as may be necessary in his opinion to protect Owner from loss because:

14.8.1 The Work is defective or completed work has been damaged requiring correction or replacement.

14.8.2 Claims or Liens have been filed or there is reasonable cause to believe such may be filed.

14.8.3 The Contract Price has been reduced because of modifications.

14.8.4 Owner has been required to correct defective work or complete the Work in accordance with paragraph 13.11 or,

14.8.5 Of unsatisfactory prosecution of the Work, including failure to furnish acceptable submittals or to clean up.

14.8.5.1 Reasonable evidence that the Work will not be completed within the contract time, and that the unpaid balance would not be adequate to cover actual or liquidated damages for the anticipated delay.

Substantial Completion:

14.9 Prior to final payment, Contractor may, in writing to the Owner, certify that the entire Project is substantially complete and request that the Owner's Representative agree to Substantial Completion within a reasonable time thereafter. The Owner, Contractor and Owner's Representative shall make an inspection of the Project to determine the status of completion. If Owner's Representative does not consider the Project substantially complete, he will prepare and deliver to Owner a tentative certificate of Substantial Completion which shall fix the date of Substantial Completion and the responsibilities between Owner and Contractor for maintenance, heat and utilities. There shall be attached to the certificate, a tentative list of items to be completed or corrected before final payment, and the certificate shall fix the time within which such items shall be completed or corrected, said time to be within the Contract Time. Owner shall have seven days after receipt of the tentative certificate during which he may make written objection to the Owner's Representative as to any provisions of the certificate or attached list. If, after considering such objections, the Owner's Representative concludes that the Project is not substantially complete, he will within fourteen days after submission of the tentative certificate to Owner, notify Contractor in writing stating his reasons therefor. If, after consideration of Owner's objections, the Owner's Representative considers the Project substantially complete, he will within said fourteen days execute and deliver to Owner and Contractor a definitive certificate of Substantial Completion (with a revised tentative list of items to be completed or corrected) reflecting such changes from the tentative certificate as he believes justified after consideration of any objections from Owner.

14.10 The Owner shall have the right to exclude the Contractor from the Project after the date of Substantial Completion, but the Owner shall allow the Contractor reasonable access to complete or correct items on the tentative list.

Partial Utilization:

14.11 If at any time prior to the issuance of the Certificate of Substantial Completion, any portion of the permanent construction has been satisfactorily completed, and if the Owner's Representative determines that such portion of the permanent construction is not required for the operations of the Contractor but is needed by the Owner, the Owner's Representative shall issue to the Contractor a Certificate of partial completion, and thereupon or at any time thereafter the Owner may take over and use the portion of the permanent construction described in such certificate, and may exclude the Contractor there from.

The issuance of a certificate of partial completion shall not be construed to constitute an extension of the Contractor's time to complete the portion of the permanent construction to which it relates if he has failed to complete it in accordance with the terms of the Contract. The issuance of such a certificate shall not operate to release the Contractor or his Sureties from any obligations under this Contract or the Performance Bond.

The Contractor's guarantee on that part of the Work placed into use shall begin on the date such use by the Owner shall begin and the Contractor shall be entitled to a return of so much of the retained percentages as have been withheld by the Owner, in accordance with the Contract Documents.

Final Inspection:

14.12 Upon written notice from the Contractor that the Project is complete, the Owner's Representative will make a final inspection with the Owner and Contractor and will notify the Contractor in writing of all particulars in which this inspection reveals that the Work is incomplete or defective, the Contractor shall immediately take such measures as are necessary to remedy such deficiencies.

Final Application for Payment:

14.13 After the Contractor has completed all such corrections to the satisfaction of the Owner's Representative and delivered all maintenance and operating instructions, schedules, guarantees, Bonds, certificates of inspection and other documents - all as required by the Contract Documents, he may make application for final payment following the procedure for progress payments. The final Application for Payment shall be accompanied by such data and schedules as Owner's Representative may reasonably require, together with complete and legally effective conditional Lien waivers from Contractor and each Subcontractor (satisfactory to the Owner in its reasonable discretion). In lieu thereof and as approved by the Owner, the Contractor may furnish receipts of releases in full; an affidavit of the Contractor that the releases and receipts include all labor, services, material and equipment for which a lien could be filed, and that all payrolls, material and equipment bills, and other indebtedness connected with the Work for which the Owner or his property might in any way be responsible, have been paid or otherwise satisfied; and consent of the Surety, if any, to final payment. If any Subcontractor, material man, fabricator or supplier fails to furnish a release or receipt in full, the Contractor may furnish a Bond or other collateral satisfactory to the Owner to indemnify it against any Lien.

Approval of Final Payment:

14.14 If, on the basis of his observation and review of the Work during construction, his final inspection and his review of the final Application for Payment - all as required by the Contract Document, the Owner's Representative is satisfied that the Work has been completed and the Contractor has fulfilled all of his obligations under the Contract Documents, he will, within ten days after receipt of the final Application for

Payment, indicate in writing his approval of payment and present the Application to the Owner for payment. Thereupon the Owner's Representative will give written notice to the Owner and Contractor that the Work is acceptable subject to the provisions of paragraph 14.16. Otherwise, he will return the Application to the Contractor, indicating in writing his reasons for refusing to approve final payment, in which case the Contractor shall make the necessary corrections and resubmit the Application.

Thereafter, Owner, after final acceptance of the work by Resolution, will pay the full amount, less any prior payments, less any damages, less any amounts retained to complete the work according to the provision of the specifications, less any money paid by Owner by reason of said Contractor having failed to carry out faithfully and completely all the obligations and requirements herein contained.

Upon final settlement, according to the conditions herein specified and not until such settlement shall have been made, will the Contractor be relieved from the obligations assumed in the Contract.

Within ten (10) days after receipt of final payment from Owner, Contractor shall provide to Owner, from itself and each Subcontractor, unconditional final lien waivers reflecting full and final payments for the Work. Such lien waivers shall be in a form acceptable to Owner in its reasonable discretion. This obligation shall survive the making of final payment and other expiration or termination of the Contract.

14.15 If after Substantial Completion of the Work, final completion thereof is materially delayed through no fault of the Contractor, and the Owner's Representative so confirms, the Owner shall, upon certification by the Owner's Representative, and without terminating the Agreement, make payment of the balance due for that portion of the Work fully completed and accepted. If the remaining balance for Work not fully completed or corrected is less than the retainage stipulated in the Agreement, and if Bonds have been furnished as required in paragraph 5.1, the written consent of the Surety to the payment of the balance due for that portion of the Work fully completed and accepted shall be submitted by the Contractor to the Owner's Representative prior to certification of such payment. Such payment shall be made under the terms and conditions governing final payment, except that it shall not constitute a waiver of claims.

Contractor's Continuing Obligation:

14.16 The Contractor's obligation to perform the Work and complete the Project in accordance with the Contract Documents shall be absolute. Neither approval of any progress or final payment by the Owner's Representative, nor the issuance of a certificate of Substantial Completion, nor any payment by the Owner to the Contractor under the Contract Documents, nor any use or occupancy of the Project or any part thereof by the Owner, nor any act of acceptance by the Owner nor any failure to do so, nor any correction of defective work by the Owner shall constitute an acceptance of Work not in accordance with the Contract Documents.

Waiver of Claims:

14.17 The making and acceptance of final payment shall constitute:

14.17.1 A release and waiver of all claims by the Contractor against the Owner other than those previously made in writing and still unsettled.

ARTICLE 15 - SUSPENSION OF WORK AND TERMINATION

15.1 The Owner may, at any time and without cause, suspend the Work or any portion thereof for a period of not more than one hundred eighty (180) days by notice in writing to the Contractor, which shall fix the date on which the Work shall be resumed. The Contractor will be allowed an increase in the Contract Price or an extension of the Contract Time, or both, directly attributable to any suspension if he makes a claim therefore as provided in Articles 11 and 12.

Owner May Terminate:

15.2 If the Contractor is adjudged bankrupt or insolvent, or if he makes a general assignment for the benefit of his creditors, or if a trustee or receiver is appointed for the Contractor or for any of his property, or if he files a petition to take advantage of any debtor's act, or to reorganize under the bankruptcy or similar laws or if he repeatedly fails to supply sufficient skilled workmen or suitable materials or equipment, or if he fails to make prompt payments to Subcontractors for labor, materials or equipment or if he disregards laws, ordinances, rules, regulations or orders of any public body having jurisdiction, or if he disregards the authority of the Owner's Representative, or if he otherwise violates any provision of the Contract Documents, then the Owner may without prejudice to any other right or remedy and after giving the Contractor and his surety seven (7) days written notice, terminate the services of the Contractor and take possession of the Project and of all materials, equipment, tools, construction equipment and machinery thereon owned by the Contractor and finish the Work by whatever method he may deem expedient.

In such case, the Contractor shall not be entitled to receive any further payment until the Work is finished. If the direct and indirect costs of completing the Project, including compensation for additional professional services, exceed the unpaid balance of the Contract Price, the Contractor shall pay the difference to the Owner. Such costs incurred by the Owner shall be incorporated in a Change Order.

15.3 Where the Contractor's services have been so terminated by the Owner, said termination shall not affect any rights of the Owner against the Contractor then existing or which may thereafter accrue. Any retention or payment of monies by the Owner due the Contractor will not release the Contractor from liability.

15.4 Upon seven (7) days written notice to the Contractor, the Owner may, without cause and without prejudice to any other right or remedy, elect to abandon the Project and terminate the Contract. In such case, the Contractor shall be paid for all work executed and any expense sustained plus a reasonable amount for overhead and profit on work executed. If it is determined that the Owner's termination for cause was wrongful, the termination shall be considered a termination for the Owner's convenience and Contractor shall be entitled to the applicable compensation provided in accordance with Section 15.6. Contractor shall make no Claim nor seek to recover overhead, lost anticipated profit or damages in contract for Work not performed by Construction Manager and waives any and all claims or demands for consequential damages or causes of action sounding in tort or arising from or relating to any such wrongful termination.

Contractor May Stop Work or Terminate:

15.5 If through no act or fault of the Contractor, the Work is suspended for a period of more than one hundred eighty (180) days by the Owner or under an order of court or other public authority, or the Owner fails to pay the Contractor any sum approved for payment by Engineer within thirty (30) days, then Contractor may, upon seven (7) days written notice to Owner, terminate the Contract and recover from Owner payment for all work executed and any expense sustained plus a reasonable profit. In addition, and in lieu of terminating the Contract, the Contractor may upon seven (7) days notice to Owner stop the Work until he has been paid all amounts then due. Contractor shall make no claim nor seek to recover overhead, lost anticipated profit or damages in contract for Work not performed by Contractor.

15.6 Termination by the Owner for Convenience: The Owner may, at any time, terminate the Contract for the Owner's convenience and without cause. Upon receipt of notice from the Owner of such termination for the Owner's convenience, the Contractor shall

1. cease operations as directed by the Owner in the notice;
2. take actions necessary, or that the Owner may direct, for the protection and preservation of the Work; and

3. except for Work directed to be performed prior to the effective date of termination stated in the notice, terminate all existing subcontracts and purchase orders and enter into no further subcontracts and purchase orders.

In the case of such termination for the Owner's convenience, the Contractor shall be entitled to receive payment for Work performed up to the date of termination. Contractor shall make no Claim nor seek to recover overhead, lost anticipated profit or damages in contract for Work not performed by Contractor.

ARTICLE 16 - MISCELLANEOUS

Giving Notice:

16.1 Whenever any provision of the Contract Documents requires the giving of written notice it shall be deemed to have been validly given if delivered in person to an officer of the corporation for which it is intended, or if delivered at or sent by registered or certified mail, postage prepaid, to the last business address known to the person who gave the notice.

Computation of Time:

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

Use of Contract Documents:

16.3 All specifications, Drawings and copies thereof furnished by the Engineer are Instruments of Service and shall remain his property. They shall not be used on another Project, and, with the exception of those sets, which have been signed in connection with the execution of the Contract, shall be returned to it on request upon completion of the Project.

16.4 The duties and obligations imposed by these General Conditions and the rights and remedies available hereunder, and, in particular but without limitation, the warranties, guarantees and obligations imposed upon the Contractor by paragraphs 6.30, 13.1, 13.10 and 14.4 and the rights and remedies available to the Owner and Engineer thereunder, shall be in addition to, and shall not be construed in any way as a limitation of, any rights and remedies available to them which are otherwise imposed or available by law, by special guarantee or by other provisions of the Contract Documents.

16.5 Should the Owner or Contractor or any of the respective agents or employees or persons at the site at which the Work is to be performed suffer injury or damage to his person or property because of any error, omission or act of the other or of any of his employees or agents or other for whose acts he is legally liable, claim shall be made in writing to the other party within a reasonable time of the first observance of such injury or damage.

ARTICLE 17 - SUPPLEMENTARY CONDITIONS

Storage of Materials and Equipment:

17.1 All materials, construction equipment, and materials and equipment to be incorporated in the Work shall be placed so as not to injure any part of the Work or existing facilities and so that free access can be had at all times to all parts of the Work and to all public utility installations in the vicinity of the Work. Materials and equipment shall be kept neatly piled and compactly stored in such locations as will cause a minimum of

inconvenience to the Owner, to public travel and adjoining Owners, tenants and occupants. Furthermore, same shall be stored in a safe and secure manner, so that no unauthorized persons may access and use same.

17.2 Use of Premises and Removal of Debris:

17.2.1 The Contractor shall confine his operations and those of his Subcontractors to areas designated by the Owner. The Contractor shall maintain such areas in a clean and orderly condition and remove there from all equipment, materials and debris when or as required or when ordered to do so.

17.2.2 The Contractor expressly undertakes at his own expense:

- a. To take every precaution against injuries to persons or damages to property;
- b. To comply with the regulations governing the operation of premises and to perform his Contract in such a manner as not to interrupt or interfere with the operation of any existing activity on the premises or at the location of the Work;
- c. To store his apparatus, materials, supplies and equipment in such orderly fashion at the site of the Work as will not unduly interfere with the progress of his work or the work of any other Contractor;
- d. To place upon the Work or any part thereof only such loads as are consistent with the safety of that portion of the work;
- e. To frequently clean up all refuse, rubbish, scrap materials, and debris caused by his operations, to the end that at all times the site of the work shall present a neat, orderly and workmanlike appearance;
- f. Before final payment, to remove from the site all public and private property, all surplus materials, false work, temporary structures, including foundations thereof; plants of any description and debris of every nature resulting from his operations and to put the site in a neat, orderly condition; and
- g. Shall leave his work "broom-clean" or its equivalent, unless more exactly specified.

17.3 Where required by the Contract, and where or as directed by the Owner, the Contractor shall comply with the requirements of the aforementioned paragraphs. Should the Contractor fail to comply when or as directed by the Owner, the Owner shall have the right to clean as required and all costs incurred in the performance of this work shall be deducted from the Contract amount in questions of dispute.

Owner's Right to Use Work:

17.4 The Owner may enter upon and use the whole or any portion of the Work, which may be in condition to use at any time previous to its final acceptance by the Owner. Such use shall not constitute or be evidence of acceptance by the Owner of the whole or any part of the material furnished or work performed under the Contract.

Provisions Deemed Inserted:

17.5 Each and every provision required by law to be inserted in the Contract Documents shall be deemed to be inserted herein and the Contract Documents shall be read and enforced as though it were included herein and in the event any such provision is not inserted or is not correctly inserted then, upon the application of either party, the Contract Documents shall forthwith be physically amended to make such insertion or correction.

Safety Health Regulations:

17.6 The Contractor shall comply with the Department of Labor and Safety and Health Regulations for construction promulgated under the Occupational Safety and Health Act of 1970 (PL91-596) and under Section 107 of the Contract Work Hours and Safety Standards Act of 1970 (PL 91-596) and Under Section 107 of the Contract Work Hours and Safety Standards Act (PL 91-54).

The Contractor's attention is directed to the provisions of the Section 4 (b) (4) of the Occupational Safety and Health Act of 1970, as follows:

"Nothing in this Act shall be construed to supersede or in any manner affect any workman's compensation law or to enlarge or diminish or affect in any manner the common law or statutory rights, duties, or liabilities of employers and employees under any law with respect to injuries, diseases, or death of employees arising out of, or in the course of employment."

The Contractor shall have sole responsibility for safety and shall comply with all Federal, State and Local regulations dealing with safety and health.

Protection of Utilities:

17.7 The Contractor is specifically directed to familiarize itself with the existence of aerial, surface or sub-surface structures of municipal and other public service corporations within the construction site. The Contractor's attention is also directed to the fact that during the life of this Contract, the Owners and Operators of utilities may make changes in their facilities. The Contractor will be required to determine the exact locations and elevations of all pertinent structures, utilities and facilities, before construction work and new installations are started, so that there will be no interference with the Work.

Conflict between existing structures, utilities and facilities and new work shall be ascertained by the Contractor and called to the attention of the Owner's Representative. The Contractor shall take these conditions into consideration in making up his bid.

The Contractor shall cooperate with the public utility corporations whose structures (aerial, surface or sub-surface) are within the limits of or along the outside of the Work, to make it possible for them to maintain uninterrupted service. The Contractor shall conduct his operations in such a way as to delay or interfere as little as practicable with the work of the utility corporations.

The Contractor shall give the utility corporations involved reasonable notice, but not less than 72 hours, in advance of operations, which may or will affect their structures.

"ONE-CALL SYSTEM". The Contractor and any Subcontractor whose portion of the Work involves any digging or excavating at the Site shall comply with the New York "one-call" law, by contacting 1-800-272-4480 or 811 prior to any excavation or digging work.

The Contractor shall protect in a suitable manner all utilities encountered and shall repair any damage to structures, utilities and facilities caused by his operations. If the nature of the damage is such as to endanger the satisfactory functioning of the utilities and the necessary repairs are not immediately made by the Contractor, the Work may be done by the respective owning companies or Owner and the cost thereof charged against the Contractor.

It is understood and agreed that the Contractor has considered in his bid all of the permanent and temporary repairs to utility appurtenances, and that no additional compensation will be allowed for any delays, inconveniences, or damage sustained by it due to any interference from the utility appurtenances.

Utility locations shown on the plans are based on available existing utility information and neither the information nor the exact locations are guaranteed to be complete or correct. The Contractor is responsible for determining the exact location of any underground utilities, gas mains, electric conduits, telephone conduits, sewers and water mains, etc., whether shown on the plans or not.

It shall be the Contractor's responsibility to have utility locations marked out (including building services) by the owning utility company and/or private utility locating company prior to commencement of work in the area. The Contractor shall notify the Owner's Representative and the owning company of all utility conflicts with the proposed work as soon as such conflicts are known and not less than 72 hours in advance of any work as required by NYS Industrial Code Rule 53.

In general, building services and house connections for water, sewer and other underground facilities, are not shown on the plans. It shall be the Contractor's responsibility to locate, protect and maintain these services at all times. The Contractor shall make arrangements with the respective utility company for relocation of any services or mains in conflict with the proposed work. Utility relocations shall be made as quickly and efficiently as possible so that individual inconveniences are kept to a minimum. The Contractor shall be responsible for notifying the building owners and occupants 72 hours in advance of any utility relocation, which may affect them.

All pipe lines, structures and the construction site shall be kept clean during construction, and as the Work approaches completion, the Contractor shall systematically and thoroughly clean and make any needed repairs to the same. He shall furnish at his own expense suitable tools and labor for cleaning out all dirt, mortar and foreign substances from the structures, and also the water for cleaning by flushing.

Any leakage of water into any structure exceeding the limits specified, or any deviation from the proper grade for alignment to the structure or any other defect such as to make the Work, in the opinion of the Owner's Representative, fall short of first-class work, shall be properly corrected by the Contractor at his own expense. The cleaning and repairs shall be arranged, so far as practicable, to be completed upon finishing the construction work. Notice to begin this cleaning and repairing if such is needed, will be given in due season by the Owner's Representative who, at the same time, will make his final inspection of the Work.

The Owner's Representative will not prepare his final certificate of this portion of the Work until after the final inspection is made. During this final inspection, the Contractor, at his own expense, shall furnish suitable provisions as to needed drainage, workmen, and appliances.

Notice to Property Owners and Residents:

17.8 In general, construction work shall be conducted in such a manner as to provide no interference of normal pedestrian or vehicular traffic. In some cases it may be necessary to block streets, walks, and driveways for a short period of time. Prior to blocking or obstructing, the Contractor shall notify a responsible person in each residence or commercial establishment with sufficient notice so that the necessary preparations can be made and minimum inconvenience be made to the residents and business people. The Contractor shall furnish a printed form on his letterhead containing the information outlined below. This form shall be posted at all houses where work is to be performed, one day prior to beginning work. The following applicable information shall be filled in on these forms:

1. Date of which work will begin at the particular location involved.
2. Access will or will not be permitted to driveway.
3. Approximate length of time that access to or egress will not be permitted.

The exact wording of this form will be subject to the review by the Owner's Representative.

The Contractor shall notify the Police Department, Fire Department, School Districts, United States Postal Service, etc. at least 24 hours in advance of actual work so that these agencies are aware of conditions they may encounter in the performance of their duties.

Occupying Private Land:

17.9 The Contractor shall not (except after written consent from the proper parties) enter or occupy with men, tools, materials, or equipment, any land outside the rights-of-way or property of the Owner.

Contractor's responsibility for incurred additional costs:

The Contractor shall be responsible for additional Owner, Engineering or Inspection costs, incurred by the Owner during the Contract time as a result of the Contractor:

- a. Electing to work overtime hours.
- b. Electing to work weekends or holidays.
- c. Proposing substitutions, field changes or causing additional work, which results in additional engineering, costs to be incurred by the Owner.
- d. Other actions, which result in additional costs to be incurred by the Owner.

The additional costs would be deducted from the Contractor monthly payment requisitions.

Liquidated Damages

17.10 Contractor recognizes that achieving completion of the Work within the time period set forth above is a material condition of this Agreement, and that if Contractor fails to achieve Substantial Completion of the Work within such period, Owner will incur damages as a result. Owner and Contractor agree that the amount of such damages is difficult to ascertain with any precision. Contractor and Owner have attempted to estimate reasonable daily figures for liquidated damages, not to penalize the Contractor for late completion, but to reasonably estimate probable losses and damages to the Owner in the event of late completion. In the event Contractor does not achieve Substantial Completion of the Work on or before such date/within such period, Contractor shall pay Owner, as liquidated damages and not as penalty the amount stipulated within the Proposal section-PB for each day or part thereof that the actual date of completion of the Work extends beyond the specified period. Contractor acknowledges that the liquidated damages amount set forth in above represents a fair and reasonable estimate of the Owner's probable losses, damage and /or expenses, and are not a penalty, for late completion of the Work. Owner shall be entitled to offset any liquidated damages owed by the Contractor against any amounts owing by Owner to Contractor.

ARTICLE 18 – COMPLIANCE WITH NEW YORK STATE LABOR LAW

18.1 The Contractor shall comply with all provisions of the Labor Law applicable to construction projects, and in particular to public construction projects. Contractor shall insure that it and all Sub-Contractors of Contractor, pay their laborers in compliance with the prevailing wage rate schedule published by the Department of Labor, as the same may be amended during the course of this project, and that Contractor and its Sub-Contractors shall file with Owner transcripts of their payrolls, subscribed, and affirmed under the penalty of perjury, in accordance with Section 220 of the Labor Law.

ARTICLE 19 – ADDITIONAL PROVISIONS

19.1 Representation of Contractor:

19.1.1 The Contractor and all Subcontractors will perform all Work in accordance with the standards of care set forth herein, and in accordance with all Legal Requirements and the Contract Documents.

19.1.2 The Contractor is incorporated, duly organized and in good standing under the laws of the State of New York, and properly licensed by all governmental, public and quasi-public authorities of having jurisdiction over it and the Work, and the site of the project, to perform and complete the Work in accordance herewith:

19.1.3 The Contractor's execution and delivery of the Contract and performance under the Contract Documents are within its duly authorized powers, corporate and otherwise, and have been duly authorized by all requisite corporate and other authorities; and

19.1.4 The Contractor has carefully reviewed, and fully understand all of the Contract Documents, and affirms that all detail, construction procedures and materials shown or specified in the Contract Documents are consistent with sound, standard and acceptable practices within the construction industry in Suffolk County, New York, in connection with projects similar to the Work.

19.1.5 The Contractor at its sole cost and expense, shall furnish all notices, and cause all work done and materials and equipment furnished pursuant to the Contract Documents to comply with all applicable local, state and federal laws, rules, regulations, ordinances and codes ("Legal Requirements"). The Contractor covenants that it shall observe and comply with all Legal Requirements in connection with the performance of the Work and otherwise hereunder. The Contractor shall take and observe all necessary measures and precautions for the safety and protection of all property and person in connection with the performance of the Work, in accordance with all normal and customary measures and precaution taken by contractors performing work similar to the Work within Suffolk County, New York.

19.2 Governing Law; Jurisdiction. The Contract Documents shall be governed by and construed in accordance with the laws of the State of New York, without reference to any conflicts of law principles. Each of the parties hereto irrevocably consents to the exclusive jurisdiction of the courts of the State of New York located within the County of Suffolk, State of New York (or the United States District Court for the Eastern District of New York, with respect to federal law issues) with respect of any claim suit, action or proceeding arising out of or in connection with any Contract Documents or any of the transactions or relationships contemplated hereby. Any final judgment obtained in any action commenced in the New York State Court in the County of Suffolk may be enforced in any other jurisdiction in any manner provided by law. The choice of jurisdiction and venue described herein is mandatory and not permissive in nature, thereby precluding the possibility of litigation or trial in any jurisdiction or venue other than the courts of the State of New York located within the County of Suffolk. The parties hereby waive any right to assert the doctrine of forum non convenience or to object to the laying of venue as provided herein. The parties hereto waive any and all rights to a jury trial.

19.3 Reasonable Omissions. If anything reasonable, necessary or proper to perform or complete the Work has not been shown or described on the Plans, Drawings or Specifications (collectively, the "Project Plans"), through oversight or error, the Contractor shall execute and provide all such omitted work and things as if they were severally shown and described, without extra charge and according to the direction and satisfaction of the Engineer. The figured dimensions on the Plans are to be taken as correct and shall take precedence over scales distances and dimensions, but the Contractor must verify all dimensions of structures before beginning work thereon. If any errors are discovered, the Contractor shall notify the Engineer and any necessary correction shall be made. All notes on the Project Plans shall be carefully observed by the Contractor and are to be made part of the Contract.

ARTICLE 20 – CLAIMS AND DISPUTES

20.1 Claims

20.1.1 Definition: A Claim is a demand or assertion by Contractor seeking, as a matter of right, payment of money, a change in the contract time, or other relief with respect to the terms of the Contract or other disputes and matters in question between the Owner and Contractor arising out of or relating to the Contract. The responsibility to substantiate Claims shall rest with the Contractor making the Claim.

20.1.2 Time Limits on Claims: Claims by the Contractor must be initiated by written notice to the Owner and the Owner's Representative. Claims by the Contractor must be initiated within 21 days after occurrence of the event giving rise to such Claim or within 21 days after the Contractor first recognizes the condition giving rise to the Claim, whichever is earlier. The Contractor waives all Claims and causes of action not commenced in accordance with this Section.

20.1.3 Notice of Claims

20.1.3.1 Claims by the Contractor shall be initiated by notice to the Owner and to the Owner's Representative with a copy sent to the Engineer, The Contractor waives all Claims and causes of action not commenced in accordance with this Section.

20.1.3.2 Claims by the Contractor, where the condition giving rise to the Claim is first discovered after expiration of the period for correction of the Work shall be initiated by notice to the Owner. In such event, no decision by the Owner's Representative is required.

20.1.4 Continuing Contract Performance

20.1.4.1 Pending final resolution of a Claim, the Contractor shall proceed diligently with performance of the Contract and the Owner shall continue to make payments in accordance with the Contract Documents.

20.2 Initial Decision

20.2.1 Claims, excluding those where the condition giving rise to the Claim is first discovered after expiration of the period for correction of the Work, shall be referred to the Owner's Representative for initial decision as provided in Section 9.9.

20.2.2 If the Owner's Representative requests the Contractor to provide a response to a Claim or to furnish additional supporting data relating to any Claim, Contractor shall respond, within ten days after receipt of the request, and shall either (1) provide a response on the requested supporting data, (2) advise the Owner's Representative when the response or supporting data will be furnished, or (3) advise the Owner's Representative that no supporting data will be furnished. Upon receipt of the response or supporting data, if any, the Owner's Representative will either reject or approve the Claim in whole or in part. The Contractor shall be deemed to have waived its Claim and related causes of action if it fails to furnish, or confirm the lack of the existence, of any additional supporting data requested by the Owner's Representative.

20.3 Mediation

20.3.1 All Claims, disputes, or other matters in controversy arising out of or related to the Contract, shall be subject to mediation as a precondition to litigation at the sole discretion of the Owner. Upon the Contractor's notice of mediation or intent to mediate, the Owner shall have 30 days to elect that the Claims, disputes, or other matters in controversy noticed in the mediation demand not be subject to mediation as a precondition for the commencement of litigation. The Owner shall have no obligation to pay for and will not be responsible for any share of the mediator's fee and/or any filing fees for the mediation if the Owner elects to not proceed

with the mediation as provided in this Section.

20.3.2 Subject to Section 20.3.1, the parties shall endeavor to resolve their Claims by mediation which, unless the parties mutually agree otherwise, shall be administered by the American Arbitration Association in accordance with its Construction Industry Mediation Procedures in effect on the date of the Agreement. A request for mediation shall be made in writing, delivered to the other party to the Contract, and filed with the person or entity administering the mediation. The request may be made concurrently with the filing of binding dispute resolution proceedings but, in such event, mediation shall proceed in advance of binding dispute resolution proceedings, which shall be stayed pending mediation for a period of 60 days from the date of filing, unless stayed for a longer period by agreement of the parties or court order

20.3.3 Subject to Section 20.3.1, the parties shall share the mediator's fee and any filing fees equally. The mediation shall be held in the place where the Project is located, unless another location is mutually agreed upon. Agreements reached in mediation shall be enforceable as settlement agreements in any court having jurisdiction thereof.

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GENERAL SPECIFICATIONS

1. GENERAL SPECIFICATIONS

- A. The "General Specifications" of the Contract are hereby made a part of these Contract Specifications and are attached herein.
- B. Where any article of the "General Specifications" is supplemented hereby, the provision of such article shall remain in effect. All the supplemental provisions shall be considered as added thereto. Where any such article is amended, voided or superseded thereby, the provisions of such article not so specifically amended, voided or superseded shall remain in effect.

2. STANDARD SPECIFICATIONS

Where reference is made in these specifications to the Specifications of the American Society of Testing Materials (ASTM); the American Water Works Association (AWWA); American Concrete Institute (ACI); American Institute of Steel Construction (AISC); the National Electrical Manufacturer's Association (NEMA), or other societies, the portion referred to shall be read into and shall be a part of this Contract and Specifications. Materials, methods and equipment shall conform with the latest ASTM, NEMA, etc. specifications as they may relate to or govern the construction work.

It should be noted that the addenda or specifications for certain contract items contained herein refer directly or indirectly to other specifications (i.e., NYSDOT) or to the specifications for standards of workmanship, methods, equipment, quality of materials, etc., even though the items referred to are not included in the proposal. No additional payment will be made by reason of such reference. The cost of the work, materials, equipment, or procedures referred to shall be included in the unit prices bid for the various items in the proposal.

3. NO DIRECT PAYMENT

No separate direct payment may be made for work done and for materials furnished under General Conditions, General Specifications or Specific Conditions of the Contract, but compensation shall be deemed to have been included in the total contract price of the entire Work.

4. JOB MEETINGS

- A. Job meetings will be scheduled by the Owner's Representative during the course of construction. Present at these meetings shall be duly authorized representatives of all contractors and such of their subcontractors as are requested by the Owner's Representative. Contractor shall coordinate progress meetings with each utility.
- B. The purpose of the meetings is to coordinate the efforts of all concerned so that the project will progress to "on time" completion in the most reasonable manner. To this end, the contractors and subcontractors will be prepared to answer questions at the job meetings on pertinent matters such as progress, workmanship, coordination and any other subject on which the Owner's Representative may reasonably require information.
- C. The Owner's Representative may prepare and distribute to all concerned the official minutes of all job meetings.

5. **PROGRESS SCHEDULE**

A. The General Contractor shall, if requested by the Owner:

1. Provide a progress schedule in the form of a bar graph.
2. The General Contractor shall prepare the initial progress schedule and distribute two (2) prints to each contractor. Subsequently, each contractor shall submit two (2) copies of his proposed progress schedule to each of the other contractors who shall return one (1) copy with their comments until all contractors are in agreement with all of the finally corrected proposed progress schedules of each.
3. Each contractor shall then submit for approval two (2) prints of his corrected and agreed upon proposed schedule to the Owner's Representative and shall revise same until approved by the Owner's Representative.
4. Each contractor shall then submit his up-to-date progress schedule before the third day of each month.
5. A two (2) week look ahead schedule shall be submitted every Friday at 12:00PM to Owner's Representative.

6. **SANITARY REGULATIONS**

Necessary sanitary conveniences for the use of the laborers on the Work, properly secluded from observation, shall be erected and maintained by the Contractor in such manner and at such points as shall be approved, and their use shall be strictly enforced. The contents of the same shall be removed, with sufficient frequency to prevent nuisance, and disposed of to the satisfaction of the Owner's Representative. The Contractor shall obey and enforce such other sanitary regulations and orders and shall take such precautions against infectious diseases as may be deemed necessary. In case any infectious diseases occur among his employees, the Contractor shall arrange for the immediate removal of patient from the Work and his isolation from all persons connected with the Work. The building of shanties or other structures for housing the men, tools, machinery or supplies will be permitted only at approved places, and the sanitary condition of the grounds in and at such shanties or other structures must, at all times, be maintained in a satisfactory manner.

7. **TEMPORARY SHEDS FOR STORAGE**

The General Contractor shall provide and maintain on the premises where directed, watertight storage sheds for storage of all materials which might be damaged by weather and shall remove them from the site at the completion of the Work.

8. **COOPERATION**

The Contractor and all subcontractors shall coordinate their work with all adjacent work (public or private) and shall coordinate with all other trades so as to facilitate the general progress of the Work. Each trade shall afford all other trades every reasonable opportunity for the installation of their work and for the storage of their material.

9. **PROTECTION OF WORK**

The Contractor shall place a sufficiency of red lights on or near any work accessible the public and keep them burning sunset to sunrise; he shall erect suitable railings or barriers and shall provide watchmen on the Work by day or night, as required and deemed necessary for the safety of the Work, on public or adjoining property.

The Owner reserves the right to remedy any neglect on the part of the Contractor as regards to the protection of the Work which may come to its attention, after 24 hours notice in writing; except that in cases of

emergency, it shall have the right to remedy any neglect without notice, and in either case to deduct the cost of such remedy from money due the Contractor.

10. **PHOTOGRAPHS OR VIDEOTAPING**

Prior and after the commencement of any work to be performed under this Contract, the Contractor shall inspect all structures, buildings, walls, curbs, and sidewalks along the route and/or in the vicinity of the Work with the Owner's Representative. Whenever cracks, breaks, defects, faults or structural decay is expected or visible, photographs shall be taken by a professional photographer identified to record each and every defect. Failure on the part of the Contractor to take such photographs or videotapes will be construed as meaning that no defects existed prior to construction. Two (2) sets of photographs or videotapes shall be furnished to the Owner prior to commencement of work.

11. **ADDITIONAL INSTRUCTIONS AND DETAIL DRAWINGS**

The Contractor may be furnished additional instructions and detail drawings as necessary to carry out the Work included in the Contract.

The additional drawings and instructions thus supplied to the Contractor will coordinate with the Contract Documents. The Contractor shall carry out the Work in accordance with the additional detail drawings and instructions. The Contractor and the Owner's Representative will jointly prepare a schedule, fixing the dates at which special detail Shop Drawings, the beginning of manufacture testing and installation of materials, supplies and equipment, and the completion of the various parts of the Work; each such schedule to be subject to change from time to time in accordance with the progress of the Work.

12. **EXCAVATION**

Excavation shall consist of performing all operations necessary to excavate all material, of whatever nature, necessary for the construction of sewers, roadways, foundations for structures, drainage facilities, and to excavate trenches for culverts, drainage pipes and water mains.

The Contractor shall conduct all excavation operations in a safe and prudent manner in order to avoid damage to property, utilities and vegetation outside of the grading limits. All damage caused by the Contractor's operations shall be repaired by it at his own expense to the satisfaction of the Owner's Representative. No separate payment will be made for any precautionary measures and repairs but the cost thereof shall be included in the prices bid for the applicable items of excavation.

13. **UNSUITABLE MATERIAL**

All material which, in the opinion of the Owner's Representative, is unsuitable for reuse, becomes the property of the Contractor and shall be disposed of by it outside the limits of the contract area at his own expense. Unsuitable material includes compressible material and material containing large or frozen lumps, clods, large stones, wood, debris, waste, frozen materials, vegetation or other organic matter and other deleterious materials.

14. **EXCESS SUITABLE MATERIAL**

All suitable material removed from all classes of excavation embraced in these Specifications which are not required for backfill, the formation of embankments, shoulders, refilling and other uses as indicated on the Plans, shall be considered as excess material and shall be disposed of by one of the following methods as determined by the Owner's Representative:

- A. Disposed of in spoil areas where directed by the Owner's Representative.
- B. Disposed of by the Contractor at his own cost and expense outside the limits of contract area.

All disposal shall be made as follows: No contractor is permitted to dump spoil onto those areas designated as wetlands or waterways. Surplus excavated material, either unsatisfactory for, or over and above that required for backfilling, shall be disposed of by the Contractor at his own expense, off the site of work in a lawful manner at the appropriate landfill.

15. **DEWATERING**

All excavation for structures and pipe laying must be kept free of water and for this purpose sufficient pumps or pumping machinery must be provided and maintained in working order by the Contractor at his own expense.

Sheeting shall also be used as required for the safety of employees exposed to the hazard of falling or sliding material from any trench or other excavation. Sheeting shall be adequate and conform to the applicable requirements of the New York State Department of Labor pursuant to the Federal 1970 Occupational Safety and Health Act. In the event the provisions of the aforesaid stated requirements are inconsistent in any respect, the more stringent shall govern. These requirements are the minimum and may have to be increased depending on the hazard or as ordered by the Owner's Representative.

Any proposed dewatering operation must be carried out by duly registered Well Drillers in accordance with Section 15-1525 of the Environmental Conservation Law.

The Contractor is responsible for notifying the New York State Department of Environmental Conservation prior to the proposed starting date of the dewatering operation, giving the following details in full: the name of the Registered Well Driller, the details of the dewatering system to be installed, including the size, the number and the spacing of the Well Points, the pump capacity, the pumping rate and the expected volume of water to be withdrawn.

Also to be included will be the amount of water table drawdown, the final disposition of the water and the expected duration of the operation. Before any dewatering operation is to begin, approval of all the aforementioned items is required. If any unforeseen emergency construction arises, the Contractor must notify the New York State Department of Environmental Conservation as soon as possible that dewatering under such circumstances has been started.

Notification will be made to the following:

Regional Permit Administrator Region 1
Division of Environmental Permits
New York State Department of Environmental Conservation
Building 40, SUNY at Stony Brook Campus
Stony Brook, NY 11790-2356
Phone No. (631) 444-0417

The entire dewatering operation and the apparatus connected therewith must at all reasonable hours be open to inspection and to testing by duly accredited representatives of the Department of Environmental Conservation.

Where private wells, used for water supply, have become dry or cease to produce potable water due to the dewatering operation, the Contractor will be responsible for providing the necessary water at no cost to the Owner.

No Contractor is permitted to dump spoil onto those areas designated as wetlands or waterways. Further, the Contractor shall not stockpile or store spoil, materials, tools or equipment on wetlands. The Contractor shall not discharge groundwater directly into creeks, ponds, lakes or waterways without first obtaining proper permit from the New York State Department of Environmental Conservation. Before discharge into surface waters, dewatering effluents must be filtered through hay bales or detained settling basins to avoid sedimentation to the receiving waters. If necessary, baffling devices shall be used to prevent the scouring of the bed or banks of any receiving stream. Every effort shall be made to discharge groundwater into existing recharge basins. The use of dewatering systems utilizing central pumping stations and header or discharge lines which remain in place at one location for more than six (6) weeks will not be permitted unless approved in writing by the Owner's Representative. All well point header and discharge lines must not remain in place beyond the period for which they are required to perform work in their immediate vicinity, nor shall they be placed far in advance of their use. All dewatering systems shall be subject to approval of the Owner's Representative who shall be the sole judge as to the conformance with the above requirements. Installations which fail to meet the above criteria will be ordered removed and considered a violation of the traffic maintenance provisions of the Contract.

When dewatering systems utilizing central pumping stations are used, these stations will be acoustically shielded from neighboring residences. Styrofoam or other sound absorbing material will be used on the inside of the enclosure surrounding the pump. In addition, an exhaust stack extension will be provided when required by the Engineer. The use of old pumps generating excessive emissions and/or noise will not be permitted.

- A. A continuous sound level of 60 dBA or
- B. One or more of the following octave band sound pressure levels, as listed below:

<u>Frequency (HZ)</u>	<u>dB</u>
63	77
125	68
250	60
500	56
1000	53
2000	50
4000	48
8000	46

It is common practice to use sound level meters ANSI-Type II specifications for noise regulation enforcement with a measurement tolerance of +2dB. The United States Environmental Protection Agency will have the option of monitoring noise levels of dewatering equipment and Type II equipment will be considered adequate for such monitoring.

16. **BACKFILLING AND COMPACTION**

Backfilling in all cases, must be done with suitable material acceptable to the Owner's Representative.

Special care shall be exercised in placing and compacting material immediately adjacent to pipe and masonry to avoid damage and affect the alignment of pipe. The material around all pipe and for a depth of one (1) foot above the top of all pipes shall be placed by hand and thoroughly tamped in layers not to exceed six (6) inches and compacted with equipment suitable and adequate for uniform compaction to the specified densities. The backfilling under the lower half of the pipe shall be carefully selected earth. In backfilling, only soft,

unfrozen earth shall be used for refilling. The balance of the backfill shall be deposited in layers not over twelve (12) inches in thickness and each layer shall be thoroughly compacted at a minimum dry density of ninety-five (95%) percent of the maximum dry weight density in pounds per cubic foot, as determined by the ASTM D 1557 Modified Proctor density test. The compaction equipment shall be of a type approved by the Owner's Representative.

The earth for backfilling shall not contain any stone larger than 6" and shall be the best of material. No fill containing slag, coal, blast furnace refuse or material containing large or frozen lumps, clods, large stones, wood, debris, waste, frozen materials, vegetation or other organic matter and other material which may prove deleterious will be permitted.

Certain trenches may be designated by the Owner's Representative to be thoroughly jetted after backfilling in lieu of vibrating. Water for jetting shall be provided by the Contractor. In any event, the responsibility for maintaining the trenches during the life of the Contract and for one (1) year thereafter is the obligation of the Contractor under this Contract.

All trenches backfilled within the roadway area shall be maintained level with original surface at all times and shall be kept stabilized as a riding surface.

Driveways shall be closed for the minimum time it takes to properly install the pipe, structures and backfill. In no event shall any excavation be left open overnight at a driveway or street intersection. A suitable and practical walkway shall be maintained at all times when the construction disturbs the normally used sidewalk area until final restoration is made.

17. **REMOVAL OF TEMPORARY STRUCTURES**

On or before the completion of the Work, the Contractor shall without charge therefor, tear down and remove all buildings and other structures built by it for facilitating the carrying out of the Work and shall remove all rubbish of all kinds from the grounds which he has occupied, and shall leave the site of the Work clean and in good condition.

18. **RESTORATION**

The Contractor shall restore all disturbed areas in kind. Restoration of grassed areas including any seeding, fertilizing, etc., shall be as directed and in accordance with the technical specifications and as shown in the Contract Drawings. Restoration in paved areas shall be as specified in the technical specifications and as shown in the Contract Drawings.

19. **EMERGENCY TELEPHONE NUMBERS**

- A. In order to facilitate the contacting of the Contractor's personnel in the event of emergency calls during other than normal working hours, the Contractor shall submit to the Engineer the names and phone numbers of three (3) persons having authority to act for the Contractor. This submission shall be made prior to the commencement of any work under this contract.
- B. When the Contractor or any of the three (3) persons designated to act for him has been notified that an emergency condition exists, appropriate action shall immediately be taken by the Contractor to rectify said emergency condition. Failure of the Contractor to commence the work of rectifying said emergency condition. Failure of the Contractor to commence the work of rectifying said emergency condition within three (3) hours after being notified releases the Owner to correct said emergency condition and charge the Contractor for

whatever costs the Owner incurs.

20. **PRIVATE WORK**

Under this Contract, the Contractor, subcontractor(s), or any employees of either shall not be permitted to do private work within the contract limits during normal working hours. Normal working hours shall be those hours during which the Contractor or subcontractor(s) are working on various items of the Contract.

Any action contrary to this Addendum shall be considered a branch of the Contract and shall be dealt with as such. The Contractor shall also supply the Owner's Representative with areas of private work completed, within the contract limits.

21. **OWNER'S REPRESENTATIVE ENGINEER'S FIELD OFFICE**

On projects requiring an engineer's field office, the Owner's Representative shall penalize the Contractor \$150.00 per day for not providing a fully equipped and operational field office at the commencement of construction and for each day during the construction that the engineer's field office is not properly equipped and/or maintained in accordance with the specifications.

22. **TIME AND MATERIAL REQUIREMENTS FOR DISPUTED WORK**

The Contractor shall furnish to the Owner's Representative, for each day on which work is performed or for which a work force is on the project site, a list of all personnel by full name, occupation (in accordance with pay schedule), social security number, and hours worked. The list of individuals employed on the project site shall be furnished to the Construction Inspector each day prior to start of work. The number of hours each individual worked is to be furnished to the construction Inspector either at the completion of work for the day or prior to start of work the following day. Each Subcontractor employed on the project shall submit the same information regarding his employees. It is the Contractor's responsibility to obtain this information and furnish it to the Construction Inspector.

The Contractor shall furnish to the Owner's Representative, for each day on which work is performed, a list of all vehicles and equipment, properly identified, with the hours each was in use. The list of equipment shall be furnished to the Construction Inspector each day prior to the start of work. The number of hours of use shall be furnished by the Contractor to the Construction Inspector at the completion of work or prior to start of work the following day.

Where work has been directed to be performed on the basis of time and material or where the Contractor has disputed the basis of payment, the Contractor shall submit to the Owner's Representative, at the completion of each day so worked, a listing of all personnel and equipment having worked and invoices for all materials incorporated into the work. Such listing shall show the full name, occupation (by payroll classification), number of hours worked, social security number, vehicles or equipment properly identified with number of hours worked and copies of invoices for all materials used. The Construction Inspector shall be furnished with duplicate copies of all submissions and shall sign same indicating his acceptance or noting any variances from such submissions. Subcontractors shall meet the same requirements. No payment will be made or claims accepted or approved for any time and material work without these properly verified labor, equipment and material records. No other records for payment of such work will be recognized, and the Contractor will have no claim against the Owner for refusal to accept claims not documented as above. In addition, the Contractor on submission to the Owner of claims for such work, shall submit payroll and other pertinent records documenting wages and fringe benefits, equipment rental costs and material costs. All material costs must be verified by receipted invoices.

All cost involved shall be included and absorbed in the price bid for all the other items of this Contract.

23. **TEMPORARY STAIRS, LADDERS, RAMPS, RUNWAYS, HOISTS**

The Contractor shall furnish and maintain all equipment such as temporary stairs, ladders, ramps, scaffolds, hoists, runways, derricks, chutes, elevators, etc., as required for the proper execution of the Work by all trades. All such apparatus, equipment and construction shall meet all requirements of the Labor Law and other State or local laws applicable thereto.

24. **SCAFFOLDING**

The Contractor shall provide exterior and interior scaffolding for the construction of all walls.

The Contractor shall allow other contractors and subcontractors to use scaffolds provided by it.

All scaffolds shall be built in accordance with the requirements of all State and local laws and regulations.

25. **ADVERTISEMENTS**

No signs or advertisements will be allowed to be displayed unless permission is obtained from the Owner and the sign is approved by the Owner.

26. **CLEANING AND FINAL INSPECTION**

All pipelines, structures and the construction site shall be kept clean during construction, and as the Work approaches completion, the Contractor shall systematically and thoroughly clean and make any needed repairs to the same. He shall furnish at his own expense suitable tools and labor for cleaning out all dirt, rainwater, mortar and foreign substances from the structures, and also the water for cleaning by flushing. Any leakage of water into or out of any structure exceeding the limits specified, or any deviation from the proper grade for alignment to the structure or any other defect such as to make the Work, in opinion of the Owner's Representative, fall short of first-class work, shall be properly corrected by the Contractor at his own expense. The cleaning and repairs shall be arranged, so far as practicable, to be completed upon finishing the construction work. Notice to begin this cleaning and repairing if such is needed, will be given by the Owner's Representative who, at the same time, will make his final inspection of the Work.

The Owner's Representative will not prepare his final certificate of this portion of Work until after the final inspection is made. During this final inspection, the Contractor, at his own expense, shall provide suitable provisions as needed to provide the above-mentioned work.

27. **OPENINGS FOR INSTALLATION OF MECHANICAL AND ELECTRICAL EQUIPMENT**

The Contractor shall provide all necessary openings for installation of plumbing, heating and ventilation and electrical equipment within the proposed construction, except where shown otherwise on the Contract Drawings.

The Contractor shall provide steel sleeves for inclusion in the proposed construction. The responsibility of exactness of size and location of these sleeves shall be of the Contractor. Wood for box openings shall be provided by the Contractor.

All cutting and patching required to correct a faulty sleeve size or location shall be done by the Contractor. All costs for such work shall be borne by the Contractor.

28. **NAMEPLATES AND DEVICE PLATES**

Where required, nameplates shall be phenolic type, 2 ½" x ¾", with black background and white engraved lettering.

Nameplates shall be securely affixed to each individual piece of equipment and/or switch, etc., by means of non-corrosive screws. Nameplates shall not be glued to equipment unless circumstances warrant such action and shall be done only if prior approval is obtained from the Owner's Representative. Nameplates shall bear notations as shown on the Contract Drawings for each piece of equipment or as otherwise directed by the Owner's Representative. In either case, each Contractor shall submit a list of nameplates for review and approval by the Owner's Representative.

29. **OPERATOR'S INSTRUCTION MANUALS**

The Contractor shall provide Operator's Instruction Manuals, a directed and for all equipment furnished under each Contract. Instructions shall be clearly printed and shall be bound under a hard cover. The Contractor shall submit "Instructions" to the Owner's Representative for approval prior to binding. Copies shall be given to the Owner's Representative. A minimum of three (3) copies are required. Instructions shall be interpreted as catalog cuts and complete parts lists on equipment, maintenance procedures on equipment, complete wiring diagrams, etc.

30. **VECTOR CONTROL**

The Contractor shall provide rodent and pest control as necessary to eliminate infestation of the construction and/or staging area. The methods and materials used shall not adversely affect environmental, safety or health conditions at the site and surrounding areas. The cost of this work shall be included in the price bid for the Contract.

31. **PUNCH LIST**

The Contract shall complete all punch list items within 30 working days after the final inspection (walk through) by the Owner's Representative and Contractor.

32. **RECORD DRAWINGS**

In addition to the requirements stated in the General Conditions, the Contractor shall furnish, upon completion of all work, up to five (5) sets of Record Drawings and one (1) set in pdf format.

- A. Record Documents and Shop Drawings: Legibly mark each item to record actual construction including:
 - 1. Measured depths of foundations in relation to finish main floor datum.
 - 2. Measured horizontal and vertical locations of underground utilities and appurtenances, referenced to permanent surface improvements.
 - 3. Measured locations of internal utilities and appurtenances concealed in construction, referenced to visible and accessible features of the Work.
 - 4. Field changes of dimension and detail.
 - 5. Details not on original Contract Drawings.
- B. Contractor shall sign and review.

- C. All record drawings must be certified as complete and accurate. Submit record drawings in the same AutoCAD format/version as the original Contract Drawings.

33. **NORMAL OPERATIONS AND BYPASSING**

The normal operations of the roads shall not be disturbed unless approval by Owner is granted. All requests by Contractor shall be in writing and delivered to Owner, a minimum of three (3) days in advance of intended work. Approvals to such requests shall be issued in writing, with no work to commence prior to receipt of such approval from the Owner. The work performed shall in no way interfere with the day-to-day operations Village.

34. **CLEANING OF EXISTING STRUCTURES TO BE ALTERED**

All tank walls, wet wells, manholes, etc. to be altered as shown on the Contract Drawings shall first be cleaned by power washing after bypassing operations have been completed. The immediate area of the structure under reconstruction or alteration shall first be power washed by the Contractor using a machine having a minimum output pressure rating of 1,000 psi. The structure shall be cleaned and all residual material removed to the satisfaction of the Owner's Representative. All costs shall be borne by the Contractor.

35. **REQUESTED OWNER ASSISTANCE HELD HARMLESS**

If by any type of request, oral or otherwise from the Contractor, the Owner elects to assist the Contractor in the unloading or handling of equipment or materials or any other items related to the Contract, the Contractor shall indemnify and hold harmless any damage or losses caused by Owner's assistance.

36. **TIME OF WORK**

Overtime work by the Contractor necessary to complete the work shall be considered as normal procedure under this Contract, and the Contractor shall make no claims for extra compensation as a result thereof. The Contractor shall be prepared to work and supply multiple work crews as necessary to complete the Work including testing and acceptance as specified, within the specified time frame and the time of completion set forth in the Contract Documents.

The normal working hours for the project are between 7:00 AM and 5:00 PM Monday through Friday, unless otherwise directed by Owner. When required to meet the Contract Completion dates, the Contractor is advised that they shall work scheduled overtime or second shifts as needed. The Contractors shall have sufficient construction materials, labor, equipment, tools and supervision to support scheduled overtime or second shifts when required.

It is understood that the Contractor has reviewed the schedule and has included in their bid sufficient monies to meet the schedule and will make no claim for extra compensation because of additional costs to meet scheduled dates.

The Contractor is advised that they will be directed to take remedial action as necessary to recover lost time on any critical items as determined from the Construction Schedule.

Due to the residential nature of the Project, no night work will be allowed. If it shall become imperative to perform Work at night, the Owner shall be informed at least 24 hours in advance of Work done during off hours. Temporary lighting and all other necessary facilities for performing and inspecting the Work shall be provided as required or as directed by the Owner's Representative.

Unless otherwise specifically permitted, all Work that would be subject to damage shall be stopped during inclement, stormy or freezing weather. Only such work that will not cause injury to workmanship or materials will be permitted. The Contractor shall carefully protect his Work against damage or injury from the weather, and when Work is permitted during freezing weather, he/she shall provide and maintain approved facilities for heating the materials and for protecting the finished Work.

The Contractor shall require permission, in writing, to perform contractual work outside the regular Owner working hours, or on official Owner holidays. This written request should be received by the Owner 24 hours in advance of beginning the work. The Contractor is responsible for coordination with the Owner's Representative and/or his duly authorized representative, prior to the start of the work to determine the dates of observance of the official Owner holidays that may occur during the course of the Contract. The official Owner holidays include:

- New Year's Day
- Martin Luther King, Jr. Day
- President's Day
- Memorial Day
- Independence Day
- Labor Day
- Columbus Day
- Election Day
- Veteran's Day
- Thanksgiving Day
- Friday after Thanksgiving Day
- Christmas Day

Failure of the Contractor to consider official Owner holidays during the preparation of their work plans and schedules shall not be cause for a delay claim against the Owner.

Contractor shall obtain permission from the Owner and Owner's Representative prior to prosecuting any portion of the Work beyond the standard working days or hours. Should circumstances arise during the course of the Contract, where the Contractor works outside of regular working hours, or on weekends or official Owner holidays, regardless if this work is performed as a result of the Contractor's request or as required by the contract documents, or as required by the approved baseline schedule (resource loaded); the Contractor will reimburse the Owner for the cost of providing inspection and/or assistance at the Owner and/or Owner's Representative's standard hourly billing rate adjusted by the appropriate premium for overtime, whether time-and-one-half, double time, or otherwise, as applicable, prior to applying the Owner's Representative multiplier. The Owner and Owner's Representative will review the scope of the operations and determine on a case-by-case basis the extent of construction oversight that may be required. Furthermore, failure of the Contractor to have considered such contingency cost in his bid price shall not be cause for an additional cost claim to the Owner.

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UTILITY COORDINATION

Contact Information:

Village of Greenport Electric Department

236 Third Street, Greenport NY 11944
Office: 631-477-0248
Night: 631-477-0172

National Grid

Steven Chau
Gas Construction and Maintenance Engineering
National Grid
1 Orinoco Dr
Brightwaters, NY 11718
huy.chau@nationalgrid.com
516-563-3193

Village of Greenport Water & Sewer Departments

236 Third Street, Greenport NY 11944
Office: 631-477-0248
Night: 631-477-0172

Verizon (Suffolk)

Verizon
501 North Ocean Avenue
Patchogue, New York 11772
811-digging

Cablevision (East of Sagtikos Pkwy)

Cablevision
11-12 Industrial Road
Port Jefferson Station, New York 11776
Office: 516-364-8400

Contractor shall give notice in writing to all utility and other companies or individuals owning or controlling any pipes, conduits, or other structures which shall be found, upon excavating, to occupy the place of the water mains, sewers and appurtenances thereof to be laid or built as required herein so that said companies or individuals may remove their structures at their expense and the Contractor shall not cause any hinderance to or interference with such companies or individuals in removing their structures. However, if said utility, or other companies or individuals, within five (5) days after receipt of such notice shall fail to remove their structures, the Contractor shall, upon the written approval of owner, remove the same, it being expressly understood that the cost thereof shall not be a charge against the owner, but shall be a matter for adjustment between the Contractor and the company or companies or individuals concerned.

The Contractor is responsible to coordinate his activities directly with the utility. Any Contractor project delays resulting from the Utility companies is a matter solely between the utility and the

Contractor. The Village will not participate in any discussions resulting from Contract loss of production or delay claims.

ROADWAY RESURFACING:

During the construction operation, it is expected that there will be various utility conflicts at numerous locations. These conflicts involve valve boxes, manholes and meters. Contractor shall be in contact with the various utilities prior to the commencement of any resurfacing operation so that a plan can be in place to resolve any potential conflicts. It is anticipated that the majority of these conflicts will be settled by simply adjusting the height of the valve boxes, manholes and meter covers so that they are level with the elevation of the new pavement.

CONTRACTOR'S RESPONSIBILITY

It is the Contractor's responsibility to inform the Engineer in advance when a situation arises that forces the Contractor to cancel work for a given day. For example, if the Contractor informs the Engineer that he will be on the job on a certain day and then has to cancel the appointment because he cannot obtain certain materials or equipment, it is the Contractor's responsibility to inform the Engineer of these latest developments and to let him know that construction observation services will not be needed for that day.

In the event that the Engineer is not given ample warning of such a cancellation and, as a result, unnecessary time is spent sending field personnel out to the project site to observe the previously scheduled construction, sufficient funds will be deducted from monies due the Contractor to reimburse the Engineer for his wasted time.

By the same token, sufficient funds will be deducted from monies due the Contractor to reimburse the Engineer for any services rendered in the field or in the office regarding work that had to be performed a second time due to substandard work on the part of the Contractor on the original work.

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INDEMNITY, LIMITATION OF LIABILITY

1.0 - INDEMNITY

The Contractor and all subcontractors performing work in connection with this Contract shall HOLD HARMLESS, INDEMNIFY and DEFEND the Owner and Engineer, their consultants and each of their officers, agents and employees from any liability, claims, losses or damage including reasonable costs of defense arising out of or alleged to arise from the Contractor's or subcontractor's negligence in the performance of the work described in the Contract Documents, but not including liability that may be due to the sole negligence of the Owner, the Engineer or their officers, agents and employees.

2.0 - LIMITATION OF LIABILITY

The Contractor and all subcontractors agree to limit the liability of the Owner and the Engineer due to the Engineer's professional negligent errors or omissions such that the total aggregate liability of the Engineer to those named shall not exceed Fifty Thousand Dollars (\$50,000) or five percent (5%) of the Contract award amount, whichever is greater.

3.0 - NO CLAIM FOR DELAY

The Contractor and all subcontractors agree to HOLD HARMLESS from any and all claims for loss or damages of any nature against the Owner or Engineer for delays in commencement, performance or completion of the Contract, regardless of whether said delays are, or may be, caused by the Owner, Engineer or any governmental agency. Notwithstanding anything to the contrary in the Contract Documents, an extension of the Contract Time shall be the sole remedy of the Contractor for any (1) delay in the commencement, prosecution or completion of the Work, (2) hindrance or obstruction in the performance of the Work, (3) loss of productivity; or (4) any delay-related claim (collectively referred in this paragraph as "Delay") whether or not such Delay is foreseeable. In no event shall the Contractor be entitled to any compensation or recovery of any consequential damages, lost opportunity costs, impact damages, labor inefficiency damages, or overhead costs.

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TECHNICAL SPECIFICATIONS

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SECTION 011000 - SUMMARY

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. Section Includes:

1. Project information.
2. Work covered by Contract Documents.
3. Phased construction.
4. Work by Owner.
5. Work under separate contracts.
6. Future work.
7. Owner-furnished products.
8. Access to site.
9. Coordination with occupants.
10. Work restrictions.
11. Specification and Drawing conventions.
12. Miscellaneous provisions.

- B. Related Requirements:

1. Section 015000 "Temporary Facilities and Controls" for limitations and procedures governing temporary use of Owner's facilities.

1.3 PROJECT INFORMATION

- A. Project Identification: Sewage Treatment Plant Improvements – Contract No. 1 – Screw Pump Replacement.

1. Project Location: Village of Greenport Sewage Treatment Plant, 2075 Moore's Lane, Greenport, NY 11944.

- B. Owner: Inc. Village of Greenport, 236 Third Street, Greenport, NY 11944.

1. Owner's Representative: Adam Hubbard, Senior Plant Operator, 631-477-0390, ahubbard@greenportvillage.org.
2. Owner's Representative: Adam Brautigam, Treasurer, 631-477-0248 ext. 217, abrautigam@greenportvillage.org

- C. Architect: JRH Consulting Engineers + Architects, DPC, 3555 Veterans Memorial Highway, Suite A, Ronkonkoma, NY 11779; 631-234-2220.

SECTION 011000 - SUMMARY

1. Project Principal: J. Robert Holzmacher, P.E., 631-234-2220 ext. 101, bob@holzmacher.com.
2. Project Manager: Anthony J. Zalak, 631-234-2220 ext. 103, tony@holzmacher.com.
3. Project Engineer: Alexander Policastro, P.E., 631-234-2220 ext. 116, alex@holzmacher.com.

1.4 WORK COVERED BY CONTRACT DOCUMENTS

- A. The Work of Project is defined by the Contract Documents and consists of the following:
 1. Sanitary Sewage Treatment Plant Improvement including replacement of two existing screw pumps and associated mechanical and electrical work. Contract work includes removal of each existing pump and installation of new pumps, furnished by the Owner, and related Work indicated in the Contract Documents. Maintenance of one screw pump and clarifier in operation throughout construction is an integral element of this contract. The second pump may not be removed from service until the first pump has been replaced, is fully functional and Owner has accepted it.
- B. Type of Contract:
 1. The project under this bid is a single contract.

1.5 ACCESS TO SITE

- A. General: The Project site includes a sanitary sewage treatment plant that must remain in service except for scheduled periods of limited duration for shut down of specific pieces of equipment. Maintenance of Owner's ability to operate plant facilities and to maintain sanitary conditions is an essential element of each contract. Maintenance of site security in support of such operations is also an essential element of this contract.
- B. General: Contractor shall have limited use of Project site for construction operations as indicated on Drawings by the Contract limits and as indicated by requirements of this Section.
- C. Use of Site: Limit use of Project site to areas within the Contract limits indicated. Do not disturb portions of Project site beyond areas in which the Work is indicated.
 1. Limits: Confine construction operations to vicinity of work shown. Owner has limited space available for stockpile and storage and will endeavor to facilitate Contractor operations, at Owner's sole discretion.
 2. Driveways, Walkways and Entrances: Keep driveways, loading areas, and entrances serving premises clear and available to Owner, Owner's employees, and

SECTION 011000 - SUMMARY

emergency vehicles at all times. Do not use these areas for parking or for 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.
- D. Condition of Existing Buildings: Maintain portions of existing buildings affected by construction operations in a weathertight condition throughout construction period. Repair damage caused by construction operations.
- E. Condition of Existing Grounds: Maintain portions of existing grounds, landscaping, and hardscaping affected by construction operations throughout construction period. Repair damage caused by construction operations.

1.6 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 written permission from Owner and approval of authorities having jurisdiction.
 2. Maintain access to existing power plant on adjoining site without exception. Cooperate with power plant operators and Owner to avoid service interruptions.
 3. Notify Owner not less than 72 hours in advance of activities that will affect Owner's operations.
- B. Owner Limited Occupancy of Completed Areas of Construction: Owner reserves the right to occupy and to place and install equipment in completed portions of the Work, prior to Substantial Completion of the Work, provided such occupancy does not interfere with completion of the Work. Such placement of equipment and limited occupancy shall not constitute acceptance of the total Work.
1. Architect will prepare a Certificate of Substantial Completion for each specific portion of the Work to be occupied prior to Owner acceptance of the completed Work.
 2. Obtain a Certificate of Occupancy from authorities having jurisdiction before limited Owner occupancy.
 3. Before limited Owner occupancy, piping systems shall be fully operational, and required tests and inspections shall be successfully completed. On occupancy,

SECTION 011000 - SUMMARY

Owner will operate and maintain piping systems serving occupied portions of Work.

4. On occupancy, Owner will assume responsibility for maintenance and custodial service for occupied portions of Work.

1.7 WORK RESTRICTIONS

- A. Work Restrictions, General: Comply with restrictions on construction operations.
 1. Comply with limitations on use of public streets and with other requirements of authorities having jurisdiction.
- B. On-Site Work Hours: Limit work in the existing buildings to normal business working hours of 7 a.m. to 5 p.m., Monday through Friday, unless otherwise indicated.
 1. Weekend Hours: As agreed by Owner, in advance.
 2. Early Morning Hours: As agreed by Owner, in advance.
 3. Hours for Utility Shutdowns: As agreed by Owner, in advance.
 4. Hours for Noisy Activities: 8 a.m. to 5 p.m., Monday through Friday, unless otherwise agreed by Owner, in advance.
- 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 Architect and Owner not less than two days in advance of proposed utility interruptions.
 2. Obtain Owner's 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 disruption 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. Restricted Substances: Use of tobacco products and other controlled substances on Project site is not permitted.
- F. Employee Identification: Provide identification tags for Contractor personnel working on Project site. Require personnel to use identification tags at all times.
- G. Employee Screening: Comply with Owner's requirements for screening of Contractor personnel working on Project site.
 1. Maintain list of approved screened personnel with Owner's representative.

SECTION 011000 - SUMMARY

1.8 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.
- 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 SECTION 011000

SECTION 011000 - SUMMARY

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SECTION 012500 - SUBSTITUTION PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. Section includes administrative and procedural requirements for substitutions.
- B. Related Requirements:
 - 1. Section 016000 "Product Requirements" for requirements for submitting comparable product submittals for products by listed manufacturers.

1.3 DEFINITIONS

- A. Substitutions: Changes in products, materials, equipment, and methods of construction from those required by the Contract Documents and proposed by Contractor.
 - 1. Substitutions 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. Substitutions for Convenience: Changes proposed by Contractor or Owner that are not required in order to meet other Project requirements but may offer advantage to Contractor or Owner.

1.4 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. Substitution Request Form: Use facsimile of form provided in Project Manual.
 - 2. Documentation: Show compliance with requirements for substitutions and the following, as applicable:
 - a. Statement indicating why specified product or fabrication or installation method cannot be provided, if applicable.
 - b. Coordination of 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 comparison of significant qualities of proposed substitutions 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

SECTION 012500 - SUBSTITUTION PROCEDURES

- 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 installations for completed projects, with project names and addresses as well as names and addresses of architects and owners.
 - h. Material test reports from a 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.
 - j. Detailed comparison of Contractor's construction schedule using proposed substitutions with products specified for the Work, including effect on the overall Contract Time. If specified product or method of construction cannot be provided within the 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 of proposed substitution to produce indicated results.
3. Architect's Action: If necessary, Architect will request additional information or documentation for evaluation within seven days of receipt of a request for substitution. Architect will notify Contractor through Construction Manager 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.

1.5 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.

SECTION 012500 - SUBSTITUTION PROCEDURES

1.6 PROCEDURES

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

1.7 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.
 - 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. Substitution request is fully documented and properly submitted.
 - c. Requested substitution will not adversely affect Contractor's construction schedule.
 - d. Requested substitution has received necessary approvals of authorities having jurisdiction.
 - e. Requested substitution is compatible with other portions of the Work.
 - f. Requested substitution has been coordinated with other portions of the Work.
 - g. Requested substitution provides specified warranty.
 - h. 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: Architect will consider requests for substitution if received within 60 days after commencement of the Work. Requests received after that time may be considered or rejected at discretion of Architect.
 - 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 offers Owner a substantial advantage in cost, time, energy conservation, or other considerations, after deducting additional responsibilities Owner must assume. Owner's additional responsibilities may include compensation to Architect for redesign and evaluation services, increased cost of other construction by Owner, and similar considerations.

SECTION 012500 - SUBSTITUTION PROCEDURES

- b. Requested substitution does not require extensive revisions to the Contract Documents.
- c. Requested substitution is consistent with the Contract Documents and will produce indicated results.
- d. Substitution request is fully documented and properly submitted.
- e. Requested substitution will not adversely affect Contractor's construction schedule.
- f. Requested substitution has received necessary approvals of authorities having jurisdiction.
- g. Requested substitution is compatible with other portions of the Work.
- h. Requested substitution has been coordinated with other portions of the Work.
- i. Requested substitution provides specified warranty.
- j. 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.

PART 2 - PRODUCTS

(NOT USED)

PART 3 - EXECUTION

(NOT USED)

END OF SECTION 012500

SECTION 012600 - CONTRACT MODIFICATION PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. Section includes administrative and procedural requirements for handling and processing Contract modifications.
- B. Related Requirements:
 - 1. Section 012500 "Substitution Procedures" for administrative procedures for handling requests for substitutions made after the Contract award.

1.3 MINOR CHANGES IN THE WORK

- A. Architect will issue through Construction Manager supplemental instructions authorizing minor changes in the Work, not involving adjustment to the Contract Sum or the Contract Time, on AIA Document G710.

1.4 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 Specifications.
 - 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 in Proposal Request or 15 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 an 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.
 - e. Quotation Form: Use forms acceptable to Architect.

SECTION 012600 - CONTRACT MODIFICATION PROCEDURES

- B. Contractor-Initiated Proposals: If latent or changed conditions require modifications to the Contract, Contractor may initiate a claim by submitting a request for a change to Architect.
 - 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 taxes, 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 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.
 - 6. Comply with requirements in Section 012500 "Substitution Procedures" if the proposed change requires substitution of one product or system for product or system specified.
 - 7. Proposal Request Form: Use form acceptable to Architect.

1.5 CHANGE ORDER PROCEDURES

- A. On Owner's approval of a Work Change Proposal Request, Architect will issue a Change Order for signatures of Owner and Contractor on AIA Document G701.

1.6 CONSTRUCTION CHANGE DIRECTIVE

- A. Construction Change Directive: Architect may issue a Construction Change Directive on AIA Document G714. Construction Change Directive instructs Contractor to proceed with a change in the 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 the Contract Sum or the Contract Time.
- B. Documentation: Maintain detailed records on a time and material 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.

SECTION 012600 - CONTRACT MODIFICATION PROCEDURES

PART 2 - PRODUCTS

(Not Used)

PART 3 - EXECUTION

(Not Used)

END OF SECTION 012600

SECTION 012600 - CONTRACT MODIFICATION PROCEDURES

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SECTION 012900 - PAYMENT PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. Section includes administrative and procedural requirements necessary to prepare and process Applications for Payment.
- B. Related Requirements:
 - 1. Section 012600 "Contract Modification Procedures" for administrative procedures for handling changes to the Contract.
 - 2. Section 013200 "Construction Progress Documentation" for administrative requirements governing the preparation and submittal of the Contractor's construction schedule.

1.3 DEFINITIONS

- A. Schedule of Values: A statement furnished by Contractor allocating portions of the Contract Sum to various portions of the Work and used as the basis for reviewing Contractor's Applications for Payment.

1.4 SCHEDULE OF VALUES

- A. Coordination: Coordinate preparation of the schedule of values with preparation of Contractor's construction schedule.
 - 1. Coordinate line items in the schedule of values with items required to be indicated as separate activities in Contractor's construction schedule.
 - 2. Submit the schedule of values to Architect through Construction Manager at earliest possible date, but no later than seven days before the date scheduled for submittal of initial Applications for Payment.
 - 3. Sub-schedules for Phased Work: Where the Work is separated into phases requiring separately phased payments, provide subschedules showing values coordinated with each phase of payment.
 - 4. Sub-schedules for Separate Elements of Work: Where the Contractor's construction schedule defines separate elements of the Work, provide subschedules showing values coordinated with each element.
- B. Format and Content: Use Project Manual table of contents as a guide to establish line items for the schedule of values. Provide at least one line item for each Specification Section.

SECTION 012900 - PAYMENT PROCEDURES

1. Identification: Include the following Project identification on the schedule of values:
 - a. Project name and location.
 - b. Name of Architect.
 - c. Architect's Project number.
 - d. Contractor's name and address.
 - e. Date of submittal.
2. Arrange the schedule of values in tabular form, with separate columns to indicate the following for each item listed:
 - a. Related Specification Section or Division.
 - b. Description of the Work.
 - c. Name of subcontractor.
 - d. Name of manufacturer or fabricator.
 - e. Name of supplier.
 - f. Change Orders (numbers) that affect value.
 - g. Dollar value of the following, as a percentage of the Contract Sum to nearest one-hundredth percent, adjusted to total 100 percent. Round dollar amounts to whole dollars, with total equal to Contract Sum.
 - 1) Labor.
 - 2) Materials.
 - 3) Equipment.
3. Provide a breakdown of the Contract Sum in enough detail to facilitate continued evaluation of Applications for Payment and progress reports. Provide multiple line items for principal subcontract amounts in excess of five percent of the Contract Sum.
4. Provide a separate line item in the schedule of values for each part of the Work where Applications for Payment may include materials or equipment purchased or fabricated and stored, but not yet installed.
 - a. Differentiate between items stored on-site and items stored off-site.
5. Overhead Costs: Include total cost and proportionate share of general overhead and profit for each line item.
6. Schedule of Values Revisions: Revise the schedule of values when Change Orders or Construction Change Directives result in a change in the Contract Sum. Include at least one separate line item for each Change Order and Construction Change Directive.

SECTION 012900 - PAYMENT PROCEDURES

1.5 APPLICATIONS FOR PAYMENT

- A. Each Application for Payment following the initial Application for Payment shall be consistent with previous applications and payments as certified by Architect and Construction Manager and paid for by Owner.
- B. Payment Application Times: Submit Application for Payment to Architect by the fifth day of the month. The period covered by each Application for Payment is one month, ending on the last day of the month.
 - 1. Submit draft copy of Application for Payment three days prior to due date for review by Architect.
- C. Application for Payment Forms: Use AIA Document G702 and AIA Document G703 as form for Applications for Payment.
 - 1. Other Application for Payment forms proposed by the Contractor shall be acceptable to Architect and Owner. Submit forms for approval with initial submittal of schedule of values.
- D. Application Preparation: Complete every entry on form. Notarize and execute by a person authorized to sign legal documents on behalf of Contractor. Architect will return incomplete applications without action.
 - 1. Entries shall match data on the schedule of values and Contractor's construction schedule. Use updated schedules if revisions were made.
 - 2. Include amounts for work completed following previous Application for Payment, whether or not payment has been received. Include only amounts for work completed at time of Application for Payment.
 - 3. Include amounts of Change Orders and Construction Change Directives issued before last day of construction period covered by application.
 - 4. Indicate separate amounts for work being carried out under Owner-requested project acceleration.
- E. Stored Materials: Include in Application for Payment amounts applied for materials or equipment purchased or fabricated and stored, but not yet installed. Differentiate between items stored on-site and items stored off-site.
 - 1. Provide certificate of insurance, evidence of transfer of title to Owner, and consent of surety to payment for stored materials.
 - 2. Provide supporting documentation that verifies amount requested, such as paid invoices. Match amount requested with amounts indicated on documentation; do not include overhead and profit on stored materials.
 - 3. Provide summary documentation for stored materials indicating the following:
 - a. Value of materials previously stored and remaining stored as of date of previous Applications for Payment.

SECTION 012900 - PAYMENT PROCEDURES

- b. Value of previously stored materials put in place after date of previous Application for Payment and on or before date of current Application for Payment.
 - c. Value of materials stored since date of previous Application for Payment and remaining stored as of date of current Application for Payment.
- F. Transmittal: Submit three signed and notarized original copies of each Application for Payment to Architect by a method ensuring receipt within 24 hours. One copy shall include waivers of lien and similar attachments if required.
 - 1. Transmit each copy with a transmittal form listing attachments and recording appropriate information about application.
- G. Waivers of Mechanic's Lien: With each Application for Payment, submit waivers of mechanic's lien from subcontractors, sub-subcontractors, and suppliers for construction period covered by the previous application.
 - 1. Submit partial waivers on each item for amount requested in previous application, after deduction for retainage, on each item.
 - 2. When an application shows completion of an item, submit conditional final or full waivers.
 - 3. Owner reserves the right to designate which entities involved in the Work must submit waivers.
 - 4. Submit final Application for Payment with or preceded by conditional final waivers from every entity involved with performance of the Work covered by the application who is lawfully entitled to a lien.
 - 5. Waiver Forms: Submit executed waivers of lien on forms acceptable to Owner.
- H. Initial Application for Payment: Administrative actions and submittals that must precede or coincide with submittal of first Application for Payment include the following:
 - 1. List of subcontractors.
 - 2. Schedule of values.
 - 3. Contractor's construction schedule (preliminary if not final).
 - 4. Combined Contractor's construction schedule (preliminary if not final) incorporating Work of multiple contracts, with indication of acceptance of schedule by each Contractor.
 - 5. Products list (preliminary if not final).
 - 6. Sustainable design action plans, including preliminary project materials cost data.
 - 7. Schedule of unit prices.
 - 8. Submittal schedule (preliminary if not final).
 - 9. List of Contractor's staff assignments.
 - 10. List of Contractor's principal consultants.
 - 11. Copies of building permits.
 - 12. Copies of authorizations and licenses from authorities having jurisdiction for performance of the Work.

SECTION 012900 - PAYMENT PROCEDURES

13. Initial progress report.
 14. Report of preconstruction conference.
- I. Application for Payment at Substantial Completion: After Architect issues the Certificate of Substantial Completion, submit an Application for Payment showing 100 percent completion for portion of the Work claimed as substantially complete.
1. Include documentation supporting claim that the Work is substantially complete and a statement showing an accounting of changes to the Contract Sum.
 2. This application shall reflect Certificate(s) of Substantial Completion issued previously for Owner occupancy of designated portions of the Work.
- J. Final Payment Application: After completing Project closeout requirements, submit final Application for Payment with releases and supporting documentation not previously submitted and accepted, including, but not limited, to the following:
1. Evidence of completion of Project closeout requirements.
 2. Insurance certificates for products and completed operations where required and proof that taxes, fees, and similar obligations were paid.
 3. Updated final statement, accounting for final changes to the Contract Sum.
 4. AIA Document G706.
 5. AIA Document G706A.
 6. AIA Document G707.
 7. Evidence that claims have been settled.
 8. Final liquidated damages settlement statement.

PART 2 - PRODUCTS

(Not Used)

PART 3 - EXECUTION

(Not Used)

END OF SECTION 012900

SECTION 012900 - PAYMENT PROCEDURES

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SECTION 013100 - PROJECT MANAGEMENT AND COORDINATION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. Section includes administrative provisions for coordinating construction operations on Project including, but not limited to, the following:
 - 1. General project coordination procedures.
 - 2. Administrative and supervisory personnel.
 - 3. Coordination drawings.
 - 4. Requests for Information (RFIs).
 - 5. Project Web site.
 - 6. Project meetings.
- B. Each contractor shall participate in coordination requirements. Certain areas of responsibility are assigned to a specific contractor.
- C. Related Sections:
 - 1. Division 01 Section 013200 "Construction Progress Documentation" for preparing and submitting Contractor's construction schedule.
 - 2. Division 01 Section 017700 "Closeout Procedures" for coordinating closeout of the Contract.

1.3 DEFINITIONS

- A. RFI: Request from Owner, Construction Manager, Architect, or Contractor seeking information from each other during construction.

1.4 COORDINATION

- A. Coordination: Coordinate construction operations included in different Sections of the Specifications to ensure efficient and orderly installation of each part of the Work. Coordinate construction operations, included in different Sections, that depend on each other for proper installation, connection, and operation.
 - 1. Schedule construction operations in sequence required to obtain the best results where installation of one part of the Work depends on installation of other components, before or after its own installation.
 - 2. Coordinate installation of different components to ensure maximum performance and accessibility for required maintenance, service, and repair.
 - 3. Make adequate provisions to accommodate items scheduled for later installation.

SECTION 013100 - PROJECT MANAGEMENT AND COORDINATION

- B. Coordination: Each contractor shall coordinate its construction operations with those of other contractors and entities to ensure efficient and orderly installation of each part of the Work. Each contractor shall coordinate its operations with operations, included in different Sections that depend on each other for proper installation, connection, and operation.
 - 1. Schedule construction operations in sequence required to obtain the best results where installation of one part of the Work depends on installation of other components, before or after its own installation.
 - 2. Coordinate installation of different components with other contractors to ensure maximum performance and accessibility for required maintenance, service, and repair.
 - 3. Make adequate provisions to accommodate items scheduled for later installation.
- C. Prepare memoranda for distribution to each party involved, outlining special procedures required for coordination. Include such items as required notices, reports, and list of attendees at meetings.
 - 1. Prepare similar memoranda for Owner and separate contractors if coordination of their Work is required.
- D. Administrative Procedures: Coordinate scheduling and timing of required administrative procedures with other construction activities and activities of other contractors to avoid conflicts and to ensure orderly progress of the Work. Such administrative activities include, but are not limited to, the following:
 - 1. Preparation of Contractor's construction schedule.
 - 2. Preparation of the schedule of values.
 - 3. Installation and removal of temporary facilities and controls.
 - 4. Delivery and processing of submittals.
 - 5. Progress meetings.
 - 6. Preinstallation conferences.
 - 7. Project closeout activities.
 - 8. Startup and adjustment of systems.
 - 9. Project closeout activities.
- E. Conservation: Coordinate construction activities to ensure that operations are carried out with consideration given to conservation of energy, water, and materials. Coordinate use of temporary utilities to minimize waste.
 - 1. Salvage materials and equipment involved in performance of, but not actually incorporated into, the Work. Refer to other Sections for disposition of salvaged materials that are designated as Owner's property.

1.5 COORDINATION DRAWINGS

- A. Coordination Drawings, General: Prepare coordination drawings in accordance with requirements in individual Sections, where installation is not completely shown on Shop

SECTION 013100 - PROJECT MANAGEMENT AND COORDINATION

Drawings, where limited space availability necessitates coordination, or if coordination is required to facilitate integration of products and materials fabricated or installed by more than one entity.

1. Content: Project-specific information, drawn accurately to a scale large enough to indicate and resolve conflicts. Do not base coordination drawings on standard printed data. Include the following information, as applicable:
 - a. Use applicable Drawings as a basis for preparation of coordination drawings. Prepare sections, elevations, and details as needed to describe relationship of various systems and components.
 - b. Coordinate the addition of trade-specific information to the coordination drawings by multiple contractors in a sequence that best provides for coordination of the information and resolution of conflicts between installed components before submitting for review.
 - c. Indicate functional and spatial relationships of components of architectural, structural, civil, mechanical, and electrical systems.
 - d. Indicate space requirements for routine maintenance and for anticipated replacement of components during the life of the installation.
 - e. Show location and size of access doors required for access to concealed dampers, valves, and other controls.
 - f. Indicate required installation sequences.
 - g. Indicate dimensions shown on the Drawings. Specifically note dimensions that appear to be in conflict with submitted equipment and minimum clearance requirements. Provide alternate sketches to Architect indicating proposed resolution of such conflicts. Minor dimension changes and difficult installations will not be considered changes to the Contract.
- B. Coordination Drawing Organization: Organize coordination drawings as follows:
 1. Slab Edge and Embedded Items: Indicate slab edge locations and sizes and locations of embedded items for metal fabrications, sleeves, anchor bolts, bearing plates, angles, door floor closers, slab depressions for floor finishes, curbs and housekeeping pads, and similar items.
 2. Review: Architect will review coordination drawings to confirm that the Work is being coordinated, but not for the details of the coordination, which are the Contractor's responsibility. If the Architect determines that the coordination drawings are not being prepared in sufficient scope or detail, or are otherwise deficient, the Architect will so inform the Contractor, who shall make changes as directed and resubmit.
 3. Coordination Drawing Prints: Prepare coordination drawing prints in accordance with requirements of Division 01 Section "Submittal Procedures."
- C. Coordination Digital Data Files: Prepare coordination digital data files in accordance with the following requirements:

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1. File Preparation Format: Same digital data software program, version, and operating system as the original Drawings.
2. File Preparation Format: DWG, AutoCAD 2010 or latest version, operating in Microsoft Windows operating system.
3. File Submittal Format: Submit or post coordination drawing files using format same as file preparation format and Portable Data File (PDF) format.
4. Architect will furnish Contractor one set of digital data files of the Drawings for use in preparing coordination digital data files.
 - a. Architect makes no representations as to the accuracy or completeness of digital data files as they relate to the Drawings.
 - b. Digital Data Software Program: The Drawings are available in AutoCAD 2010, operating in Microsoft Windows operating system.
 - c. Contractor shall execute a data licensing agreement in the form of an Agreement form acceptable to the Owner and Architect.

1.6 KEY PERSONNEL

- A. Key Personnel Names: Within 15 days of starting construction operations, submit a list of key personnel assignments, including superintendent and other personnel in attendance at Project site. Identify individuals and their duties and responsibilities; list addresses and telephone numbers, including home, office, and cellular telephone numbers and email addresses. Provide names, addresses, and telephone numbers of individuals assigned as standbys in the absence of individuals assigned to Project.
 1. Post copies of list in project meeting room, in temporary field office, and by each temporary telephone. Keep list current at all times.

1.7 REQUESTS FOR INFORMATION (RFIs)

- A. General: Immediately on discovery of the need for additional information or interpretation of the Contract Documents, Contractor shall prepare and submit an RFI in the form specified.
 1. Architect will return RFIs submitted to Architect by other entities controlled by Contractor with no response.
 2. Coordinate and submit RFIs in a prompt manner so as to avoid delays in Contractor's work or work of subcontractors.
- B. Content of the RFI: Include a detailed, legible description of item needing information or interpretation and the following:
 1. Project name.
 2. Project number.
 3. Date.
 4. Name of Contractor.
 5. Name of Architect and Construction Manager.
 6. RFI number, numbered sequentially.

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7. RFI subject.
 8. Specification Section number and title and related paragraphs, as appropriate.
 9. Drawing number and detail references, as appropriate.
 10. Field dimensions and conditions, as appropriate.
 11. Contractor's suggested resolution. If Contractor's solution(s) impacts the Contract Time or the Contract Sum, Contractor shall state impact in the RFI.
 12. Contractor's signature.
 13. Attachments: Include sketches, descriptions, measurements, photos, Product Data, Shop Drawings, coordination drawings, and other information necessary to fully describe items needing interpretation.
 - a. Include dimensions, thicknesses, structural grid references, and details of affected materials, assemblies, and attachments on attached sketches.
- C. RFI Forms: AIA Document G716 or Software-generated form with substantially the same content as indicated above, acceptable to Architect.
- D. Architect's and Construction Manager's Action: Architect and Construction Manager will review each RFI, determine action required, and respond. Allow seven working days for Architect's response for each RFI. RFIs received by Architect or Construction Manager after 1:00 p.m. will be considered as received the following working day.
1. The following RFIs will be returned without action:
 - a. Requests for approval of submittals.
 - b. Requests for approval of substitutions.
 - c. Requests for coordination information already indicated in the Contract Documents.
 - d. Requests for adjustments in the Contract Time or the Contract Sum.
 - e. Requests for interpretation of Architect's actions on submittals.
 - f. Incomplete RFIs or inaccurately prepared RFIs.
 2. Architect's action may include a request for additional information, in which case Architect's time for response will date from time of receipt of additional information.
 3. Architect's action on RFIs that may result in a change to the Contract Time or the Contract Sum may be eligible for Contractor to submit Change Proposal according to Division 01 Section "Contract Modification Procedures."
 - a. If Contractor believes the RFI response warrants change in the Contract Time or the Contract Sum, notify Architect and Construction Manager in writing within 10 days of receipt of the RFI response.
- E. On receipt of Architect's and Construction Manager's action, update the RFI log and immediately distribute the RFI response to affected parties. Review response and notify Architect and Construction Manager within seven days if Contractor disagrees with response.

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- F. RFI Log: Prepare, maintain, and submit a tabular log of RFIs organized by the RFI number. Submit log weekly. Use CSI Log Form 13.2B. Include the following: [Software log with not less than the following:
1. Project name.
 2. Name and address of Contractor.
 3. Name and address of Architect and Construction Manager.
 4. RFI number including RFIs that were dropped and not submitted.
 5. RFI description.
 6. Date the RFI was submitted.
 7. Date Architect's and Construction Manager's response was received.
 8. Identification of related Minor Change in the Work, Construction Change Directive, and Proposal Request, as appropriate.

1.8 PROJECT MEETINGS

- A. General: Schedule and conduct meetings and conferences at Project site, unless otherwise indicated.
1. Attendees: Inform participants and others involved, and individuals whose presence is required, of date and time of each meeting. Notify Owner and Architect of scheduled meeting dates and times.
 2. Agenda: Prepare the meeting agenda. Distribute the agenda to all invited attendees.
 3. Minutes: Entity responsible for conducting meeting will record significant discussions and agreements achieved. Distribute the meeting minutes to everyone concerned, including Owner, Construction Manager, and Architect, within five days of the meeting.
- B. Preconstruction Conference: Schedule and conduct a preconstruction conference before starting construction, at a time convenient to Owner and Architect, but no later than 15 days after execution of the Agreement.
1. Conduct the conference to review responsibilities and personnel assignments.
 2. Attendees: Authorized representatives of Owner, Construction Manager, Architect, and their consultants; Contractor and its superintendent; major subcontractors; suppliers; and other concerned parties shall attend the conference. Participants at the conference shall be familiar with Project and authorized to conclude matters relating to the Work.
 3. Agenda: Discuss items of significance that could affect progress, including the following:
 - a. Tentative construction schedule.
 - b. Phasing.
 - c. Critical work sequencing and long-lead items.
 - d. Designation of key personnel and their duties.
 - e. Lines of communications.

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- f. Procedures for processing field decisions and Change Orders.
 - g. Procedures for RFIs.
 - h. Procedures for testing and inspecting.
 - i. Procedures for processing Applications for Payment.
 - j. Distribution of the Contract Documents.
 - k. Submittal procedures.
 - l. Sustainable design requirements.
 - m. Preparation of record documents.
 - n. Use of the premises and existing buildings.
 - o. Work restrictions.
 - p. Working hours.
 - q. Owner's occupancy requirements.
 - r. Responsibility for temporary facilities and controls.
 - s. Procedures for moisture and mold control.
 - t. Procedures for disruptions and shutdowns.
 - u. Construction waste management and recycling.
 - v. Parking availability.
 - w. Office, work, and storage areas.
 - x. Equipment deliveries and priorities.
 - y. First aid.
 - z. Security.
 - aa. Progress cleaning.
4. Minutes: Entity responsible for conducting meeting will record and distribute meeting minutes.
- C. Preinstallation Conferences: Conduct a preinstallation conference at Project site before each construction activity that requires coordination with other construction.
- 1. Attendees: Installer and representatives of manufacturers and fabricators involved in or affected by the installation and its coordination or integration with other materials and installations that have preceded or will follow, shall attend the meeting. Advise Architect, Construction Manager, and Owner, of scheduled meeting dates.
 - 2. Agenda: Review progress of other construction activities and preparations for the particular activity under consideration, including requirements for the following:
 - a. Contract Documents.
 - b. Related RFIs.
 - c. Related Change Orders.
 - d. Deliveries.
 - e. Submittals.
 - f. Review of mockups.
 - g. Possible conflicts.
 - h. Compatibility problems.
 - i. Time schedules.
 - j. Weather limitations.

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- k. Manufacturer's written recommendations.
 - l. Warranty requirements.
 - m. Compatibility of materials.
 - n. Acceptability of substrates.
 - o. Temporary facilities and controls.
 - p. Space and access limitations.
 - q. Regulations of authorities having jurisdiction.
 - r. Testing and inspecting requirements.
 - s. Installation procedures.
 - t. Coordination with other work.
 - u. Required performance results.
 - v. Protection of adjacent work.
 - w. Protection of construction and personnel.
 - 3. Record significant conference discussions, agreements, and disagreements, including required corrective measures and actions.
 - 4. Reporting: Distribute minutes of the meeting to each party present and to other parties requiring information.
 - 5. Do not proceed with installation if the conference cannot be successfully concluded. Initiate whatever actions are necessary to resolve impediments to performance of the Work and reconvene the conference at earliest feasible date.
- D. Project Closeout Conference: Schedule and conduct a Project closeout conference, at a time convenient to Owner and Architect, but no later than 90 days prior to the scheduled date of Substantial Completion.
- 1. Conduct the conference to review requirements and responsibilities related to Project closeout.
 - 2. Attendees: Authorized representatives of Owner, Construction Manager, Architect, and their consultants; Contractor and its superintendent; major subcontractors; suppliers; and other concerned parties shall attend the meeting. Participants at the meeting shall be familiar with Project and authorized to conclude matters relating to the Work.
 - 3. Agenda: Discuss items of significance that could affect or delay Project closeout, including the following:
 - a. Preparation of record documents.
 - b. Procedures required prior to inspection for Substantial Completion and for final inspection for acceptance.
 - c. Submittal of written warranties.
 - d. Requirements for preparing sustainable design documentation.
 - e. Requirements for preparing operations and maintenance data.
 - f. Requirements for demonstration and training.
 - g. Preparation of Contractor's punch list.
 - h. Procedures for processing Applications for Payment at Substantial Completion and for final payment.
 - i. Submittal procedures.

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- j. Coordination of separate contracts.
 - k. Owner's partial occupancy requirements.
 - l. Installation of Owner's furniture, fixtures, and equipment.
 - m. Responsibility for removing temporary facilities and controls.
- 4. Minutes: Entity conducting meeting will record and distribute meeting minutes.
- E. Progress Meetings: Conduct progress meetings at regular intervals, not less than monthly, appropriate to the intensity of construction.
 - 1. Coordinate dates of meetings with preparation of payment requests.
 - 2. Attendees: In addition to representatives of Owner, Construction Manager, and Architect, each contractor, subcontractor, supplier, and other entity concerned with current progress or involved in planning, coordination, or performance of future activities shall be represented at these meetings. All participants at the meeting shall be familiar with Project and authorized to conclude matters relating to the Work.
 - 3. Agenda: Review and correct or approve minutes of previous progress meeting. Review other items of significance that could affect progress. Include topics for discussion as appropriate to status of Project.
 - a. Contractor's Construction Schedule: Review progress since the last meeting. Determine whether each activity is on time, ahead of schedule, or behind schedule, in relation to Contractor's construction schedule. Determine how construction behind schedule will be expedited; secure commitments from parties involved to do so. Discuss whether schedule revisions are required to ensure that current and subsequent activities will be completed within the Contract Time.
 - 1) Review schedule for next period.
 - b. Review present and future needs of each entity present, including the following:
 - 1) Interface requirements.
 - 2) Sequence of operations.
 - 3) Status of submittals.
 - 4) Deliveries.
 - 5) Off-site fabrication.
 - 6) Access.
 - 7) Site utilization.
 - 8) Temporary facilities and controls.
 - 9) Progress cleaning.
 - 10) Quality and work standards.
 - 11) Status of correction of deficient items.
 - 12) Field observations.
 - 13) Status of RFIs.

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- 14) Status of proposal requests.
 - 15) Pending changes.
 - 16) Status of Change Orders.
 - 17) Pending claims and disputes.
 - 18) Documentation of information for payment requests.
4. Minutes: Entity responsible for conducting the meeting will record and distribute the meeting minutes to each party present and to parties requiring information.
 - a. Schedule Updating: Revise Contractor's construction schedule after each progress meeting where revisions to the schedule have been made or recognized. Issue revised schedule concurrently with the report of each meeting.
- F. Coordination Meetings: Conduct Project coordination meetings at regular intervals. Project coordination meetings are in addition to specific meetings held for other purposes, such as progress meetings and preinstallation conferences.
 1. Attendees: In addition to representatives of Owner, Construction Manager, and Architect, each contractor, subcontractor, supplier, and other entity concerned with current progress or involved in planning, coordination, or performance of future activities shall be represented at these meetings. All participants at the meetings shall be familiar with Project and authorized to conclude matters relating to the Work.
 2. Agenda: Review and correct or approve minutes of the previous coordination meeting. Review other items of significance that could affect progress. Include topics for discussion as appropriate to status of Project.
 - a. Combined Contractor's Construction Schedule: Review progress since the last coordination meeting. Determine whether each contract is on time, ahead of schedule, or behind schedule, in relation to combined Contractor's construction schedule. Determine how construction behind schedule will be expedited; secure commitments from parties involved to do so. Discuss whether schedule revisions are required to ensure that current and subsequent activities will be completed within the Contract Time.
 - b. Schedule Updating: Revise combined Contractor's construction schedule after each coordination meeting where revisions to the schedule have been made or recognized. Issue revised schedule concurrently with report of each meeting.
 - c. Review present and future needs of each contractor present, including the following:
 - 1) Interface requirements.
 - 2) Sequence of operations.
 - 3) Status of submittals.
 - 4) Deliveries.
 - 5) Off-site fabrication.

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- 6) Access.
 - 7) Site utilization.
 - 8) Temporary facilities and controls.
 - 9) Work hours.
 - 10) Hazards and risks.
 - 11) Progress cleaning.
 - 12) Quality and work standards.
 - 13) Change Orders.
3. Reporting: Record meeting results and distribute copies to everyone in attendance and to others affected by decisions or actions resulting from each meeting.

PART 2 - PRODUCTS

(Not Used)

PART 3 - EXECUTION

(Not Used)

END OF SECTION 013100

SECTION 013100 - PROJECT MANAGEMENT AND COORDINATION

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SECTION 013200 - CONSTRUCTION PROGRESS DOCUMENTATION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. Section includes administrative and procedural requirements for documenting the progress of construction during performance of the Work, including the following:
 - 1. Startup construction schedule.
 - 2. Contractor's Construction Schedule.
 - 3. Construction schedule updating reports.
 - 4. Daily construction reports.
 - 5. Material location reports.
 - 6. Site condition reports.
 - 7. Unusual event reports.

1.3 DEFINITIONS

- A. Activity: A discrete part of a project that can be identified for planning, scheduling, monitoring, and controlling the construction Project. Activities included in a construction schedule consume time and resources.
 - 1. Critical Activity: An activity on the critical path that must start and finish on the planned early start and finish times.
 - 2. Predecessor Activity: An activity that precedes another activity in the network.
 - 3. Successor Activity: An activity that follows another activity in the network.
- B. Cost Loading: The allocation of the schedule of values for completing an activity as scheduled. The sum of costs for all activities must equal the total Contract Sum.
- C. CPM: Critical path method, which is a method of planning and scheduling a construction project where activities are arranged based on activity relationships. Network calculations determine when activities can be performed and the critical path of Project.
- D. Critical Path: The longest connected chain of interdependent activities through the network schedule that establishes the minimum overall Project duration and contains no float.
- E. Event: The starting or ending point of an activity.
- F. Float: The measure of leeway in starting and completing an activity.

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1. Float time is not for the exclusive use or benefit of either Owner or Contractor, but is a jointly owned, expiring Project resource available to both parties as needed to meet schedule milestones and Contract completion date.
 2. Free float is the amount of time an activity can be delayed without adversely affecting the early start of the successor activity.
 3. Total float is the measure of leeway in starting or completing an activity without adversely affecting the planned Project completion date.
- G. Resource Loading: The allocation of manpower and equipment necessary for completing an activity as scheduled.

1.4 INFORMATIONAL SUBMITTALS

- A. Format for Submittals: Submit required submittals in the following format:
1. Working electronic copy of schedule file, where indicated.
 2. PDF file.
 3. Two paper copies, of sufficient size to display entire period or schedule, as required.
- B. Startup construction schedule.
1. Submittal of cost-loaded, startup construction schedule will not constitute approval of schedule of values for cost-loaded activities.
- C. Startup Network Diagram: Of size required to display entire network for entire construction period. Show logic ties for activities.
- D. Contractor's Construction Schedule: Initial schedule, of size required to display entire schedule for entire construction period.
1. Submit a working digital copy of schedule, using software indicated, and labeled to comply with requirements for submittals.
- E. CPM Reports: Concurrent with CPM schedule, submit each of the following reports. Format for each activity in reports shall contain activity number, activity description, cost and resource loading, original duration, remaining duration, early start date, early finish date, late start date, late finish date, and total float in calendar days.
1. Activity Report: List of activities sorted by activity number and then early start date, or actual start date if known.
 2. Logic Report: List of preceding and succeeding activities for each activity, sorted in ascending order by activity number and then by early start date, or actual start date if known.
 3. Total Float Report: List of activities sorted in ascending order of total float.
 4. Earnings Report: Compilation of Contractor's total earnings the Notice to Proceed until most recent Application for Payment.

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- F. Construction Schedule Updating Reports: Submit with Applications for Payment.
- G. Daily Construction Reports: Submit at monthly intervals.
- H. Material Location Reports: Submit at monthly intervals.
- I. Site Condition Reports: Submit at time of discovery of differing conditions.
- J. Unusual Event Reports: Submit at time of unusual event.
- K. Qualification Data: For scheduling consultant.

1.5 QUALITY ASSURANCE

- A. Scheduling Consultant Qualifications: An experienced specialist in CPM scheduling and reporting, with capability of producing CPM reports and diagrams within 24 hours of Architect's request.
- B. Prescheduling Conference: Conduct conference at Project site to comply with requirements in Section 013100 "Project Management and Coordination." Review methods and procedures related to the preliminary construction schedule and Contractor's Construction Schedule, including, but not limited to, the following:
 - 1. Review software limitations and content and format for reports.
 - 2. Verify availability of qualified personnel needed to develop and update schedule.
 - 3. Discuss constraints, including phasing, work stages, interim milestones and partial Owner occupancy.
 - 4. Review delivery dates for Owner-furnished products.
 - 5. Review schedule for work of Owner's separate contracts.
 - 6. Review submittal requirements and procedures.
 - 7. Review time required for review of submittals and resubmittals.
 - 8. Review requirements for tests and inspections by independent testing and inspecting agencies.
 - 9. Review time required for Project closeout and Owner startup procedures, including commissioning activities.
 - 10. Review and finalize list of construction activities to be included in schedule.
 - 11. Review procedures for updating schedule.

1.6 COORDINATION

- A. Coordinate Contractor's Construction Schedule with the schedule of values, list of subcontracts, submittal schedule, progress reports, payment requests, and other required schedules and reports.
 - 1. Secure time commitments for performing critical elements of the Work from entities involved.
 - 2. Coordinate each construction activity in the network with other activities and schedule them in proper sequence.

SECTION 013200 - CONSTRUCTION PROGRESS DOCUMENTATION

1.7 CONTRACTOR'S CONSTRUCTION SCHEDULE, GENERAL

- A. Computer Scheduling Software: Prepare schedules using current version of a program that has been developed specifically to manage construction schedules.
 - 1. Use Microsoft Project, for current Windows operating system.
- B. Scheduling Consultant: Engage a consultant to provide planning, evaluation, and reporting using CPM scheduling.
 - 1. In-House Option: Owner may waive requirement to retain a consultant if Contractor employs skilled personnel with experience in CPM scheduling and reporting techniques. Submit qualifications.
 - 2. Meetings: Scheduling consultant shall attend all meetings related to Project progress, alleged delays, and time impact.
- C. Time Frame: Extend schedule from date established for the Notice of Award to date of final completion.
 - 1. Contract completion date shall not be changed by submission of a schedule that shows an early completion date, unless specifically authorized by Change Order.
- D. Activities: Treat each floor or separate area as a separate numbered activity for each main element of the Work. Comply with the following:
 - 1. Activity Duration: Define activities so no activity is longer than 30 days, unless specifically allowed by Architect.
 - 2. Procurement Activities: Include procurement process activities for the following long lead items and major items, requiring a cycle of more than 60 days, as separate activities in schedule. Procurement cycle activities include, but are not limited to, submittals, approvals, purchasing, fabrication, and delivery.
 - a. Structural steel, including prefabricated building components.
 - b. Doors and windows, especially those requiring special ordering and fabrication, and including large rollup doors.
 - c. Major HVAC components.
 - d. Major mechanical components, including elevators, and water treatment equipment components.
 - e. Major electrical components, including motor control centers, generators, automatic transfer switches and large power distribution components.
 - 3. Submittal Review Time: Include review and resubmittal times indicated in Section 013300 "Submittal Procedures" in schedule. Coordinate submittal review times in Contractor's Construction Schedule with submittal schedule.

SECTION 013200 - CONSTRUCTION PROGRESS DOCUMENTATION

4. Startup and Testing Time: Include no fewer than 15 days for startup and testing.
 5. Commissioning Time: Include no fewer than 15 days for commissioning.
 6. Substantial Completion: Indicate completion in advance of date established for Substantial Completion, and allow time for Architect's and Construction Manager's administrative procedures necessary for certification of Substantial Completion.
 7. Punch List and Final Completion: Include not more than 30 days for completion of punch list items and final completion.
- E. Constraints: Include constraints and work restrictions indicated in the Contract Documents and as follows in schedule, and show how the sequence of the Work is affected.
1. Phasing: Arrange list of activities on schedule by phase.
 2. Work under More Than One Contract: Include a separate activity for each contract.
 3. Work by Owner: Include a separate activity for each portion of the Work performed by Owner.
 4. Products Ordered in Advance: Include a separate activity for each product. Include delivery date indicated in Section 011000 "Summary." Delivery dates indicated stipulate the earliest possible delivery date.
 5. Owner-Furnished Products: Include a separate activity for each product. Include delivery date indicated in Section 011000 "Summary." Delivery dates indicated stipulate the earliest possible delivery date.
 6. Work Restrictions: Show the effect of the following items on the schedule:
 - a. Coordination with existing construction.
 - b. Limitations of continued occupancies.
 - c. Uninterruptible services.
 - d. Partial occupancy before Substantial Completion.
 - e. Use-of-premises restrictions.
 - f. Provisions for future construction.
 - g. Seasonal variations.
 - h. Environmental control.
 7. Work Stages: Indicate important stages of construction for each major portion of the Work, including, but not limited to, the following:
 - a. Subcontract awards.
 - b. Submittals.
 - c. Purchases.
 - d. Mockups.
 - e. Fabrication.
 - f. Sample testing.
 - g. Deliveries.
 - h. Installation.
 - i. Tests and inspections.

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- j. Adjusting.
 - k. Curing.
 - l. Building flush-out.
 - m. Startup and placement into final use and operation.
 - n. Commissioning.
- 8. Construction Areas: Identify each major area of construction for each major portion of the Work. Indicate where each construction activity within a major area must be sequenced or integrated with other construction activities to provide for the following:
 - a. Structural completion.
 - b. Temporary enclosure and space conditioning.
 - c. Permanent space enclosure.
 - d. Completion of mechanical installation.
 - e. Completion of electrical installation.
 - f. Substantial Completion.
- F. Milestones: Include milestones indicated in the Contract Documents in schedule, including, but not limited to, the Notice to Proceed, Substantial Completion, and final completion, and the following interim milestones:
 - 1. Temporary enclosure and space conditioning.
 - 2. Closure of western portion of building.
 - 3. Closure of eastern portion of building with treatment equipment areas.
 - 4. Completion of treatment piping and treatment component installation.
 - 5. Energizing of Motor Control Center.
- G. Cost Correlation: Superimpose a cost correlation timeline, indicating planned and actual costs. On the line, show planned and actual dollar volume of the Work performed as of planned and actual dates used for preparation of payment requests.
 - 1. See Section 012900 "Payment Procedures" for cost reporting and payment procedures.
- H. Upcoming Work Summary: Prepare summary report indicating activities scheduled to occur or commence prior to submittal of next schedule update. Summarize the following issues:
 - 1. Unresolved issues.
 - 2. Unanswered Requests for Information.
 - 3. Rejected or unreturned submittals.
 - 4. Notations on returned submittals.
 - 5. Pending modifications affecting the Work and the Contract Time.
- I. Contractor's Construction Schedule Updating: At monthly intervals, update schedule to reflect actual construction progress and activities. Issue schedule one week before each regularly scheduled progress meeting.

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1. Revise schedule immediately after each meeting or other activity where revisions have been recognized or made. Issue updated schedule concurrently with the report of each such meeting.
 2. Include a report with updated schedule that indicates every change, including, but not limited to, changes in logic, durations, actual starts and finishes, and activity durations.
 3. As the Work progresses, indicate final completion percentage for each activity.
- J. Recovery Schedule: When periodic update indicates the Work is 14 or more calendar days behind the current approved schedule, submit a separate recovery schedule indicating means by which Contractor intends to regain compliance with the schedule. Indicate changes to working hours, working days, crew sizes, equipment required to achieve compliance, and date by which recovery will be accomplished.
- K. Distribution: Distribute copies of approved schedule to Architect, Construction Manager, Owner, separate contractors, testing and inspecting agencies, and other parties identified by Contractor with a need-to-know schedule responsibility.
1. Post copies in Project meeting rooms and temporary field offices.
 2. When revisions are made, distribute updated schedules to the same parties and post in the same locations. Delete parties from distribution when they have completed their assigned portion of the Work and are no longer involved in performance of construction activities.

1.8 STARTUP CONSTRUCTION SCHEDULE

- A. Gantt-Chart Schedule: Submit startup, horizontal, Gantt-chart-type construction schedule within seven days of date established for the Notice of Award.
- B. Preparation: Indicate each significant construction activity separately. Identify first workday of each week with a continuous vertical line. Outline significant construction activities for first 90 days of construction. Include skeleton diagram for the remainder of the Work and a cash requirement prediction based on indicated activities.

1.9 GANTT-CHART SCHEDULE REQUIREMENTS

- A. Gantt-Chart Schedule: Submit a comprehensive, fully developed, horizontal, Gantt-chart-type, Contractor's Construction Schedule within 30 days of date established for the Notice of Award.
1. Base schedule on the startup construction schedule and additional information received since the start of Project.
- B. Preparation: Indicate each significant construction activity separately. Identify first workday of each week with a continuous vertical line.

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1. For construction activities that require three months or longer to complete, indicate an estimated completion percentage in 10 percent increments within time bar.

1.10 CPM SCHEDULE REQUIREMENTS

- A. General: Prepare network diagrams using AON (activity-on-node) format.
- B. Startup Network Diagram: Submit diagram within 30 days of date established for the Notice of Award. Outline significant construction activities for the first 90 days of construction. Include skeleton diagram for the remainder of the Work and a cash requirement prediction based on indicated activities.
- C. CPM Schedule: Prepare Contractor's Construction Schedule using a time-scaled CPM network analysis diagram for the Work.
 1. Develop network diagram in sufficient time to submit CPM schedule so it can be accepted for use no later than 90 days after date established for the Notice of Award.
 - a. Failure to include any work item required for performance of this Contract shall not excuse Contractor from completing all work within applicable completion dates.
 2. Conduct educational workshops to train and inform key Project personnel, including subcontractors' personnel, in proper methods of providing data and using CPM schedule information.
 3. Establish procedures for monitoring and updating CPM schedule and for reporting progress. Coordinate procedures with progress meeting and payment request dates.
 4. Use "one workday" as the unit of time for individual activities. Indicate nonworking days and holidays incorporated into the schedule to coordinate with the Contract Time.
- D. CPM Schedule Preparation: Prepare a list of all activities required to complete the Work. Using the startup network diagram, prepare a skeleton network to identify probable critical paths.
 1. Activities: Indicate the estimated time duration, sequence requirements, and relationship of each activity in relation to other activities. Include estimated time frames for the following activities:
 - a. Preparation and processing of submittals.
 - b. Mobilization and demobilization.
 - c. Purchase of materials.
 - d. Delivery.
 - e. Fabrication.
 - f. Utility interruptions.

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- g. Installation.
 - h. Work by Owner that may affect or be affected by Contractor's activities.
 - i. Testing and inspection.
 - j. Commissioning.
 - k. Punch list and final completion.
 - l. Activities occurring following final completion.
 2. Critical Path Activities: Identify critical path activities, including those for interim completion dates. Scheduled start and completion dates shall be consistent with Contract milestone dates.
 3. Processing: Process data to produce output data on a computer-drawn, time-scaled network. Revise data, reorganize activity sequences, and reproduce as often as necessary to produce the CPM schedule within the limitations of the Contract Time.
 4. Format: Mark the critical path. Locate the critical path near center of network; locate paths with most float near the edges.
 - a. Subnetworks on separate sheets are permissible for activities clearly off the critical path.
- E. Contract Modifications: For each proposed contract modification and concurrent with its submission, prepare a time-impact analysis using a network fragment to demonstrate the effect of the proposed change on the overall Project schedule.
- F. Initial Issue of Schedule: Prepare initial network diagram from a sorted activity list indicating straight "early start-total float." Identify critical activities. Prepare tabulated reports showing the following:
 1. Contractor or subcontractor and the Work or activity.
 2. Description of activity.
 3. Main events of activity.
 4. Immediate preceding and succeeding activities.
 5. Early and late start dates.
 6. Early and late finish dates.
 7. Activity duration in workdays.
 8. Total float or slack time.
 9. Average size of workforce.
 10. Dollar value of activity (coordinated with the schedule of values).
- G. Schedule Updating: Concurrent with making revisions to schedule, prepare tabulated reports showing the following:
 1. Identification of activities that have changed.
 2. Changes in early and late start dates.
 3. Changes in early and late finish dates.
 4. Changes in activity durations in workdays.
 5. Changes in the critical path.

SECTION 013200 - CONSTRUCTION PROGRESS DOCUMENTATION

6. Changes in total float or slack time.
7. Changes in the Contract Time.

H. Value Summaries: Prepare two cumulative value lists, sorted by finish dates.

1. In first list, tabulate activity number, early finish date, dollar value, and cumulative dollar value.
2. In second list, tabulate activity number, late finish date, dollar value, and cumulative dollar value.
3. In subsequent issues of both lists, substitute actual finish dates for activities completed as of list date.
4. Prepare list for ease of comparison with payment requests; coordinate timing with progress meetings.
 - a. In both value summary lists, tabulate "actual percent complete" and "cumulative value completed" with total at bottom.
 - b. Submit value summary printouts one week before each regularly scheduled progress meeting.

1.11 REPORTS

A. Daily Construction Reports: Prepare a daily construction report recording the following information concerning events at Project site:

1. List of subcontractors at Project site.
2. List of separate contractors at Project site.
3. Approximate count of personnel at Project site.
4. Equipment at Project site.
5. Material deliveries.
6. High and low temperatures and general weather conditions, including presence of rain or snow.
7. Testing and inspection.
8. Accidents.
9. Meetings and significant decisions.
10. Unusual events.
11. Stoppages, delays, shortages, and losses.
12. Meter readings and similar recordings.
13. Emergency procedures.
14. Orders and requests of authorities having jurisdiction.
15. Change Orders received and implemented.
16. Work Change Directives received and implemented.
17. Services connected and disconnected.
18. Equipment or system tests and startups.
19. Partial completions and occupancies.
20. Substantial Completions authorized.

SECTION 013200 - CONSTRUCTION PROGRESS DOCUMENTATION

- B. **Material Location Reports:** At monthly intervals, prepare and submit a comprehensive list of materials delivered to and stored at Project site. List shall be cumulative, showing materials previously reported plus items recently delivered. Include with list a statement of progress on and delivery dates for materials or items of equipment fabricated or stored away from Project site. Indicate the following categories for stored materials:
 - 1. Material stored prior to previous report and remaining in storage.
 - 2. Material stored prior to previous report and since removed from storage and installed.
 - 3. Material stored following previous report and remaining in storage.
- C. **Site Condition Reports:** Immediately on discovery of a difference between site conditions and the Contract Documents, prepare and submit a detailed report. Submit with a Request for Information. Include a detailed description of the differing conditions, together with recommendations for changing the Contract Documents.
- D. **Unusual Event Reports:** When an event of an unusual and significant nature occurs at Project site, whether or not related directly to the Work, prepare and submit a special report. List chain of events, persons participating, responses by Contractor's personnel, evaluation of results or effects, and similar pertinent information. Advise Owner in advance when these events are known or predictable.
 - 1. Submit unusual event reports directly to Owner within two days of an occurrence. Distribute copies of report to parties affected by the occurrence.

PART 2 - PRODUCTS

(Not Used)

PART 3 - EXECUTION

(Not Used)

END OF SECTION 013200

SECTION 013200 - CONSTRUCTION PROGRESS DOCUMENTATION

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SECTION 013300 - SUBMITTAL PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. Section Includes:
 - 1. Submittal schedule requirements.
 - 2. Administrative and procedural requirements for submittals.
- B. Related Requirements:
 - 1. Section 012900 "Payment Procedures" for submitting Applications for Payment and the schedule of values.
 - 2. Section 013100 "Project Management and Coordination" for submitting coordination drawings and subcontract list and for requirements for web-based Project software.
 - 3. Section 013200 "Construction Progress Documentation" for submitting schedules and reports, including Contractor's construction schedule.
 - 4. Section 014000 "Quality Requirements" for submitting test and inspection reports, and schedule of tests and inspections.
 - 5. Section 017700 "Closeout Procedures" for submitting closeout submittals and maintenance material submittals.
 - 6. Section 017823 "Operation and Maintenance Data" for submitting operation and maintenance manuals.
 - 7. Section 017839 "Project Record Documents" for submitting record Drawings, record Specifications, and record Product Data.

1.3 DEFINITIONS

- A. Action Submittals: Written and graphic information and physical samples that require Architect's and Construction Manager's responsive action. Action submittals are those submittals indicated in individual Specification Sections as "action submittals."
- B. Informational Submittals: Written and graphic information and physical samples that do not require Architect's and Construction Manager's responsive action. Submittals may be rejected for not complying with requirements. Informational submittals are those submittals indicated in individual Specification Sections as "informational submittals."

SECTION 013300 - SUBMITTAL PROCEDURES

1.4 SUBMITTAL SCHEDULE

- A. Submittal Schedule: Submit, as an action submittal, a list of submittals, arranged in chronological order by dates required by construction schedule. Include time required for review, ordering, manufacturing, fabrication, and delivery when establishing dates. Include additional time required for making corrections or revisions to submittals noted by Architect and Construction Manager and additional time for handling and reviewing submittals required by those corrections.
1. Coordinate submittal schedule with list of subcontracts, the schedule of values, and Contractor's construction schedule.
 2. Initial Submittal: Submit concurrently with startup construction schedule. Include submittals required during the first 60 days of construction. List those submittals required to maintain orderly progress of the Work and those required early because of long lead time for manufacture or fabrication.
 3. Final Submittal: Submit concurrently with the first complete submittal of Contractor's construction schedule.
 - a. Submit revised submittal schedule to reflect changes in current status and timing for submittals.
 4. Format: Arrange the following information in a tabular format:
 - a. Scheduled date for first submittal.
 - b. Specification Section number and title.
 - c. Submittal Category: Action; informational.
 - d. Name of subcontractor.
 - e. Description of the Work covered.
 - f. Scheduled date for Architect's and Construction Manager's final release or approval.

1.5 SUBMITTAL FORMATS

- A. Submittal Information: Include the following information in each submittal:
1. Project name.
 2. Date.
 3. Name of Architect.
 4. Name of Construction Manager.
 5. Name of Contractor.
 6. Name of firm or entity that prepared submittal.
 7. Names of subcontractor, manufacturer, and supplier.
 8. Unique submittal number, including revision identifier. Include Specification Section number with sequential alphanumeric identifier; and alphanumeric suffix for resubmittals.
 9. Category and type of submittal.
 10. Submittal purpose and description.

SECTION 013300 - SUBMITTAL PROCEDURES

11. Number and title of Specification Section, with paragraph number and generic name for each of multiple items.
 12. Drawing number and detail references, as appropriate.
 13. Indication of full or partial submittal.
 14. Location(s) where product is to be installed, as appropriate.
 15. Other necessary identification.
 16. Remarks.
 17. Signature of transmitter.
- B. Options: Identify options requiring selection by Architect.
- C. Deviations and Additional Information: On each submittal, clearly indicate deviations from requirements in the Contract Documents, including minor variations and limitations; include relevant additional information and revisions, other than those requested by Architect and Construction Manager on previous submittals. Indicate by highlighting on each submittal or noting on attached separate sheet.
- D. Paper Submittals:
1. Place a permanent label or title block on each submittal item for identification; include name of firm or entity that prepared submittal.
 2. Provide a space approximately 6 by 8 inches on label or beside title block to record Contractor's review and approval markings and action taken by Architect and Construction Manager.
 3. Action Submittals: Submit three paper copies of each submittal unless otherwise indicated. Architect, through Construction Manager, will return two copies.
 4. Informational Submittals: Submit two paper copies of each submittal unless otherwise indicated. Architect and Construction Manager will not return copies.
 5. Additional Copies: Unless additional copies are required for final submittal, and unless Architect or Construction Manager observes noncompliance with provisions in the Contract Documents, initial submittal may serve as final submittal.
 6. Transmittal for Submittals: Assemble each submittal individually and appropriately for transmittal and handling. Transmit each submittal using AIA Document G810 transmittal form.
- E. PDF Submittals: Prepare submittals as PDF package, incorporating complete information into each PDF file. Name PDF file with submittal number.
- F. Submittals for Web-Based Project Software: Prepare submittals as PDF files, or other format indicated by Project software website.

1.6 SUBMITTAL PROCEDURES

- A. Prepare and submit submittals required by individual Specification Sections. Types of submittals are indicated in individual Specification Sections.

SECTION 013300 - SUBMITTAL PROCEDURES

1. Email: Prepare submittals as PDF package, and transmit to Architect by sending via email. Include PDF transmittal form. Include information in email subject line as requested by Architect.
 - a. Architect, through Construction Manager, will return annotated file. Annotate and retain one copy of file as a digital Project Record Document file.
 2. Web-Based Project Software: Prepare submittals in PDF form, and upload to web-based Project software website. Enter required data in web-based software site to fully identify submittal.
 3. Paper: Prepare submittals in paper form, and deliver to Architect.
- B. Coordination: Coordinate preparation and processing of submittals with performance of construction activities.
1. Coordinate each submittal with fabrication, purchasing, testing, delivery, other submittals, and related activities that require sequential activity.
 2. Submit all submittal items required for each Specification Section concurrently unless partial submittals for portions of the Work are indicated on approved submittal schedule.
 3. Submit action submittals and informational submittals required by the same Specification Section as separate packages under separate transmittals.
 4. Coordinate transmittal of submittals for related parts of the Work specified in different Sections so processing will not be delayed because of need to review submittals concurrently for coordination.
 - a. Architect and Construction Manager reserve the right to withhold action on a submittal requiring coordination with other submittals until related submittals are received.
- C. Processing Time: Allow time for submittal review, including time for resubmittals, as follows. Time for review shall commence on Architect's receipt of submittal. 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.
1. Initial Review: Allow 15 days for initial review of each submittal. Allow additional time if coordination with subsequent submittals is required. Architect will advise Contractor when a submittal being processed must be delayed for coordination.
 2. Intermediate Review: If intermediate submittal is necessary, process it in same manner as initial submittal.
 3. Resubmittal Review: Allow 15 days for review of each resubmittal.
 4. Sequential Review: Where sequential review of submittals by Architect's consultants, Owner, or other parties is indicated, allow 21 days for initial review of each submittal.

SECTION 013300 - SUBMITTAL PROCEDURES

5. Concurrent Consultant Review: Where the Contract Documents indicate that submittals may be transmitted simultaneously to Architect and to Architect's consultants, allow 15 days for review of each submittal. Submittal will be returned to Construction Manager, through Architect, before being returned to Contractor.
 - a. Submit one copy of submittal to concurrent reviewer in addition to specified number of copies to Architect and Construction Manager.
- D. Resubmittals: Make resubmittals in same form and number of copies as initial submittal.
 1. Note date and content of previous submittal.
 2. Note date and content of revision in label or title block and clearly indicate extent of revision.
 3. Resubmit submittals until they are marked with approval notation from Architect's action stamp.
- E. Distribution: Furnish copies of final submittals to manufacturers, subcontractors, suppliers, fabricators, installers, authorities having jurisdiction, and others as necessary for performance of construction activities. Show distribution on transmittal forms.
- F. Use for Construction: Retain complete copies of submittals on Project site. Use only final action submittals that are marked with approval notation from Architect's action stamp.

1.7 SUBMITTAL REQUIREMENTS

- A. Product Data: Collect information into a single submittal for each element of construction and type of product or equipment.
 1. If information must be specially prepared for submittal because standard published data are unsuitable for use, submit as Shop Drawings, not as Product Data.
 2. Mark each copy of each submittal to show which products and options are applicable.
 3. Include the following information, as applicable:
 - a. Manufacturer's catalog cuts.
 - b. Manufacturer's product specifications.
 - c. Standard color charts.
 - d. Statement of compliance with specified referenced standards.
 - e. Testing by recognized testing agency.
 - f. Application of testing agency labels and seals.
 - g. Notation of coordination requirements.
 - h. Availability and delivery time information.
 4. For equipment, include the following in addition to the above, as applicable:

SECTION 013300 - SUBMITTAL PROCEDURES

- a. Wiring diagrams that show factory-installed wiring.
 - b. Printed performance curves.
 - c. Operational range diagrams.
 - d. Clearances required to other construction, if not indicated on accompanying Shop Drawings.
5. Submit Product Data before Shop Drawings, and before or concurrent with Samples.
- B. 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.
 1. Preparation: Fully illustrate requirements in the Contract Documents. Include the following information, as applicable:
 - a. Identification of products.
 - b. Schedules.
 - c. Compliance with specified standards.
 - d. Notation of coordination requirements.
 - e. Notation of dimensions established by field measurement.
 - f. Relationship and attachment to adjoining construction clearly indicated.
 - g. Seal and signature of professional engineer if specified.
 2. Paper Sheet Size: Except for templates, patterns, and similar full-size Drawings, submit Shop Drawings on sheets at least 8-1/2 by 11 inches, but no larger than 30 by 42 inches.
 - a. Three opaque copies of each submittal. Architect and Construction Manager will retain two copies; remainder will be returned.
- C. Samples: Submit Samples for review of kind, color, pattern, and texture for a check of these characteristics with other materials.
 1. Transmit Samples that contain multiple, related components such as accessories together in one submittal package.
 2. Identification: Permanently attach label on unexposed side of Samples that includes the following:
 - a. Project name and submittal number.
 - b. Generic description of Sample.
 - c. Product name and name of manufacturer.
 - d. Sample source.
 - e. Number and title of applicable Specification Section.
 - f. Specification paragraph number and generic name of each item.
 3. Email Transmittal: Provide PDF transmittal. Include digital image file illustrating Sample characteristics, and identification information for record.

SECTION 013300 - SUBMITTAL PROCEDURES

4. Web-Based Project Software: Prepare submittals in PDF form, and upload to web-based Project software website. Enter required data in web-based software site to fully identify submittal.
5. Paper Transmittal: Include paper transmittal including complete submittal information indicated.
6. Disposition: Maintain sets of approved Samples at Project site, available for quality-control comparisons throughout the course of construction activity. Sample sets may be used to determine final acceptance of construction associated with each set.
 - a. Samples that may be incorporated into the Work are indicated in individual Specification Sections. Such Samples must be in an undamaged condition at time of use.
 - b. Samples not incorporated into the Work, or otherwise designated as Owner's property, are the property of Contractor.
7. Samples for Initial Selection: Submit manufacturer's color charts consisting of units or sections of units showing the full range of colors, textures, and patterns available.
 - a. Number of Samples: Submit one full set(s) of available choices where color, pattern, texture, or similar characteristics are required to be selected from manufacturer's product line. Architect, through Construction Manager, will return submittal with options selected.
8. Samples for Verification: Submit full-size units or Samples of size indicated, prepared from same material to be used for the Work, cured and finished in manner specified, and physically identical with material or product proposed for use, and that show full range of color and texture variations expected. Samples include, but are not limited to, the following: partial sections of manufactured or fabricated components; small cuts or containers of materials; complete units of repetitively used materials; swatches showing color, texture, and pattern; color range sets; and components used for independent testing and inspection.
 - a. Number of Samples: Submit three sets of Samples. Architect and Construction Manager will retain two Sample sets; remainder will be returned.
 - 1) Submit a single Sample where assembly details, workmanship, fabrication techniques, connections, operation, and other similar characteristics are to be demonstrated.
 - 2) If variation in color, pattern, texture, or other characteristic is inherent in material or product represented by a Sample, submit at least three sets of paired units that show approximate limits of variations.

SECTION 013300 - SUBMITTAL PROCEDURES

- D. Product Schedule: As required in individual Specification Sections, prepare a written summary indicating types of products required for the Work and their intended location. Include the following information in tabular form:
1. Type of product. Include unique identifier for each product indicated in the Contract Documents or assigned by Contractor if none is indicated.
 2. Manufacturer and product name, and model number if applicable.
 3. Number and name of room or space.
 4. Location within room or space.
- E. Qualification Data: Prepare written information that demonstrates capabilities and experience of firm or person. Include lists of completed projects with project names and addresses, contact information of architects and owners, and other information specified.
- F. Design Data: Prepare and submit written and graphic information indicating compliance with indicated performance and design criteria in individual Specification Sections. Include list of assumptions and summary of loads. Include load diagrams if applicable. Provide name and version of software, if any, used for calculations. Number each page of submittal.
- G. Certificates:
1. Certificates and Certifications Submittals: Submit a statement that includes signature of entity responsible for preparing certification. Certificates and certifications shall be signed by an officer or other individual authorized to sign documents on behalf of that entity. Provide a notarized signature where indicated.
 2. Installer Certificates: Submit written statements on manufacturer's letterhead certifying that Installer complies with requirements in the Contract Documents and, where required, is authorized by manufacturer for this specific Project.
 3. Manufacturer Certificates: Submit written statements on manufacturer's letterhead certifying that manufacturer complies with requirements in the Contract Documents. Include evidence of manufacturing experience where required.
 4. Material Certificates: Submit written statements on manufacturer's letterhead certifying that material complies with requirements in the Contract Documents.
 5. Product Certificates: Submit written statements on manufacturer's letterhead certifying that product complies with requirements in the Contract Documents.
 6. Welding Certificates: Prepare written certification that welding procedures and personnel comply with requirements in the Contract Documents. Submit record of Welding Procedure Specification and Procedure Qualification Record on AWS forms. Include names of firms and personnel certified.
- H. Test and Research Reports:
1. Compatibility Test Reports: Submit reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting results of

SECTION 013300 - SUBMITTAL PROCEDURES

- compatibility tests performed before installation of product. Include written recommendations for primers and substrate preparation needed for adhesion.
2. Field Test Reports: Submit written reports indicating and interpreting results of field tests performed either during installation of product or after product is installed in its final location, for compliance with requirements in the Contract Documents.
 3. Material Test Reports: Submit reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting test results of material for compliance with requirements in the Contract Documents.
 4. Preconstruction Test Reports: Submit reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting results of tests performed before installation of product, for compliance with performance requirements in the Contract Documents.
 5. Product Test Reports: Submit written reports indicating that current product produced by manufacturer complies with requirements in the Contract Documents. Base reports on evaluation of tests performed by manufacturer and witnessed by a qualified testing agency, or on comprehensive tests performed by a qualified testing agency.
 6. Research Reports: Submit written evidence, from a model code organization acceptable to authorities having jurisdiction, that product complies with building code in effect for Project. Include the following information:
 - a. Name of evaluation organization.
 - b. Date of evaluation.
 - c. Time period when report is in effect.
 - d. Product and manufacturers' names.
 - e. Description of product.
 - f. Test procedures and results.
 - g. Limitations of use.

1.8 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 insufficient to perform services or certification required, submit a written request for additional information to Architect.
- B. Delegated-Design Services Certification: In addition to Shop Drawings, Product Data, and other required submittals, submit digitally signed PDF file and three paper copies of certificate, 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.

SECTION 013300 - SUBMITTAL PROCEDURES

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.

1.9 CONTRACTOR'S REVIEW

- A. Action Submittals and Informational Submittals: 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 and Construction Manager.
- B. Contractor's Approval: Indicate Contractor's approval for each submittal with a uniform approval stamp. Include name of reviewer, date of Contractor's approval, and statement certifying that submittal has been reviewed, checked, and approved for compliance with the Contract Documents.
 1. Architect and Construction Manager will not review submittals received from Contractor that do not have Contractor's review and approval.

1.10 ARCHITECT'S AND CONSTRUCTION MANAGER'S REVIEW

- A. Action Submittals: Architect and Construction Manager will review each submittal, indicate corrections or revisions required, and return it.
 1. PDF Submittals: Architect and Construction Manager will indicate, via markup on each submittal, the appropriate action.
 2. Paper Submittals: Architect and Construction Manager will stamp each submittal with an action stamp and will mark stamp appropriately to indicate action.
 3. Submittals by Web-Based Project Software: Architect and Construction Manager will indicate, on Project software website, the appropriate action.
- B. Informational Submittals: Architect and Construction Manager will review each submittal and will not return it, or will return it if it does not comply with requirements. Architect and Construction Manager will forward each submittal to appropriate party.
- C. Partial submittals prepared for a portion of the Work will be reviewed when use of partial submittals has received prior approval from Architect and Construction Manager.
- D. Incomplete submittals are unacceptable, will be considered nonresponsive, and will be returned for resubmittal without review.
- E. Architect and Construction Manager will return without review submittals received from sources other than Contractor.

SECTION 013300 - SUBMITTAL PROCEDURES

- F. Submittals not required by the Contract Documents will be returned by Architect without action.

PART 2 - PRODUCTS

(Not Used)

PART 3 - EXECUTION

(Not Used)

END OF SECTION 013300

SECTION 013300 - SUBMITTAL PROCEDURES

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SECTION 014000 - QUALITY REQUIREMENTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. Section includes administrative and procedural requirements for quality assurance and quality control.
- B. Testing and inspection services are required to verify compliance with requirements specified or indicated. These services do not relieve Contractor of responsibility for compliance with the Contract Document requirements.
 - 1. Specific quality-assurance and quality-control requirements for individual work results are specified in their respective Specification Sections. Requirements in individual Sections may also cover production of standard products.
 - 2. Specified tests, inspections, and related actions do not limit Contractor's other quality-assurance and quality-control procedures that facilitate compliance with the Contract Document requirements.
 - 3. Requirements for Contractor to provide quality-assurance and quality-control services required by Architect, Owner, Construction Manager, or authorities having jurisdiction are not limited by provisions of this Section.
 - 4. Specific test and inspection requirements are not specified in this Section.

1.3 DEFINITIONS

- A. Experienced: When used with an entity or individual, "experienced" unless otherwise further described means having successfully completed a minimum of five previous projects similar in nature, size, and extent to this Project; being familiar with special requirements indicated; and having complied with requirements of authorities having jurisdiction.
- B. Field Quality-Control Tests: Tests and inspections that are performed on-site for installation of the Work and for completed Work.
- C. Installer/Applicator/Erector: Contractor or another entity engaged by Contractor as an employee, Subcontractor, or Sub-subcontractor, to perform a particular construction operation, including installation, erection, application, assembly, and similar operations.
 - 1. Use of trade-specific terminology in referring to a trade or entity does not require that certain construction activities be performed by accredited or unionized individuals, or that requirements specified apply exclusively to specific trade(s).
- D. Mockups: Full-size physical assemblies that are constructed on-site either as freestanding temporary built elements or as part of permanent construction. Mockups

SECTION 014000 - QUALITY REQUIREMENTS

are constructed to verify selections made under Sample submittals; to demonstrate aesthetic effects and qualities of materials and execution; to review coordination, testing, or operation; to show interface between dissimilar materials; and to demonstrate compliance with specified installation tolerances. Mockups are not Samples. Unless otherwise indicated, approved mockups establish the standard by which the Work will be judged.

1. Laboratory Mockups: Full-size physical assemblies constructed and tested at testing facility to verify performance characteristics.
 2. Integrated Exterior Mockups: Mockups of the exterior envelope constructed on-site as freestanding temporary built elements or as part of permanent construction, consisting of multiple products, assemblies, and subassemblies.
 3. Room Mockups: Mockups of typical interior spaces complete with wall, floor, and ceiling finishes; doors; windows; millwork; casework; specialties; furnishings and equipment; and lighting.
- E. Preconstruction Testing: Tests and inspections performed specifically for Project before products and materials are incorporated into the Work, to verify performance or compliance with specified criteria.
- F. Product Tests: Tests and inspections that are performed by a nationally recognized testing laboratory (NRTL) according to 29 CFR 1910.7, by a testing agency accredited according to NIST's National Voluntary Laboratory Accreditation Program (NVLAP), or by a testing agency qualified to conduct product testing and acceptable to authorities having jurisdiction, to establish product performance and compliance with specified requirements.
- G. Source Quality-Control Tests: Tests and inspections that are performed at the source; for example, plant, mill, factory, or shop.
- H. Testing Agency: An entity engaged to perform specific tests, inspections, or both. Testing laboratory shall mean the same as testing agency.
- I. Quality-Assurance Services: Activities, actions, and procedures performed before and during execution of the Work to guard against defects and deficiencies and substantiate that proposed construction will comply with requirements.
- J. Quality-Control Services: Tests, inspections, procedures, and related actions during and after execution of the Work to evaluate that actual products incorporated into the Work and completed construction comply with requirements. Contractor's quality-control services do not include contract administration activities performed by Architect or Construction Manager.

1.4 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

SECTION 014000 - QUALITY REQUIREMENTS

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.

1.5 CONFLICTING REQUIREMENTS

- A. **Conflicting Standards and Other Requirements:** If compliance with two or more standards or requirements are specified and the standards or requirements establish different or conflicting requirements for minimum quantities or quality levels, comply with the most stringent requirement. Refer conflicting requirements that are different, but apparently equal, to Architect for direction before proceeding.
- B. **Minimum Quantity or Quality Levels:** The quantity or quality level shown or specified shall be the minimum provided or performed. The actual installation may comply exactly 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.

1.6 ACTION SUBMITTALS

- A. **Shop Drawings:** For integrated exterior mockups.
 1. Include plans, sections, and elevations, indicating materials and size of mockup construction.
 2. Indicate manufacturer and model number of individual components.
 3. Provide axonometric drawings for conditions difficult to illustrate in two dimensions.
- B. **Delegated-Design Services Submittal:** In addition to Shop Drawings, Product Data, and other required submittals, submit 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, indicating that the products and systems are in compliance with performance and design criteria indicated. Include list of codes, loads, and other factors used in performing these services.

1.7 INFORMATIONAL SUBMITTALS

- A. **Contractor's Quality-Control Plan:** For quality-assurance and quality-control activities and responsibilities.
- B. **Qualification Data:** For Contractor's quality-control personnel.
- C. **Contractor's Statement of Responsibility:** When required by authorities having jurisdiction, submit copy of written statement of responsibility submitted to authorities having jurisdiction before starting work on the following systems:

SECTION 014000 - QUALITY REQUIREMENTS

1. Seismic-force-resisting system, designated seismic system, or component listed in the Statement of Special Inspections.
 2. Main wind-force-resisting system or a wind-resisting component listed in the Statement of Special Inspections.
- D. Testing Agency Qualifications: For testing agencies specified in "Quality Assurance" Article to demonstrate their capabilities and experience. Include proof of qualifications in the form of a recent report on the inspection of the testing agency by a recognized authority.
- E. Schedule of Tests and Inspections: Prepare in tabular form and include the following:
1. Specification Section number and title.
 2. Entity responsible for performing tests and inspections.
 3. Description of test and inspection.
 4. Identification of applicable standards.
 5. Identification of test and inspection methods.
 6. Number of tests and inspections required.
 7. Time schedule or time span for tests and inspections.
 8. Requirements for obtaining samples.
 9. Unique characteristics of each quality-control service.
- F. Reports: Prepare and submit certified written reports and documents as specified.
- G. Permits, Licenses, and Certificates: For Owner's record, submit copies of permits, licenses, certifications, inspection reports, releases, jurisdictional settlements, notices, receipts for fee payments, judgments, correspondence, records, and similar documents established for compliance with standards and regulations bearing on performance of the Work.

1.8 CONTRACTOR'S QUALITY-CONTROL PLAN

- A. Quality-Control Plan, General: Submit quality-control plan within 10 days of Notice to Proceed, and not less than five days prior to preconstruction conference. Submit in format acceptable to Architect. Identify personnel, procedures, controls, instructions, tests, records, and forms to be used to carry out Contractor's quality-assurance and quality-control responsibilities. Coordinate with Contractor's Construction Schedule.
- B. Quality-Control Personnel Qualifications: Engage qualified personnel trained and experienced in managing and executing quality-assurance and quality-control procedures similar in nature and extent to those required for Project.
1. Project quality-control manager may also serve as Project superintendent.
- C. Submittal Procedure: Describe procedures for ensuring compliance with requirements through review and management of submittal process. Indicate qualifications of personnel responsible for submittal review.

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- D. Testing and Inspection: In quality-control plan, include a comprehensive schedule of Work requiring testing or inspection, including the following:
 - 1. Contractor-performed tests and inspections including Subcontractor-performed tests and inspections. Include required tests and inspections and Contractor-elected tests and inspections. Distinguish source quality-control tests and inspections from field quality-control tests and inspections.
 - 2. Special inspections required by authorities having jurisdiction and indicated on the Statement of Special Inspections.
 - 3. Owner-performed tests and inspections indicated in the Contract Documents.
- E. Continuous Inspection of Workmanship: Describe process for continuous inspection during construction to identify and correct deficiencies in workmanship in addition to testing and inspection specified. Indicate types of corrective actions to be required to bring work into compliance with standards of workmanship established by Contract requirements and approved mockups.
- F. Monitoring and Documentation: Maintain testing and inspection reports including log of approved and rejected results. Include work Architect has indicated as nonconforming or defective. Indicate corrective actions taken to bring nonconforming work into compliance with requirements. Comply with requirements of authorities having jurisdiction.

1.9 REPORTS AND DOCUMENTS

- A. Test and Inspection Reports: Prepare and submit certified written reports specified in other Sections. Include the following:
 - 1. Date of issue.
 - 2. Project title and number.
 - 3. Name, address, telephone number, and email address of testing agency.
 - 4. Dates and locations of samples and tests or inspections.
 - 5. Names of individuals making tests and inspections.
 - 6. Description of the Work and test and inspection method.
 - 7. Identification of product and Specification Section.
 - 8. Complete test or inspection data.
 - 9. Test and inspection results and an interpretation of test results.
 - 10. Record of temperature and weather conditions at time of sample taking and testing and inspection.
 - 11. Comments or professional opinion on whether tested or inspected Work complies with the Contract Document requirements.
 - 12. Name and signature of laboratory inspector.
 - 13. Recommendations on retesting and reinspecting.
- B. Manufacturer's Technical Representative's Field Reports: Prepare written information documenting manufacturer's technical representative's tests and inspections specified in other Sections. Include the following:

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1. Name, address, telephone number, and email address of technical representative making report.
 2. Statement on condition of substrates and their acceptability for installation of product.
 3. Statement that products at Project site comply with requirements.
 4. Summary of installation procedures being followed, whether they comply with requirements and, if not, what corrective action was taken.
 5. Results of operational and other tests and a statement of whether observed performance complies with requirements.
 6. Statement whether conditions, products, and installation will affect warranty.
 7. Other required items indicated in individual Specification Sections.
- C. **Factory-Authorized Service Representative's Reports:** Prepare written information documenting manufacturer's factory-authorized service representative's tests and inspections specified in other Sections. Include the following:
1. Name, address, telephone number, and email address of factory-authorized service representative making report.
 2. Statement that equipment complies with requirements.
 3. Results of operational and other tests and a statement of whether observed performance complies with requirements.
 4. Statement whether conditions, products, and installation will affect warranty.
 5. Other required items indicated in individual Specification Sections.

1.10 QUALITY ASSURANCE

- A. **General:** Qualifications paragraphs in this article establish the minimum qualification levels required; individual Specification Sections specify additional requirements.
- B. **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. As applicable, procure products from manufacturers able to meet qualification requirements, warranty requirements, and technical or factory-authorized service representative requirements.
- C. **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.
- D. **Installer Qualifications:** A firm or individual experienced in installing, erecting, applying, 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.
- 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

SECTION 014000 - QUALITY REQUIREMENTS

performed for installations of the system, assembly, or product that are similar in material, design, and extent to those indicated for this Project.

- F. Specialists: Certain Specification Sections require that specific construction activities shall be performed by entities who are recognized experts in those operations. Specialists shall satisfy qualification requirements indicated and shall be engaged for the activities indicated.
 - 1. Requirements of authorities having jurisdiction shall supersede requirements for specialists.
- G. Testing Agency Qualifications: An NRTL, an NVLAP, or an independent agency with the experience and capability to conduct testing and inspection indicated, as documented according to ASTM E 329; and with additional qualifications specified in individual Sections; and, where required by authorities having jurisdiction, that is acceptable to authorities.
- H. Manufacturer's Technical Representative Qualifications: An authorized representative of manufacturer who is trained and approved by manufacturer to observe and inspect installation of manufacturer's products that are similar in material, design, and extent to those indicated for this Project.
- I. Factory-Authorized Service Representative Qualifications: An authorized representative of manufacturer who is trained and approved by manufacturer to inspect installation of manufacturer's products that are similar in material, design, and extent to those indicated for this Project.
- J. Preconstruction Testing: Where testing agency is indicated to perform preconstruction testing for compliance with specified requirements for performance and test methods, comply with the following:
 - 1. Contractor responsibilities include the following:
 - a. Provide test specimens representative of proposed products and construction.
 - b. Submit specimens in a timely manner with sufficient time for testing and analyzing results to prevent delaying the Work.
 - c. Provide sizes and configurations of test assemblies, mockups, and laboratory mockups to adequately demonstrate capability of products to comply with performance requirements.
 - d. Build site-assembled test assemblies and mockups using installers who will perform same tasks for Project.
 - e. Build laboratory mockups at testing facility using personnel, products, and methods of construction indicated for the completed Work.
 - f. When testing is complete, remove test specimens and test assemblies, and mockups; do not reuse products on Project.

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2. Testing Agency Responsibilities: Submit a certified written report of each test, inspection, and similar quality-assurance service to Architect, through Construction Manager, with copy to Contractor. Interpret tests and inspections and state in each report whether tested and inspected work complies with or deviates from the Contract Documents.
- K. Mockups: Before installing portions of the Work requiring mockups, build mockups for each form of construction and finish required to comply with the following requirements, using materials indicated for the completed Work:
1. Build mockups of size indicated.
 2. Build mockups in location indicated or, if not indicated, as directed by Architect.
 3. Notify Architect and Construction Manager seven days in advance of dates and times when mockups will be constructed.
 4. Employ supervisory personnel who will oversee mockup construction. Employ workers that will be employed to perform same tasks during the construction at Project.
 5. Demonstrate the proposed range of aesthetic effects and workmanship.
 6. Obtain Architect's and Construction Manager's approval of mockups before starting corresponding work, fabrication, or construction.
 - a. Allow seven days for initial review and each re-review of each mockup.
 7. Maintain mockups during construction in an undisturbed condition as a standard for judging the completed Work.
 8. Demolish and remove mockups when directed unless otherwise indicated.
- L. Integrated Exterior Mockups: Construct integrated exterior mockup according to approved Shop Drawings. Coordinate installation of exterior envelope materials and products for which mockups are required in individual Specification Sections, along with supporting materials. Comply with requirements in "Mockups" Paragraph.
- M. Room Mockups: Construct room mockups according to approved Shop Drawings incorporating required materials and assemblies, finished according to requirements. Provide required lighting and additional lighting where required to enable Architect to evaluate quality of the Work. Comply with requirements in "Mockups" Paragraph.

1.11 QUALITY CONTROL

- A. Owner Responsibilities: Where quality-control services are indicated as Owner's responsibility, Owner will engage a qualified testing agency to perform these services.
1. Owner will furnish Contractor with names, addresses, and telephone numbers of testing agencies engaged and a description of types of testing and inspection they are engaged to perform.
 2. Payment for these services will be made from testing and inspection allowances, as authorized by Change Orders.

SECTION 014000 - QUALITY REQUIREMENTS

3. Costs for retesting and reinspecting construction that replaces or is necessitated by work that failed to comply with the Contract Documents will be charged to Contractor.
- B. Contractor Responsibilities: Tests and inspections not explicitly assigned to Owner are Contractor's responsibility. Perform additional quality-control activities, whether specified or not, to verify and document that the Work complies with requirements.
1. 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.
 2. Engage a qualified testing agency to perform quality-control services.
 - a. Contractor shall not employ same entity engaged by Owner, unless agreed to in writing by Owner.
 3. Notify testing agencies at least 72 hours in advance of time when Work that requires testing or inspection will be performed.
 4. Where quality-control services are indicated as Contractor's responsibility, submit a certified written report, in duplicate, of each quality-control service.
 5. Testing and inspection requested by Contractor and not required by the Contract Documents are Contractor's responsibility.
 6. Submit additional copies of each written report directly to authorities having jurisdiction, when they so direct.
- C. 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.
- D. Testing Agency Responsibilities: Cooperate with Architect, Construction Manager, and Contractor in performance of duties. Provide qualified personnel to perform required tests and inspections.
1. Notify Architect, Construction Manager, and Contractor promptly of irregularities or deficiencies observed in the Work during performance of its services.
 2. Determine the locations from which test samples will be taken and in which in-situ tests are conducted.
 3. Conduct and interpret tests and inspections and state in each report whether tested and inspected work complies with or deviates from requirements.
 4. Submit a certified written report, in duplicate, of each test, inspection, and similar quality-control service through Contractor.
 5. Do not release, revoke, alter, or increase the Contract Document requirements or approve or accept any portion of the Work.
 6. Do not perform duties of Contractor.
- E. Manufacturer's Field Services: Where indicated, engage a factory-authorized service representative to inspect field-assembled components and equipment installation,

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including service connections. Report results in writing as specified in Section 013300 "Submittal Procedures."

- F. **Manufacturer's Technical Services:** Where indicated, engage a manufacturer's technical representative to observe and inspect the Work. Manufacturer's technical representative's services include participation in preinstallation conferences, examination of substrates and conditions, verification of materials, observation of Installer activities, inspection of completed portions of the Work, and submittal of written reports.
- G. **Associated Contractor Services:** Cooperate with agencies and representatives 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 inspections.
 - 3. Adequate quantities of representative samples of materials that require testing and inspection. Assist agency in obtaining samples.
 - 4. Facilities for storage and field curing of test samples.
 - 5. Delivery of samples to testing agencies.
 - 6. Preliminary design mix proposed for use for material mixes that require control by testing agency.
 - 7. Security and protection for samples and for testing and inspection equipment at Project site.
- H. **Coordination:** Coordinate sequence of activities to accommodate required quality-assurance and quality-control services with a minimum of delay and to avoid necessity of removing and replacing construction to accommodate testing and inspection.
 - 1. Schedule times for tests, inspections, obtaining samples, and similar activities.
- I. **Schedule of Tests and Inspections:** Prepare a schedule of tests, inspections, and similar quality-control services required by the Contract Documents. Coordinate and submit concurrently with Contractor's Construction Schedule. Update as the Work progresses.
 - 1. **Distribution:** Distribute schedule to Owner, Architect, Construction Manager, testing agencies, and each party involved in performance of portions of the Work where tests and inspections are required.

1.12 SPECIAL TESTS AND INSPECTIONS

- A. **Special Tests and Inspections:** Engage a qualified testing agency to conduct special tests and inspections required by authorities having jurisdiction, as indicated in individual Specification Sections, and as follows:

SECTION 014000 - QUALITY REQUIREMENTS

1. Verifying that manufacturer maintains detailed fabrication and quality-control procedures and reviewing the completeness and adequacy of those procedures to perform the Work.
2. Notifying Architect, Construction Manager, and Contractor promptly of irregularities and deficiencies observed in the Work during performance of its services.
3. Submitting a certified written report of each test, inspection, and similar quality-control service to Architect, through Construction Manager, with copy to Contractor and to authorities having jurisdiction.
4. Submitting a final report of special tests and inspections at Substantial Completion, which includes a list of unresolved deficiencies.
5. Interpreting tests and inspections and stating in each report whether tested and inspected work complies with or deviates from the Contract Documents.
6. Retesting and reinspecting corrected work.

PART 2 - PRODUCTS

(Not Used)

PART 3 - EXECUTION

3.1 ACCEPTABLE TESTING AGENCIES

- A. Submit for Architect's approval.

3.2 TEST AND INSPECTION LOG

- A. Test and Inspection Log: Prepare a record of tests and inspections. Include the following:
 1. Date test or inspection was conducted.
 2. Description of the Work tested or inspected.
 3. Date test or inspection results were transmitted to Architect.
 4. Identification of testing agency or special inspector conducting test or inspection.
- B. Maintain log at Project site. Post changes and revisions as they occur. Provide access to test and inspection log for Architect's and Construction Manager's reference during normal working hours.
 1. Submit log at Project closeout as part of Project Record Documents.

3.3 REPAIR AND PROTECTION

- A. General: On completion of testing, inspection, sample taking, and similar services, repair damaged construction and restore substrates and finishes.

SECTION 014000 - QUALITY REQUIREMENTS

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 the Contract Document requirements for cutting and patching in Section 017300 "Execution."
- 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 SECTION 014000

SECTION 014200 - REFERENCES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 DEFINITIONS

- A. General: Basic Contract definitions are included in the Conditions of the Contract.
- B. "Approved": When used to convey Architect's action on Contractor's submittals, applications, and requests, "approved" is limited to Architect's duties and responsibilities as stated in the Conditions of the Contract.
- C. "Directed": A command or instruction by Architect. Other terms including "requested," "authorized," "selected," "required," and "permitted" have the same meaning as "directed."
- D. "Indicated": Requirements expressed by graphic representations or in written form on Drawings, in Specifications, and in other Contract Documents. Other terms including "shown," "noted," "scheduled," and "specified" have the same meaning as "indicated."
- E. "Regulations": Laws, ordinances, statutes, and lawful orders issued by authorities having jurisdiction, and rules, conventions, and agreements within the construction industry that control performance of the Work.
- F. "Furnish": Supply and deliver to Project site, ready for unloading, unpacking, assembly, installation, and similar operations.
- G. "Install": Unload, temporarily store, unpack, assemble, erect, place, anchor, apply, work to dimension, finish, cure, protect, clean, and similar operations at Project site.
- H. "Provide": Furnish and install, complete and ready for the intended use.
- I. "Project Site": Space available for performing construction activities. The extent of Project site is shown on Drawings and may or may not be identical with the description of the land on which Project is to be built.

1.3 INDUSTRY STANDARDS

- A. Applicability of Standards: Unless the Contract Documents include more stringent requirements, applicable construction industry standards have the same force and effect as if bound or copied directly into the Contract Documents to the extent referenced. Such standards are made a part of the Contract Documents by reference.
- B. Publication Dates: Comply with standards in effect as of date of the Contract Documents unless otherwise indicated.

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- C. Copies of Standards: Each entity engaged in construction on Project should be familiar with industry standards applicable to its construction activity. Copies of applicable standards are not bound with the Contract Documents.
 - 1. Where copies of standards are needed to perform a required construction activity, obtain copies directly from publication source.

1.4 ABBREVIATIONS AND ACRONYMS

- A. Industry Organizations: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities indicated in Gale's "Encyclopedia of Associations: National Organizations of the U.S." or in Columbia Books' "National Trade & Professional Associations of the United States."
- B. Industry Organizations: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities in the following list. This information is subject to change and is believed to be accurate as of the date of the Contract Documents.
 - 1. AABC - Associated Air Balance Council; www.aabc.com.
 - 2. AAMA - American Architectural Manufacturers Association; www.aamanet.org.
 - 3. AAPFCO - Association of American Plant Food Control Officials; www.aapfco.org.
 - 4. AASHTO - American Association of State Highway and Transportation Officials; www.transportation.org.
 - 5. AATCC - American Association of Textile Chemists and Colorists; www.aatcc.org.
 - 6. ABMA - American Bearing Manufacturers Association; www.americanbearings.org.
 - 7. ABMA - American Boiler Manufacturers Association; www.abma.com.
 - 8. ACI - American Concrete Institute; (Formerly: ACI International); www.concrete.org
 - 9. ACPA - American Concrete Pipe Association; www.concrete-pipe.org.
 - 10. AEIC - Association of Edison Illuminating Companies, Inc. (The); www.aeic.org.
 - 11. AF&PA - American Forest & Paper Association; www.afandpa.org.
 - 12. AGA - American Gas Association; www.aga.org.
 - 13. AHAM - Association of Home Appliance Manufacturers; www.aham.org.
 - 14. AHRI - Air-Conditioning, Heating, and Refrigeration Institute (The); www.ahrinet.org.
 - 15. AI - Asphalt Institute; www.asphaltinstitute.org.
 - 16. AIA - American Institute of Architects (The); www.aia.org.
 - 17. AISC - American Institute of Steel Construction; www.aisc.org.
 - 18. AISI - American Iron and Steel Institute; www.steel.org.
 - 19. AITC - American Institute of Timber Construction; www.aitc-glulam.org.
 - 20. AMCA - Air Movement and Control Association International, Inc.; www.amca.org.

SECTION 014200 - REFERENCES

21. ANSI - American National Standards Institute; www.ansi.org.
22. AOSA - Association of Official Seed Analysts, Inc.; www.aosaseed.com.
23. APA - APA - The Engineered Wood Association; www.apawood.org.
24. APA - Architectural Precast Association; www.archprecast.org.
25. API - American Petroleum Institute; www.api.org.
26. ARI - Air-Conditioning & Refrigeration Institute; (See AHRI).
27. ARI - American Refrigeration Institute; (See AHRI).
28. ARMA - Asphalt Roofing Manufacturers Association; www.asphaltroofing.org.
29. ASCE - American Society of Civil Engineers; www.asce.org.
30. ASCE/SEI - American Society of Civil Engineers/Structural Engineering Institute; (See ASCE).
31. ASHRAE - American Society of Heating, Refrigerating and Air-Conditioning Engineers; www.ashrae.org.
32. ASME - ASME International; (American Society of Mechanical Engineers); www.asme.org.
33. ASSE - American Society of Safety Engineers (The); www.asse.org.
34. ASSE - American Society of Sanitary Engineering; www.asse-plumbing.org.
35. ASTM - ASTM International; www.astm.org.
36. ATIS - Alliance for Telecommunications Industry Solutions; www.atis.org.
37. AWEA - American Wind Energy Association; www.awea.org.
38. AWI - Architectural Woodwork Institute; www.awinet.org.
39. AWMAC - Architectural Woodwork Manufacturers Association of Canada; www.awmac.com.
40. AWWPA - American Wood Protection Association; www.awpa.com.
41. AWS - American Welding Society; www.aws.org.
42. AWWA - American Water Works Association; www.awwa.org.
43. BHMA - Builders Hardware Manufacturers Association; www.buildershardware.com.
44. BIA - Brick Industry Association (The); www.gobrick.com.
45. BICSI - BICSI, Inc.; www.bicsi.org.
46. BIFMA - BIFMA International; (Business and Institutional Furniture Manufacturer's Association); www.bifma.org.
47. BISSC - Baking Industry Sanitation Standards Committee; www.bissc.org.
48. BWF - Badminton World Federation; (Formerly: International Badminton Federation); www.bissc.org.
49. CDA - Copper Development Association; www.copper.org.
50. CE - Conformance Européenne; <http://ec.europa.eu/growth/single-market/ce-marking/>
51. CEA - Canadian Electricity Association; www.electricity.ca.
52. CEA - Consumer Electronics Association; www.ce.org.
53. CFFA - Chemical Fabrics and Film Association, Inc.; www.chemicalfabricsandfilm.com.
54. CFSEI - Cold-Formed Steel Engineers Institute; www.cfsei.org.
55. CGA - Compressed Gas Association; www.cganet.com.
56. CIMA - Cellulose Insulation Manufacturers Association; www.cellulose.org.
57. CISCA - Ceilings & Interior Systems Construction Association; www.cisca.org.

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58. CISPI - Cast Iron Soil Pipe Institute; www.cispi.org.
59. CLFMI - Chain Link Fence Manufacturers Institute; www.chainlinkinfo.org.
60. CPA - Composite Panel Association; www.pbmdf.com.
61. CRI - Carpet and Rug Institute (The); www.carpet-rug.org.
62. CRRC - Cool Roof Rating Council; www.coolroofs.org.
63. CRSI - Concrete Reinforcing Steel Institute; www.crsi.org.
64. CSA - CSA Group; www.csa.ca.
65. CSA - CSA International; (Formerly: IAS - International Approval Services); www.csa-international.org.
66. CSI - Construction Specifications Institute (The); www.csinet.org.
67. CSSB - Cedar Shake & Shingle Bureau; www.cedarbureau.org.
68. CTI - Cooling Technology Institute; (Formerly: Cooling Tower Institute); www.cti.org.
69. CWC - Composite Wood Council; (See CPA).
70. DASMA - Door and Access Systems Manufacturers Association; www.dasma.com.
71. DHI - Door and Hardware Institute; www.dhi.org.
72. ECA - Electronic Components Association; (See ECIA).
73. ECAMA - Electronic Components Assemblies & Materials Association; (See ECIA).
74. ECIA - Electronic Components Industry Association; www.eciaonline.org.
75. EIA - Electronic Industries Alliance; (See TIA).
76. EIMA - EIFS Industry Members Association; www.eima.com.
77. EJMA - Expansion Joint Manufacturers Association, Inc.; www.ejma.org.
78. ESD - ESD Association; (Electrostatic Discharge Association); www.esda.org.
79. ESTA - Entertainment Services and Technology Association; (See PLASA).
80. ETL - Intertek (See Intertek); www.intertek.com.
81. EVO - Efficiency Valuation Organization; www.evo-world.org.
82. FCI - Fluid Controls Institute; www.fluidcontrolsintstitute.org.
83. FIBA - Federation Internationale de Basketball; (The International Basketball Federation); www.fiba.com.
84. FIVB - Federation Internationale de Volleyball; (The International Volleyball Federation); www.fivb.org.
85. FM Approvals - FM Approvals LLC; www.fmglobal.com.
86. FM Global - FM Global; (Formerly: FMG - FM Global); www.fmglobal.com.
87. FRSA - Florida Roofing, Sheet Metal & Air Conditioning Contractors Association, Inc.; www.floridarroof.com.
88. FSA - Fluid Sealing Association; www.fluidsealing.com.
89. FSC - Forest Stewardship Council U.S.; www.fscus.org.
90. GA - Gypsum Association; www.gypsum.org.
91. GANA - Glass Association of North America; www.glasswebsite.com.
92. GS - Green Seal; www.greenseal.org.
93. HI - Hydraulic Institute; www.pumps.org.
94. HI/GAMA - Hydronics Institute/Gas Appliance Manufacturers Association; (See AHRI).
95. HMMA - Hollow Metal Manufacturers Association; (See NAAMM).

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96. HPVA - Hardwood Plywood & Veneer Association; www.hpva.org.
97. HPW - H. P. White Laboratory, Inc.; www.hpwhite.com.
98. IAPSC - International Association of Professional Security Consultants; www.iapsc.org.
99. IAS - International Accreditation Service; www.iasonline.org.
100. IAS - International Approval Services; (See CSA).
101. ICBO - International Conference of Building Officials; (See ICC).
102. ICC - International Code Council; www.iccsafe.org.
103. ICEA - Insulated Cable Engineers Association, Inc.; www.icea.net.
104. ICPA - International Cast Polymer Alliance; www.icpa-hq.org.
105. ICRI - International Concrete Repair Institute, Inc.; www.icri.org.
106. IEC - International Electrotechnical Commission; www.iec.ch.
107. IEEE - Institute of Electrical and Electronics Engineers, Inc. (The); www.ieee.org.
108. IES - Illuminating Engineering Society; (Formerly: Illuminating Engineering Society of North America); www.ies.org.
109. IESNA - Illuminating Engineering Society of North America; (See IES).
110. IEST - Institute of Environmental Sciences and Technology; www.iest.org.
111. IGMA - Insulating Glass Manufacturers Alliance; www.igmaonline.org.
112. IGSHPA - International Ground Source Heat Pump Association; www.igshpa.okstate.edu.
113. ILI - Indiana Limestone Institute of America, Inc.; www.ili.ai.com.
114. Intertek - Intertek Group; (Formerly: ETL SEMCO; Intertek Testing Service NA); www.intertek.com.
115. ISA - International Society of Automation (The); (Formerly: Instrumentation, Systems, and Automation Society); www.isa.org.
116. ISAS - Instrumentation, Systems, and Automation Society (The); (See ISA).
117. ISFA - International Surface Fabricators Association; (Formerly: International Solid Surface Fabricators Association); www.isfanow.org.
118. ISO - International Organization for Standardization; www.iso.org.
119. ISSFA - International Solid Surface Fabricators Association; (See ISFA).
120. ITU - International Telecommunication Union; www.itu.int/home.
121. KCMA - Kitchen Cabinet Manufacturers Association; www.kcma.org.
122. LMA - Laminating Materials Association; (See CPA).
123. LPI - Lightning Protection Institute; www.lightning.org.
124. MBMA - Metal Building Manufacturers Association; www.mbma.com.
125. MCA - Metal Construction Association; www.metalconstruction.org.
126. MFMA - Maple Flooring Manufacturers Association, Inc.; www.maplefloor.org.
127. MFMA - Metal Framing Manufacturers Association, Inc.; www.metalframingmfg.org.
128. MHIA - Material Handling Industry of America; www.mhia.org.
129. MIA - Marble Institute of America; www.marble-institute.com.
130. MMPA - Moulding & Millwork Producers Association; www.wmmpa.com.
131. MPI - Master Painters Institute; www.paintinfo.com.
132. MSS - Manufacturers Standardization Society of The Valve and Fittings Industry Inc.; www.mss-hq.org.

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133. NAAMM - National Association of Architectural Metal Manufacturers; www.naamm.org.
134. NACE - NACE International; (National Association of Corrosion Engineers International); www.nace.org.
135. NADCA - National Air Duct Cleaners Association; www.nadca.com.
136. NAIMA - North American Insulation Manufacturers Association; www.naima.org.
137. NBGQA - National Building Granite Quarries Association, Inc.; www.nbgqa.com.
138. NBI - New Buildings Institute; www.newbuildings.org.
139. NCAA - National Collegiate Athletic Association (The); www.ncaa.org.
140. NCMA - National Concrete Masonry Association; www.ncma.org.
141. NEBB - National Environmental Balancing Bureau; www.nebb.org.
142. NECA - National Electrical Contractors Association; www.necanet.org.
143. NeLMA - Northeastern Lumber Manufacturers Association; www.nelma.org.
144. NEMA - National Electrical Manufacturers Association; www.nema.org.
145. NETA - InterNational Electrical Testing Association; www.netaworld.org.
146. NFHS - National Federation of State High School Associations; www.nfhs.org.
147. NFPA - National Fire Protection Association; www.nfpa.org.
148. NFPA - NFPA International; (See NFPA).
149. NFRC - National Fenestration Rating Council; www.nfrc.org.
150. NHLA - National Hardwood Lumber Association; www.nhla.com.
151. NLGA - National Lumber Grades Authority; www.nlga.org.
152. NOFMA - National Oak Flooring Manufacturers Association; (See NWFA).
153. NOMMA - National Ornamental & Miscellaneous Metals Association; www.nomma.org.
154. NRCA - National Roofing Contractors Association; www.nrca.net.
155. NRMCA - National Ready Mixed Concrete Association; www.nrmca.org.
156. NSF - NSF International; www.nsf.org.
157. NSPE - National Society of Professional Engineers; www.nspe.org.
158. NSSGA - National Stone, Sand & Gravel Association; www.nssga.org.
159. NTMA - National Terrazzo & Mosaic Association, Inc. (The); www.ntma.com.
160. NWFA - National Wood Flooring Association; www.nwfa.org.
161. PCI - Precast/Prestressed Concrete Institute; www.pci.org.
162. PDI - Plumbing & Drainage Institute; www.pdionline.org.
163. PLASA - PLASA; (Formerly: ESTA - Entertainment Services and Technology Association); <http://www.plasa.org>.
164. RCSC - Research Council on Structural Connections; www.boltcouncil.org.
165. RFCI - Resilient Floor Covering Institute; www.rfci.com.
166. RIS - Redwood Inspection Service; www.redwoodinspection.com.
167. SAE - SAE International; www.sae.org.
168. SCTE - Society of Cable Telecommunications Engineers; www.scte.org.
169. SDI - Steel Deck Institute; www.sdi.org.
170. SDI - Steel Door Institute; www.steeldoor.org.
171. SEFA - Scientific Equipment and Furniture Association (The); www.sefalabs.com.

SECTION 014200 - REFERENCES

172. SEI/ASCE - Structural Engineering Institute/American Society of Civil Engineers; (See ASCE).
173. SIA - Security Industry Association; www.siaonline.org.
174. SJI - Steel Joist Institute; www.steeljoist.org.
175. SMA - Screen Manufacturers Association; www.smainfo.org.
176. SMACNA - Sheet Metal and Air Conditioning Contractors' National Association; www.smacna.org.
177. SMPTE - Society of Motion Picture and Television Engineers; www.smpte.org.
178. SPFA - Spray Polyurethane Foam Alliance; www.sprayfoam.org.
179. SPIB - Southern Pine Inspection Bureau; www.spib.org.
180. SPRI - Single Ply Roofing Industry; www.spri.org.
181. SRCC - Solar Rating & Certification Corporation; www.solar-rating.org.
182. SSINA - Specialty Steel Industry of North America; www.ssina.com.
183. SSPC - SSPC: The Society for Protective Coatings; www.sspc.org.
184. STI - Steel Tank Institute; www.steeltank.com.
185. SWI - Steel Window Institute; www.steelwindows.com.
186. SWPA - Submersible Wastewater Pump Association; www.swpa.org.
187. TCA - Tilt-Up Concrete Association; www.tilt-up.org.
188. TCNA - Tile Council of North America, Inc.; www.tileusa.com.
189. TEMA - Tubular Exchanger Manufacturers Association, Inc.; www.tema.org.
190. TIA - Telecommunications Industry Association (The); (Formerly: TIA/EIA - Telecommunications Industry Association/Electronic Industries Alliance); www.tiaonline.org.
191. TIA/EIA - Telecommunications Industry Association/Electronic Industries Alliance; (See TIA).
192. TMS - The Masonry Society; www.masonrysociety.org.
193. TPI - Truss Plate Institute; www.tpinst.org.
194. TPI - Turfgrass Producers International; www.turfgrassod.org.
195. TRI - Tile Roofing Institute; www.tilerroofing.org.
196. UL - Underwriters Laboratories Inc.; <http://www.ul.com>.
197. UNI - Uni-Bell PVC Pipe Association; www.uni-bell.org.
198. USAV - USA Volleyball; www.usavolleyball.org.
199. USGBC - U.S. Green Building Council; www.usgbc.org.
200. USITT - United States Institute for Theatre Technology, Inc.; www.usitt.org.
201. WA - Wallcoverings Association; www.wallcoverings.org.
202. WASTEC - Waste Equipment Technology Association; www.wastec.org.
203. WCLIB - West Coast Lumber Inspection Bureau; www.wclib.org.
204. WCMA - Window Covering Manufacturers Association; www.wcmanet.org.
205. WDMA - Window & Door Manufacturers Association; www.wdma.com.
206. WI - Woodwork Institute; www.wicnet.org.
207. WSRCA - Western States Roofing Contractors Association; www.wsrca.com.
208. WWPA - Western Wood Products Association; www.wwpa.org.

- C. Code Agencies: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities in the following list. This information is believed to be accurate as of the date of the Contract Documents.

SECTION 014200 - REFERENCES

1. DIN - Deutsches Institut für Normung e.V.; www.din.de.
 2. IAPMO - International Association of Plumbing and Mechanical Officials; www.iapmo.org.
 3. ICC - International Code Council; www.iccsafe.org.
 4. ICC-ES - ICC Evaluation Service, LLC; www.icc-es.org.
- D. Federal Government Agencies: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities in the following list. Information is subject to change and is up to date as of the date of the Contract Documents.
1. COE - Army Corps of Engineers; www.usace.army.mil.
 2. CPSC - Consumer Product Safety Commission; www.cpsc.gov.
 3. DOC - Department of Commerce; National Institute of Standards and Technology; www.nist.gov.
 4. DOD - Department of Defense; www.quicksearch.dla.mil.
 5. DOE - Department of Energy; www.energy.gov.
 6. EPA - Environmental Protection Agency; www.epa.gov.
 7. FAA - Federal Aviation Administration; www.faa.gov.
 8. FG - Federal Government Publications; www.gpo.gov/fdsys.
 9. GSA - General Services Administration; www.gsa.gov.
 10. HUD - Department of Housing and Urban Development; www.hud.gov.
 11. LBL - Lawrence Berkeley National Laboratory; Environmental Energy Technologies Division; www.eetd.lbl.gov.
 12. OSHA - Occupational Safety & Health Administration; www.osha.gov.
 13. SD - Department of State; www.state.gov.
 14. TRB - Transportation Research Board; National Cooperative Highway Research Program; The National Academies; www.trb.org.
 15. USDA - Department of Agriculture; Agriculture Research Service; U.S. Salinity Laboratory; www.ars.usda.gov.
 16. USDA - Department of Agriculture; Rural Utilities Service; www.usda.gov.
 17. USDOJ - Department of Justice; Office of Justice Programs; National Institute of Justice; www.ojp.usdoj.gov.
 18. USP - U.S. Pharmacopeial Convention; www.usp.org.
 19. USPS - United States Postal Service; www.usps.com.
- E. Standards and Regulations: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the standards and regulations in the following list. This information is subject to change and is believed to be accurate as of the date of the Contract Documents.
1. CFR - Code of Federal Regulations; Available from Government Printing Office; www.gpo.gov/fdsys.
 2. DOD - Department of Defense; Military Specifications and Standards; Available from DLA Document Services; www.quicksearch.dla.mil.
 3. DSCC - Defense Supply Center Columbus; (See FS).
 4. FED-STD - Federal Standard; (See FS).

SECTION 014200 - REFERENCES

5. FS - Federal Specification; Available from DLA Document Services;
www.quicksearch.dla.mil.
 - a. Available from Defense Standardization Program; www.dsp.dla.mil.
 - b. Available from General Services Administration; www.gsa.gov.
 - c. Available from National Institute of Building Sciences/Whole Building Design Guide; www.wbdg.org/ccb.
 6. MILSPEC - Military Specification and Standards; (See DOD).
 7. USAB - United States Access Board; www.access-board.gov.
 8. USATBCB - U.S. Architectural & Transportation Barriers Compliance Board; (See USAB).
- F. State Government Agencies: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities in the following list. This information is subject to change and is believed to be accurate as of the date of the Contract Documents.
1. NYSDEC; New York State Department of Environmental Conservation;
www.dec.ny.gov.

PART 2 - PRODUCTS

(Not Used)

PART 3 - EXECUTION

(Not Used)

END OF SECTION 014200

SECTION 014200 - REFERENCES

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SECTION 015000 - TEMPORARY FACILITIES AND CONTROLS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. Section includes requirements for temporary utilities, support facilities, and security and protection facilities.
- B. Related Requirements:
 - 1. Section 011000 "Summary" for work restrictions and limitations on utility interruptions.

1.3 USE CHARGES

- A. General: Installation and removal of and use charges for temporary facilities shall be included in the Contract Sum unless otherwise indicated. Allow other entities engaged in the Project to use temporary services and facilities without cost, including, but not limited to, Owner, Architect, 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, from existing services on Village properties, by all entities for construction operations. Temporary electrical services, and use charges, located elsewhere will be paid for by Contractor.
- E. Water and Sewer Service from Existing System: Water from Owner's existing water system is available for use without payment of use charges. Owner may require metering of water and will provide meter to be installed by Contractor. Provide connections and extensions of services as required for construction operations.
- F. Electric Power Service from Existing System: Electric power from Owner's existing system is available for use without metering and without payment of use charges. Provide connections and extensions of services as required for construction operations.

SECTION 015000 - TEMPORARY FACILITIES AND CONTROLS

1.4 INFORMATIONAL SUBMITTALS

- A. Site Utilization Plan: Show temporary facilities, temporary utility lines and connections, staging areas, construction site entrances, vehicle circulation, and parking areas for construction personnel.
- B. Implementation and Termination Schedule: Within 15 days of date established for commencement of the Work, submit schedule indicating implementation and termination dates of each temporary utility.
- C. Project Identification and Temporary Signs: Show fabrication and installation details, including plans, elevations, details, layouts, typestyles, graphic elements, and message content.
- D. Construction Site Silt Control: Within 15 days of date established for commencement of the Work, submit Storm Water Pollution Prevention Plan (SWPPP) including all components required for compliance with New York State Department of Environmental Conservation (NYSDEC) procedures and Design Manual (latest revision), and any other requirements dictated by local authorities or Owner.
- E. Fire-Safety Program: Show compliance with requirements of NFPA 241 and authorities having jurisdiction. Indicate Contractor personnel responsible for management of fire-prevention program.
- F. Moisture- and Mold-Protection Plan: Describe procedures and controls for protecting materials and construction from water absorption and damage and mold.
- G. Dust- and HVAC-Control Plan: Submit coordination drawing and narrative that indicates the dust- and HVAC-control measures proposed for use, proposed locations, and proposed time frame for their operation. Include the following:
 - 1. Locations of dust-control partitions at each phase of work.
 - 2. HVAC system isolation schematic drawing.
 - 3. Location of proposed air-filtration system discharge.
 - 4. Waste-handling procedures.
 - 5. Other dust-control measures.

1.5 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.
- C. Accessible Temporary Egress: Comply with applicable provisions in the United States Access Board's ADA-ABA Accessibility Guidelines and ICC/ANSI A117.1.

SECTION 015000 - TEMPORARY FACILITIES AND CONTROLS

1.6 PROJECT CONDITIONS

- A. Temporary Use of Permanent Facilities: Engage Installer of each permanent service to assume responsibility for operation, maintenance, and protection of each permanent service during its use as a construction facility before Owner's acceptance, regardless of previously assigned responsibilities.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Chain-Link Fencing: Minimum 2-inch, 0.148-inch thick, galvanized-steel, chain-link fabric fencing; minimum 6 feet high with galvanized-steel pipe posts; minimum 2-3/8-inch OD line posts and 2-7/8-inch OD corner and pull posts, with 1-5/8-inch OD top rails, with galvanized barbed-wire top strand.
- B. Portable Chain-Link Fencing: Minimum 2-inch, 0.148-inch thick, galvanized-steel, chain-link fabric fencing; minimum 6 feet high with galvanized-steel pipe posts; minimum 2-3/8-inch OD line posts and 2-7/8-inch OD corner and pull posts, with 1-5/8-inch OD top and bottom rails. Provide concrete or galvanized-steel bases for supporting posts.
- C. Fencing Windscreen Privacy Screen: Polyester fabric scrim with grommets for attachment to chain link fence, sized to height of fence, in color selected by Architect from manufacturer's standard colors.
- D. Wood Enclosure Fence: Plywood, 8 feet high, framed with four 2-by-4-inch rails, with preservative-treated wood posts spaced not more than 8 feet apart.
- E. Polyethylene Sheet: Reinforced, fire-resistive sheet, 10-mil minimum thickness, with flame-spread rating of 15 or less per ASTM E 84 and passing NFPA 701 Test Method 2.
- F. Dust-Control Adhesive-Surface Walk-Off Mats: Provide mats minimum 36 by 60 inches.
- G. Insulation: Unfaced mineral-fiber blanket, manufactured from glass, slag wool, or rock wool; with maximum flame-spread and smoke-developed indexes of 25 and 50, respectively.

2.2 TEMPORARY FACILITIES

- A. Field Offices, General: Prefabricated or mobile units with serviceable finishes, temperature controls, and foundations adequate for normal loading.
- B. Common-Use Field Office: Of sufficient size to accommodate needs of Owner, Architect, Construction Manager, and construction personnel office activities and to

SECTION 015000 - TEMPORARY FACILITIES AND CONTROLS

accommodate Project meetings specified in other Division 01 Sections. Keep office clean and orderly. Furnish and equip offices as follows:

1. Furniture required for Project-site documents including file cabinets, plan tables, plan racks, and bookcases.
 2. Conference room of sufficient size to accommodate meetings of 10 individuals. Provide electrical power service and 120-V ac duplex receptacles, with no fewer than one receptacle on each wall. Furnish room with conference table, chairs, and 4-foot square tack and marker boards.
 3. Drinking water and private toilet.
 4. Heating and cooling equipment necessary to maintain a uniform indoor temperature of 68 to 72 deg F.
 5. Lighting fixtures capable of maintaining average illumination of 20 fc at desk height.
- C. Storage and Fabrication Sheds: Provide sheds sized, furnished, and equipped to accommodate materials and equipment for construction operations.
1. Store combustible materials apart from building.

2.3 EQUIPMENT

- A. Fire Extinguishers: Portable, UL rated; with class and extinguishing agent as required by locations and classes of fire exposures.
- B. HVAC Equipment: Unless Owner authorizes use of permanent HVAC system, provide vented, self-contained, liquid-propane-gas or fuel-oil heaters with individual space thermostatic control.
1. Use of gasoline-burning space heaters, open-flame heaters, or salamander-type heating units is prohibited.
 2. Heating Units: Listed and labeled for type of fuel being consumed, by a qualified testing agency acceptable to authorities having jurisdiction, and marked for intended location and application.
- C. Air-Filtration Units: Primary and secondary HEPA-filter-equipped portable units with four-stage filtration. Provide single switch for emergency shutoff. Configure to run continuously.

PART 3 - EXECUTION

3.1 TEMPORARY FACILITIES, GENERAL

- A. Conservation: Coordinate construction and use of temporary facilities with consideration given to conservation of energy, water, and materials. Coordinate use of temporary utilities to minimize waste.

SECTION 015000 - TEMPORARY FACILITIES AND CONTROLS

1. Salvage materials and equipment involved in performance of, but not actually incorporated into, the Work. See other Sections for disposition of salvaged materials that are designated as Owner's property.

3.2 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.
 1. Locate facilities to limit site disturbance as specified in Section 011000 "Summary."
- 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.

3.3 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. Sewers and Drainage: Provide temporary utilities to remove effluent lawfully.
 1. Connect temporary sewers to municipal system as directed by authorities having jurisdiction.
- C. Water Service: Install water service and distribution piping in sizes and pressures adequate for construction.
- D. 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.
- E. Sanitary Facilities: Provide temporary toilets, wash facilities, and drinking water for use of construction personnel. Comply with requirements of authorities having jurisdiction for type, number, location, operation, and maintenance of fixtures and facilities.
 1. Toilets: Use of Owner's existing toilet facilities will be permitted, as long as facilities are cleaned and maintained in a condition acceptable to Owner. At Substantial Completion, restore these facilities to condition existing before initial use.
- F. Telephone Service: Provide temporary telephone service in common-use facilities for use by all construction personnel. Install WiFi cell phone access equipment and one land-based telephone line(s) for each field office.

SECTION 015000 - TEMPORARY FACILITIES AND CONTROLS

1. Provide additional telephone lines for the following:
 - a. Provide 0 telephone line(s) for Owner's use.
 2. At each telephone, post a list of important telephone numbers.
 - a. Police and fire departments.
 - b. Ambulance service.
 - c. Contractor's home office.
 - d. Contractor's emergency after-hours telephone number.
 - e. Architect's office.
 - f. Construction Manager's home office.
 - g. Engineers' offices.
 - h. Owner's office.
 - i. Principal subcontractors' field and home offices.
- G. Electronic Communication Service: Provide a desktop computer in the primary field office adequate for use by Architect and Owner to access Project electronic documents and maintain electronic communications. Equip computer with not less than the following:
1. Processor: Intel Core i5 or i7.
 2. Memory: 16 gigabyte.
 3. Disk Storage: 1,000 gigabyte hard-disk drive and combination DVD-RW drive.
 4. Display: 24-inch LCD monitor with 2 gigabyte minimum dedicated video RAM.
 5. Full-size keyboard and mouse.
 6. Network Connectivity: Minimum 2.5 gigabit Ethernet (hardwire and wireless capability).
 7. Operating System: Microsoft Windows 11 Professional.
 8. Productivity Software:
 - a. Microsoft Office Professional, latest version, including Word, Excel, and Outlook.
 - b. Adobe Acrobat, latest version.
 9. Printer: "All-in-one" unit equipped with printer server, combining color printing, photocopying, scanning, and faxing, or separate units for each of these three functions.
 10. Internet Service: Broadband modem, router and ISP, equipped with hardware firewall, providing minimum 1.0 Mbps upload and 15 Mbps download speeds at each computer.
 11. Internet Security: Integrated software, providing software firewall, virus, spyware, phishing, and spam protection in a combined application.
 12. Backup: External hard drive, minimum 2 terrabyte, with automated backup software providing daily backups.

SECTION 015000 - TEMPORARY FACILITIES AND CONTROLS

3.4 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. Temporary Roads and Paved Areas: Construct and maintain temporary roads and paved areas adequate for construction operations. Locate temporary roads and paved areas within construction limits indicated on Drawings.
 - 1. Provide dust-control treatment that is nonpolluting and nontracking. Reapply treatment as required to minimize dust.
- C. Temporary Use of Planned Permanent Roads and Paved Areas: Locate temporary roads and paved areas in same location as permanent roads and paved areas. Construct and maintain temporary roads and paved areas adequate for construction operations. Extend temporary roads and paved areas, within construction limits indicated, as necessary for construction operations.
 - 1. Coordinate elevations of temporary roads and paved areas with permanent roads and paved areas.
 - 2. Prepare subgrade and install subbase and base for temporary roads and paved areas according to Section 312000 "Earth Moving."
 - 3. Recondition base after temporary use, including removing contaminated material, regrading, proof rolling, compacting, and testing.
 - 4. Delay installation of final course of permanent hot-mix asphalt pavement until immediately before Substantial Completion. Repair hot-mix asphalt base-course pavement before installation of final course according to Section 321216 "Asphalt Paving."
- D. Traffic Controls: Comply with requirements of authorities having jurisdiction.
 - 1. Protect existing site improvements to remain including curbs, pavement, and utilities.
 - 2. Maintain access for fire-fighting equipment and access to fire hydrants.
- E. Parking: Provide temporary parking areas for construction personnel.
- F. Dewatering Facilities and Drains: Comply with requirements of authorities having jurisdiction. Maintain Project site, excavations, and construction free of water.

SECTION 015000 - TEMPORARY FACILITIES AND CONTROLS

1. Dispose of rainwater in a lawful manner that will not result in flooding Project or adjoining properties or endanger permanent Work or temporary facilities.
 2. Remove snow and ice as required to minimize accumulations.
- G. Project Signs: Provide Project signs as indicated. Unauthorized signs are not permitted.
1. Identification Signs: Provide Project identification signs as indicated on Drawings.
 2. Temporary Signs: Provide other signs as indicated and as required to inform public and individuals seeking entrance to Project.
 - a. Provide temporary, directional signs for construction personnel and visitors.
 3. Maintain and touch up signs so they are legible at all times.
- H. Waste Disposal Facilities: Comply with requirements specified in Section 017419 "Construction Waste Management and Disposal."
- I. Waste Disposal Facilities: Provide waste-collection containers in sizes adequate to handle waste from construction operations. Comply with requirements of authorities having jurisdiction. Comply with progress cleaning requirements in Section 017300 "Execution."

3.5 SECURITY AND PROTECTION FACILITIES INSTALLATION

- 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.
1. Where access to adjacent properties is required in order to affect protection of existing facilities, obtain written permission from adjacent property owner to access property for that purpose.
- 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.
1. Comply with work restrictions specified in Section 011000 "Summary."
- C. Temporary Erosion and Sedimentation Control: Comply with requirements of EPA Construction General Permit or authorities having jurisdiction, whichever is more stringent.
- D. Temporary Erosion and Sedimentation Control: Provide measures to prevent soil erosion and discharge of soil-bearing water runoff and airborne dust to undisturbed areas and to adjacent properties and walkways, according to requirements of EPA

SECTION 015000 - TEMPORARY FACILITIES AND CONTROLS

Construction General Permit or authorities having jurisdiction, whichever is more stringent.

1. Verify that flows of water redirected from construction areas or generated by construction activity do not enter or cross tree- or plant-protection zones.
 2. Inspect, repair, and maintain erosion- and sedimentation-control measures during construction until permanent vegetation has been established.
 3. Clean, repair, and restore adjoining properties and roads affected by erosion and sedimentation from Project site during the course of Project.
 4. Remove erosion and sedimentation controls and restore and stabilize areas disturbed during removal.
- E. Stormwater Control: Comply with requirements of authorities having jurisdiction. Provide barriers in and around excavations and subgrade construction to prevent flooding by runoff of stormwater from heavy rains.
- F. Tree and Plant Protection: Install temporary fencing located as indicated or outside the drip line of trees to protect vegetation from damage from construction operations. Protect tree root systems from damage, flooding, and erosion.
- G. Site Enclosure Fence: Before construction operations begin, furnish and install site enclosure fence in a manner that will prevent people from easily entering site except by entrance gates.
1. Extent of Fence: As indicated on Drawings.
 2. Maintain security by limiting number of keys and restricting distribution to authorized personnel. Furnish one set of keys to Owner.
- H. Security Enclosure and Lockup: Install temporary enclosure around partially completed areas of construction. Provide lockable entrances to prevent unauthorized entrance, vandalism, theft, and similar violations of security. Lock entrances at end of each workday.
- I. Barricades, Warning Signs, and Lights: Comply with requirements of authorities having jurisdiction for erecting structurally adequate barricades, including warning signs and lighting.

END OF SECTION 015000

SECTION 015000 - TEMPORARY FACILITIES AND CONTROLS

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SECTION 016000 - PRODUCT REQUIREMENTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. Section includes administrative and procedural requirements for selection of products for use in Project; product delivery, storage, and handling; manufacturers' standard warranties on products; special warranties; and comparable products.
- B. Related Requirements:
 - 1. Section 012500 "Substitution Procedures" for requests for substitutions.
 - 2. Section 014200 "References" for applicable industry standards for products specified.

1.3 DEFINITIONS

- A. Products: Items obtained for incorporating into the Work, whether purchased for Project or taken from previously purchased stock. The term "product" includes the terms "material," "equipment," "system," and terms of similar intent.
 - 1. Named Products: Items identified by manufacturer's product name, including make or model number or other designation shown or listed in manufacturer's published product literature that is current as of date of the Contract Documents.
 - 2. New Products: Items that have not previously been incorporated into another project or facility. Products salvaged or recycled from other projects are not considered new products.
 - 3. Comparable Product: Product that is demonstrated and approved by Architect through submittal process to have the indicated qualities related to type, function, dimension, in-service performance, physical properties, appearance, and other characteristics that equal or exceed those of specified product.
- B. Basis-of-Design Product Specification: A specification in which a single manufacturer's product is named and accompanied by the words "basis-of-design product," including make or model number or other designation. In addition to the basis-of-design product description, product attributes and characteristics may be listed to establish the significant qualities related to type, function, in-service performance and physical properties, weight, dimension, durability, visual characteristics, and other special features and requirements for purposes of evaluating comparable products of additional manufacturers named in the specification.
- C. Subject to Compliance with Requirements: Where the phrase "Subject to compliance with requirements" introduces a product selection procedure in an individual Specification Section, provide products qualified under the specified product procedure.

SECTION 016000 - PRODUCT REQUIREMENTS

In the event that a named product or product by a named manufacturer does not meet the other requirements of the specifications, select another named product or product from another named manufacturer that does meet the requirements of the specifications. Submit a comparable product request, if applicable.

1.4 ACTION SUBMITTALS

- A. Comparable Product Request Submittal: Submit request for consideration of each comparable product. Identify basis-of-design product or fabrication or installation method to be replaced. Include Specification Section number and title and Drawing numbers and titles.
 - 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 seven days of receipt of a comparable product request. Architect will notify Contractor through Construction Manager 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 Architect's Approval of Submittal: As specified in Section 013300 "Submittal Procedures."
 - 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 013300 "Submittal Procedures." Show compliance with requirements.

1.5 QUALITY ASSURANCE

- A. Compatibility of Options: If Contractor is given option of selecting between two or more products for use on Project, select product compatible with products previously selected, even if previously selected products were also options.
 - 1. Each contractor is responsible for providing products and construction methods compatible with products and construction methods of other contractors.
 - 2. If a dispute arises between contractors over concurrently selectable but incompatible products, Architect will determine which products shall be used.
- B. Identification of Products: Except for required labels and operating data, do not attach or imprint manufacturer or product names or trademarks on exposed surfaces of products or equipment that will be exposed to view in occupied spaces or on the exterior.
 - 1. Labels: Locate required product labels and stamps on a concealed surface, or, where required for observation following installation, on a visually accessible surface that is not conspicuous.

SECTION 016000 - PRODUCT REQUIREMENTS

2. Equipment Nameplates: Provide a permanent nameplate on each item of service-connected or power-operated equipment. Locate on a visually accessible but inconspicuous surface. Include information essential for operation, including the following:
 - a. Name of product and manufacturer.
 - b. Model and serial number.
 - c. Capacity.
 - d. Speed.
 - e. Ratings.

1.6 PRODUCT DELIVERY, STORAGE, AND HANDLING

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

SECTION 016000 - PRODUCT REQUIREMENTS

1.7 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 the Contract Documents to provide specific rights for Owner.
- B. Special Warranties: Prepare a written document that contains appropriate terms and identification, ready for execution.
 - 1. Manufacturer's Standard Form: Modified to include Project-specific information and properly executed.
 - 2. Specified Form: When specified forms are included with the Specifications, prepare a written document using indicated form properly executed.
 - 3. See other Sections for specific content requirements and particular requirements for submitting special warranties.
- C. Submittal Time: Comply with requirements in Section 017700 "Closeout Procedures."

PART 2 - PRODUCTS

2.1 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 meeting 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.
 - 6. Or Equal: For products specified by name and accompanied by the term "or equal," or "or approved equal," or "or approved," comply with requirements in "Comparable Products" Article to obtain approval for use of an unnamed product.

SECTION 016000 - PRODUCT REQUIREMENTS

- a. Submit additional documentation required by Architect through Construction Manager in order to establish equivalency of proposed products. Evaluation of "or equal" product status is by the Architect, whose determination is final.

B. Product Selection Procedures:

1. Sole Product: Where Specifications name a single manufacturer and product, provide the named product that complies with requirements. Comparable products or substitutions for Contractor's convenience will not be considered.
 - a. Sole product may be indicated by the phrase: "Subject to compliance with requirements, provide the following: ..."
2. Sole 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.
 - a. Sole manufacturer/source may be indicated by the phrase: "Subject to compliance with requirements, provide products by the following: ..."
3. Limited List of Products: Where Specifications include a list of names of both manufacturers and products, provide one of the products listed that complies with requirements. Comparable products or substitutions for Contractor's convenience will be considered only at the discretion of the Architect.
 - a. Limited list of products may be indicated by the phrase: "Subject to compliance with requirements, provide one of the following: ..."
4. Non-Limited List of Products: Where Specifications include a list of names of both available manufacturers and products, provide one of the products listed, or an unnamed product, which complies with requirements.
 - a. Non-limited list of products is indicated by the phrase: "Subject to compliance with requirements, available products that may be incorporated in the Work include, but are not limited to, the following: ..."
5. Limited List of Manufacturers: Where Specifications include a list of manufacturers' names, provide a product by one of the manufacturers listed that complies with requirements. Comparable products or substitutions for Contractor's convenience will be considered only at the discretion of the Architect.
 - a. Limited list of manufacturers is indicated by the phrase: "Subject to compliance with requirements, provide products by one of the following: ..."

SECTION 016000 - PRODUCT REQUIREMENTS

6. Non-Limited List of Manufacturers: Where Specifications include a list of available manufacturers, provide a product by one of the manufacturers listed, or a product by an unnamed manufacturer, which complies with requirements.
 - a. Non-limited list of manufacturers is indicated by the phrase: "Subject to compliance with requirements, available manufacturers whose products may be incorporated in the Work include, but are not limited to, the following: ..."
7. Basis-of-Design Product: Where Specifications name a product, or refer to a product indicated on Drawings, and include a list of manufacturers, provide the specified or indicated product or a comparable product by one of the other named manufacturers. Drawings and Specifications indicate sizes, profiles, dimensions, and other characteristics that are based on the product named. Comply with requirements in "Comparable Products" Article for consideration of an unnamed product by one of the other named manufacturers.
 - a. For approval of products by unnamed manufacturers, comply with requirements in Section 012500 "Substitution Procedures" for substitutions for convenience.
- C. Visual Matching Specification: Where Specifications require "match Architect's sample," provide a product that complies with requirements and matches Architect's sample. Architect's decision will be final on whether a proposed product matches.
 1. If no product available within specified category matches and complies with other specified requirements, comply with requirements in Section 012500 "Substitution Procedures" for proposal of product.
- D. 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.

2.2 COMPARABLE PRODUCTS

- A. Conditions for Consideration of Comparable Products: Architect will consider Contractor's request for comparable product when the following conditions are satisfied. If the following conditions are not satisfied, Architect may return requests without action, except to record noncompliance with these requirements:
 1. Evidence that proposed product does not require revisions to the Contract Documents, is consistent with the Contract Documents, will produce the indicated results, and is compatible with other portions of the Work. Detailed comparison of significant qualities of proposed product with those named in the Specifications. Significant product qualities include attributes such as type, function, in-service performance and physical properties, weight, dimension, durability, visual characteristics, and other specific features and requirements.

SECTION 016000 - PRODUCT REQUIREMENTS

2. Evidence that proposed product provides specified warranty.
 3. List of similar installations for completed projects with project names and addresses and names and addresses of architects and owners, if requested.
 4. Samples, if requested.
- B. Submittal Requirements: Approval by the Architect of Contractor's request for use of comparable product is not intended to satisfy other submittal requirements. Comply with specified submittal requirements.

PART 3 - EXECUTION

(Not Used)

END OF SECTION 016000

SECTION 016000 - PRODUCT REQUIREMENTS

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SECTION 017419 - CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. Section includes administrative and procedural requirements for the following:
 - 1. Salvaging nonhazardous demolition and construction waste.
 - 2. Recycling nonhazardous demolition and construction waste.
 - 3. Disposing of nonhazardous demolition and construction waste.

1.3 DEFINITIONS

- A. Construction Waste: Building, structure, and site improvement materials and other solid waste resulting from construction, remodeling, renovation, or repair operations. Construction waste includes packaging.
- B. Demolition Waste: Building, structure, and site improvement materials resulting from demolition operations.
- C. Disposal: Removal of demolition or construction waste and subsequent salvage, sale, recycling, or deposit in landfill, incinerator acceptable to authorities having jurisdiction, or designated spoil areas on Owner's property.
- D. Recycle: Recovery of demolition or construction waste for subsequent processing in preparation for reuse.
- E. Salvage: Recovery of demolition or construction waste and subsequent sale or reuse in another facility.
- F. Salvage and Reuse: Recovery of demolition or construction waste and subsequent incorporation into the Work.

1.4 MATERIALS OWNERSHIP

- A. Unless otherwise indicated, demolition and construction waste becomes property of Contractor.
- B. Historic items, relics, antiques, and similar objects including, but not limited to, cornerstones and their contents, commemorative plaques and tablets, and other items of interest or value to Owner that may be uncovered during demolition remain the property of Owner.
 - 1. Carefully salvage in a manner to prevent damage and promptly return to Owner.

SECTION 017419 - CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL

1.5 ACTION SUBMITTALS

- A. Waste Management Plan: Submit plan within 7 days of date established for commencement of the Work.

1.6 INFORMATIONAL SUBMITTALS

- A. Waste Reduction Progress Reports: Concurrent with each Application for Payment, submit report. Use Form CWM-7 for construction waste and Form CWM-8 for demolition waste. Include the following information:
 - 1. Material category.
 - 2. Generation point of waste.
 - 3. Total quantity of waste in tons.
 - 4. Quantity of waste salvaged, both estimated and actual in tons.
 - 5. Quantity of waste recycled, both estimated and actual in tons.
 - 6. Total quantity of waste recovered (salvaged plus recycled) in tons.
 - 7. Total quantity of waste recovered (salvaged plus recycled) as a percentage of total waste.
- B. Records of Sales: Indicate receipt and acceptance of salvageable waste sold to individuals and organizations. Indicate whether organization is tax exempt.
- C. Recycling and Processing Facility Records: Indicate receipt and acceptance of recyclable waste by recycling and processing facilities licensed to accept them. Include manifests, weight tickets, receipts, and invoices.
- D. Landfill and Incinerator Disposal Records: Indicate receipt and acceptance of waste by landfills and incinerator facilities licensed to accept them. Include manifests, weight tickets, receipts, and invoices.

1.7 QUALITY ASSURANCE

- A. Waste Management Coordinator Qualifications: Experienced firm, or individual employed and assigned by General Contractor, with a record of successful waste management coordination of projects with similar requirements. Superintendent may serve as Waste Management Coordinator.
- B. Regulatory Requirements: Comply with transportation and disposal regulations of authorities having jurisdiction.
- C. Waste Management Conference: Conduct conference at Project site to comply with requirements in Section 013100 "Project Management and Coordination." Review methods and procedures related to waste management including, but not limited to, the following:
 - 1. Review and discuss waste management plan including responsibilities of each contractor and waste management coordinator.

SECTION 017419 - CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL

2. Review requirements for documenting quantities of each type of waste and its disposition.
3. Review and finalize procedures for materials separation and verify availability of containers and bins needed to avoid delays.
4. Review procedures for periodic waste collection and transportation to recycling and disposal facilities.
5. Review waste management requirements for each trade.

1.8 WASTE MANAGEMENT PLAN

- A. General: Develop a waste management plan according to requirements in this Section. Plan shall consist of waste identification, waste reduction work plan, and cost/revenue analysis. Indicate quantities by weight or volume, but use same units of measure throughout waste management plan.
- B. Waste Identification: Indicate anticipated types and quantities of demolition, site-clearing and construction waste generated by the Work. Use Form CWM-1 for construction waste and Form CWM-2 for demolition waste. Include estimated quantities and assumptions for estimates.
- C. Waste Reduction Work Plan: List each type of waste and whether it will be salvaged, recycled, or disposed of in landfill or incinerator. Use Form CWM-3 for construction waste and Form CWM-4 for demolition waste. Include points of waste generation, total quantity of each type of waste, quantity for each means of recovery, and handling and transportation procedures.
 1. Salvaged Materials for Reuse: For materials that will be salvaged and reused in this Project, describe methods for preparing salvaged materials before incorporation into the Work.
 2. Salvaged Materials for Sale: For materials that will be sold to individuals and organizations, include list of their names, addresses, and telephone numbers.
 3. Salvaged Materials for Donation: For materials that will be donated to individuals and organizations, include list of their names, addresses, and telephone numbers.
 4. Recycled Materials: Include list of local receivers and processors and type of recycled materials each will accept. Include names, addresses, and telephone numbers.
 5. Disposed Materials: Indicate how and where materials will be disposed of. Include name, address, and telephone number of each landfill and incinerator facility.
 6. Handling and Transportation Procedures: Include method that will be used for separating recyclable waste including sizes of containers, container labeling, and designated location where materials separation will be performed.
- D. Cost/Revenue Analysis: Indicate total cost of waste disposal as if there were no waste management plan and net additional cost or net savings resulting from implementing waste management plan. Use Form CWM-5 for construction waste and Form CWM-6 for demolition waste. Include the following:

SECTION 017419 - CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL

1. Total quantity of waste.
2. Estimated cost of disposal (cost per unit). Include transportation and tipping fees and cost of collection containers and handling for each type of waste.
3. Total cost of disposal (with no waste management).
4. Revenue from salvaged materials.
5. Revenue from recycled materials.
6. Savings in transportation and tipping fees by donating materials.
7. Savings in transportation and tipping fees that are avoided.
8. Handling and transportation costs. Include cost of collection containers for each type of waste.
9. Net additional cost or net savings from waste management plan.

PART 2 - PRODUCTS

2.1 RECYCLING RECEIVERS AND PROCESSORS

- A. Subject to compliance with requirements, available recycling receivers and processors include, but are not limited to, the following:
 1. None identified.

PART 3 - EXECUTION

3.1 PLAN IMPLEMENTATION

- A. General: Implement approved waste management plan. Provide handling, containers, storage, signage, transportation, and other items as required to implement waste management plan during the entire duration of the Contract.
 1. Comply with operation, termination, and removal requirements in Section 015000 "Temporary Facilities and Controls."
- B. Waste Management Coordinator: Engage a waste management coordinator to be responsible for implementing, monitoring, and reporting status of waste management work plan.
- C. Training: Train workers, subcontractors, and suppliers on proper waste management procedures, as appropriate for the Work.
 1. Distribute waste management plan to everyone concerned within three days of submittal return.
 2. Distribute waste management plan to entities when they first begin work on-site. Review plan procedures and locations established for salvage, recycling, and disposal.

SECTION 017419 - CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL

- D. Site Access and Temporary Controls: Conduct waste management operations to ensure minimum interference with roads, streets, walks, walkways, and other adjacent occupied and used facilities.
 - 1. Designate and label specific areas on Project site necessary for separating materials that are to be salvaged and recycled.
 - 2. Comply with Section 015000 "Temporary Facilities and Controls" for controlling dust and dirt, environmental protection, and noise control.

3.2 RECYCLING DEMOLITION AND CONSTRUCTION WASTE, GENERAL

- A. General: Recycle paper and beverage containers used by on-site workers.
- B. Recycling Incentives: Revenues, savings, rebates, tax credits, and other incentives received for recycling waste materials shall accrue to Contractor.
- C. Preparation of Waste: Prepare and maintain recyclable waste materials according to recycling or reuse facility requirements. Maintain materials free of dirt, adhesives, solvents, petroleum contamination, and other substances deleterious to the recycling process.
- D. Procedures: Separate recyclable waste from other waste materials, trash, and debris. Separate recyclable waste by type at Project site to the maximum extent practical according to approved construction waste management plan.
 - 1. Provide appropriately marked containers or bins for controlling recyclable waste until removed from Project site. Include list of acceptable and unacceptable materials at each container and bin.
 - a. Inspect containers and bins for contamination and remove contaminated materials if found.
 - 2. Stockpile processed materials on-site without intermixing with other materials. Place, grade, and shape stockpiles to drain surface water. Cover to prevent windblown dust.
 - 3. Stockpile materials away from construction area. Do not store within drip line of remaining trees.
 - 4. Store components off the ground and protect from the weather.
 - 5. Remove recyclable waste from Owner's property and transport to recycling receiver or processor as often as required to prevent overfilling bins.

3.3 RECYCLING DEMOLITION WASTE

- A. Asphalt Paving: Break up and transport paving to asphalt-recycling facility.
- B. Concrete: Remove reinforcement and other metals from concrete and sort with other metals.

SECTION 017419 - CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL

1. Pulverize concrete to maximum 4-inch size.
 2. Crush concrete and screen for use as satisfactory soil for fill or subbase.
- C. Wood Materials: Sort and stack members according to size, type, and length. Separate lumber, engineered wood products, panel products, and treated wood materials.
- D. Metals: Separate metals by type.
1. Structural Steel: Stack members according to size, type of member, and length.
 2. Remove and dispose of bolts, nuts, washers, and other rough hardware.
- E. Piping: Reduce piping to straight lengths and store by material and size. Separate supports, hangers, valves, sprinklers, and other components by material and size.

3.4 RECYCLING CONSTRUCTION WASTE

- A. Packaging:
1. Cardboard and Boxes: Break down packaging into flat sheets. Bundle and store in a dry location.
 2. Polystyrene Packaging: Separate and bag materials.
 3. Pallets: As much as possible, require deliveries using pallets to remove pallets from Project site. For pallets that remain on-site, break down pallets into component wood pieces and comply with requirements for recycling wood.
 4. Crates: Break down crates into component wood pieces and comply with requirements for recycling wood.
- B. Wood Materials:
1. Clean Cut-Offs of Lumber: Grind or chip into small pieces.
 2. Clean Sawdust: Bag sawdust that does not contain painted or treated wood.
- C. Paint: Seal containers and store by type.

3.5 DISPOSAL OF WASTE

- A. General: Except for items or materials to be salvaged or recycled, remove waste materials from Project site and legally dispose of them in a landfill or incinerator acceptable to authorities having jurisdiction.
1. Except as otherwise specified, do not allow waste materials that are to be disposed of accumulate on-site.
 2. Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.
- B. General: Except for items or materials to be salvaged or recycled, remove waste materials and legally dispose of.

SECTION 017419 - CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL

- C. Burning: Do not burn waste materials.

END OF SECTION 017419

SECTION 017419 - CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL

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SECTION 017700 - CLOSEOUT PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. Section includes administrative and procedural requirements for contract closeout, including, but not limited to, the following:
 - 1. Substantial Completion procedures.
 - 2. Final completion procedures.
 - 3. Warranties.
 - 4. Final cleaning.
 - 5. Repair of the Work.
- B. Related Requirements:
 - 1. Section 013200 "Construction Progress Documentation" for submitting final completion construction photographic documentation.
 - 2. Section 017823 "Operation and Maintenance Data" for additional operation and maintenance manual requirements.
 - 3. Section 017839 "Project Record Documents" for submitting Record Drawings, Record Specifications, and Record Product Data.

1.3 ACTION SUBMITTALS

- A. Product Data: For each type of cleaning agent.
- B. Contractor's List of Incomplete Items: Initial submittal at Substantial Completion.
- C. Certified List of Incomplete Items: Final submittal at final completion.

1.4 CLOSEOUT SUBMITTALS

- A. Certificates of Release: From authorities having jurisdiction.
- B. Certificate of Insurance: For continuing coverage.
- C. Field Report: For pest control inspection.

SECTION 017700 - CLOSEOUT PROCEDURES

1.5 MAINTENANCE MATERIAL SUBMITTALS

- A. Schedule of Maintenance Material Items: For maintenance material submittal items specified in other Sections.

1.6 SUBSTANTIAL COMPLETION PROCEDURES

- A. Contractor's List of Incomplete Items: Prepare and submit a list of items to be completed and corrected (Contractor's punch list), indicating the value of each item on the list and reasons why the Work is incomplete.
- B. Submittals Prior to Substantial Completion: Complete the following a minimum of 10 days prior to requesting inspection for determining date of Substantial Completion. List items below that are incomplete at time of request.
 - 1. Certificates of Release: 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 Division 01 Sections, including project record documents, operation and maintenance manuals, damage or settlement surveys, property surveys, and similar final record information.
 - 3. Submit closeout submittals specified in individual Sections, including specific warranties, workmanship bonds, maintenance service agreements, final certifications, and similar documents.
 - 4. Submit maintenance material submittals specified in individual Sections, including tools, spare parts, extra materials, and similar items, and deliver to location designated by Owner. Label with manufacturer's name and model number.
 - a. Schedule of Maintenance Material Items: Prepare and submit schedule of maintenance material submittal items, including name and quantity of each item and name and number of related Specification Section. Obtain Owner's signature for receipt of submittals.
 - 5. Submit testing, adjusting, and balancing records.
 - 6. Submit sustainable design submittals not previously submitted.
 - 7. Submit changeover information related to Owner's occupancy, use, operation, and maintenance.
- C. Procedures Prior to Substantial Completion: Complete the following a minimum of 10 days prior to requesting inspection for determining date of Substantial Completion. List items below that are incomplete at time of request.
 - 1. Advise Owner of pending insurance changeover requirements.
 - 2. Make final changeover of permanent locks and deliver keys to Owner. Advise Owner's personnel of changeover in security provisions.
 - 3. Complete startup and testing of systems and equipment.

SECTION 017700 - CLOSEOUT PROCEDURES

4. Perform preventive maintenance on equipment used prior to Substantial Completion.
 5. Advise Owner of changeover in utility services.
 6. Participate with Owner in conducting inspection and walkthrough with local emergency responders.
 7. Terminate and remove temporary facilities from Project site, along with mockups, construction tools, and similar elements.
 8. Complete final cleaning requirements.
 9. Touch up paint and otherwise repair and restore marred exposed finishes to eliminate visual defects.
- D. Inspection: Submit a written request for inspection to determine Substantial Completion a minimum of 10 days prior to date the Work will be completed and ready for final inspection and tests. On receipt of request, Architect and Construction Manager will either proceed with inspection or notify Contractor of unfulfilled requirements. Architect will prepare the Certificate of Substantial Completion after inspection or will notify Contractor of items, either on Contractor's list or additional items identified by Architect, that must be completed or corrected before certificate will be issued.
1. Request reinspection when the Work identified in previous inspections as incomplete is completed or corrected.
 2. Results of completed inspection will form the basis of requirements for final completion.

1.7 FINAL COMPLETION PROCEDURES

- A. Submittals Prior to Final Completion: Before requesting final inspection for determining final completion, complete the following:
1. Submit a final Application for Payment according to Section 012900 "Payment Procedures."
 2. Certified List of Incomplete Items: Submit certified copy of Architect's Substantial Completion inspection list of items to be completed or corrected (punch list), endorsed and dated by Architect. Certified copy of the list shall state that each item has been completed or otherwise resolved for acceptance.
 3. Certificate of Insurance: Submit evidence of final, continuing insurance coverage complying with insurance requirements.
 4. Submit pest-control final inspection report.
 5. Submit final completion photographic documentation.
- B. Inspection: Submit a written request for final inspection to determine acceptance a minimum of 10 days prior to date the work will be completed and ready for final inspection and tests. On receipt of request, Architect and Construction Manager will either proceed with inspection or notify Contractor of unfulfilled requirements. Architect will prepare a final Certificate for Payment after inspection or will notify Contractor of construction that must be completed or corrected before certificate will be issued.

SECTION 017700 - CLOSEOUT PROCEDURES

1. Request reinspection when the Work identified in previous inspections as incomplete is completed or corrected.

1.8 LIST OF INCOMPLETE ITEMS (PUNCH LIST)

- A. Organization of List: Include name and identification of each space and area affected by construction operations for incomplete items and items needing correction including, if necessary, areas disturbed by Contractor that are outside the limits of construction.
 1. Organize list of spaces in sequential order, starting with exterior areas first and proceeding from lowest floor to highest floor.
 2. Organize items applying to each space by major element, including categories for ceiling, individual walls, floors, equipment, and building systems.
 3. Include the following information at the top of each page:
 - a. Project name.
 - b. Date.
 - c. Name of Architect and Construction Manager.
 - d. Name of Contractor.
 - e. Page number.
 4. Submit list of incomplete items in the following format:
 - a. MS Excel electronic file. Architect, through Construction Manager, will return annotated file.
 - b. PDF electronic file. Architect, through Construction Manager, will return annotated file.
 - c. Web-based project software upload. Utilize software feature for creating and updating list of incomplete items (punch list).
 - d. Three paper copies. Architect, through Construction Manager, will return two copies.

1.9 SUBMITTAL OF PROJECT WARRANTIES

- A. Time of Submittal: Submit written warranties on request of Architect for designated portions of the Work where warranties are indicated to commence on dates other than date of Substantial Completion, or when delay in submittal of warranties might limit Owner's rights under warranty.
- B. Partial Occupancy: Submit properly executed warranties within 15 days of completion of designated portions of the Work that are completed and occupied or used by Owner during construction period by separate agreement with Contractor.
- C. Organize warranty documents into an orderly sequence based on the table of contents of Project Manual.
- D. Warranty Electronic File: Provide warranties and bonds in PDF format. Assemble complete warranty and bond submittal package into a single electronic PDF file with

SECTION 017700 - CLOSEOUT PROCEDURES

bookmarks enabling navigation to each item. Provide bookmarked table of contents at beginning of document.

1. Submit on digital media acceptable to Architect.

E. Warranties in Paper Form:

1. Bind warranties and bonds in heavy-duty, three-ring, vinyl-covered, loose-leaf binders, thickness as necessary to accommodate contents, and sized to receive 8-1/2-by-11-inch paper.
2. Provide heavy paper dividers with plastic-covered tabs for each separate warranty. Mark tab to identify the product or installation. Provide a typed description of the product or installation, including the name of the product and the name, address, and telephone number of Installer.
3. Identify each binder on the front and spine with the typed or printed title "WARRANTIES," Project name, and name of Contractor.

- F. Provide additional copies of each warranty to include in operation and maintenance manuals.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. 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.
1. Use cleaning products that comply with Green Seal's GS-37, or if GS-37 is not applicable, use products that comply with the California Code of Regulations maximum allowable VOC levels.

PART 3 - EXECUTION

3.1 FINAL CLEANING

- A. General: Perform final cleaning. Conduct cleaning and waste-removal operations to comply with local laws and ordinances and Federal and local environmental and antipollution regulations.
- B. Cleaning: Employ experienced workers or professional cleaners for final cleaning. Clean each surface or unit to condition expected in an average commercial building cleaning and maintenance program. Comply with manufacturer's written instructions.

SECTION 017700 - CLOSEOUT PROCEDURES

1. Complete the following cleaning operations before requesting inspection for certification of Substantial Completion for entire Project or for a designated portion of Project:
 - a. Clean Project site, yard, and grounds, in areas disturbed by construction activities, including landscape development areas, of rubbish, waste material, litter, and other foreign substances.
 - b. Sweep paved areas broom clean. Remove petrochemical spills, stains, and other foreign deposits.
 - c. Rake grounds that are not planted, mulched, or paved to a smooth, even-textured surface.
 - d. Remove tools, construction equipment, machinery, and surplus material from Project site.
 - e. Remove snow and ice to provide safe access to building.
 - f. Clean exposed exterior and interior hard-surfaced finishes to a dirt-free condition, free of stains, films, and similar foreign substances. Avoid disturbing natural weathering of exterior surfaces. Restore reflective surfaces to their original condition.
 - g. Remove debris and surface dust from limited access spaces, including roofs, plenums, shafts, trenches, equipment vaults, manholes, attics, and similar spaces.
 - h. Sweep concrete floors broom clean in unoccupied spaces.
 - i. Vacuum carpet and similar soft surfaces, removing debris and excess nap; clean according to manufacturer's recommendations if visible soil or stains remain.
 - j. Clean transparent materials, including mirrors and glass in doors and windows. Remove glazing compounds and other noticeable, vision-obscuring materials. Polish mirrors and glass, taking care not to scratch surfaces.
 - k. Remove labels that are not permanent.
 - l. Wipe surfaces of mechanical and electrical equipment, elevator equipment, and similar equipment. Remove excess lubrication, paint and mortar droppings, and other foreign substances.
 - m. Clean plumbing fixtures to a sanitary condition, free of stains, including stains resulting from water exposure.
 - n. Replace disposable air filters and clean permanent air filters. Clean exposed surfaces of diffusers, registers, and grills.
 - o. Clean ducts, blowers, and coils if units were operated without filters during construction or that display contamination with particulate matter on inspection.
 - 1) Clean HVAC system in compliance with NADCA ACR, or as otherwise specified in writing. Provide written report on completion of cleaning.
 - p. Clean luminaires, lamps, globes, and reflectors to function with full efficiency.

SECTION 017700 - CLOSEOUT PROCEDURES

- q. Leave Project clean and ready for occupancy.
- C. Pest Control: Comply with pest control requirements in Section 015000 "Temporary Facilities and Controls." Prepare written report.
- D. Construction Waste Disposal: Comply with waste disposal requirements in Section 017419 "Construction Waste Management and Disposal."

3.2 REPAIR OF THE WORK

- A. Complete repair and restoration operations before requesting inspection for determination of Substantial Completion.
- B. Repair, or remove and replace, defective construction. Repairing includes replacing defective parts, refinishing damaged surfaces, touching up with matching materials, and properly adjusting operating equipment. Where damaged or worn items cannot be repaired or restored, provide replacements. Remove and replace operating components that cannot be repaired. Restore damaged construction and permanent facilities used during construction to specified condition.
 - 1. Remove and replace chipped, scratched, and broken glass, reflective surfaces, and other damaged transparent materials.
 - 2. Touch up and otherwise repair and restore marred or exposed finishes and surfaces. Replace finishes and surfaces that already show evidence of repair or restoration.
 - a. Do not paint over "UL" and other required labels and identification, including mechanical and electrical nameplates. Remove paint applied to required labels and identification.
 - 3. Replace parts subject to operating conditions during construction that may impede operation or reduce longevity.
 - 4. Replace burned-out bulbs, bulbs noticeably dimmed by hours of use, and defective and noisy starters in fluorescent and mercury vapor fixtures to comply with requirements for new fixtures.

END OF SECTION 017700

SECTION 017700 - CLOSEOUT PROCEDURES

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SECTION 017823 - OPERATION AND MAINTENANCE DATA

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. Section includes administrative and procedural requirements for preparing operation and maintenance manuals, including the following:
 - 1. Operation and maintenance documentation directory manuals.
 - 2. Emergency manuals.
 - 3. Systems and equipment operation manuals.
 - 4. Systems and equipment maintenance manuals.
 - 5. Product maintenance manuals.
- B. Related Requirements:
 - 1. Section 013300 "Submittal Procedures" for submitting copies of submittals for operation and maintenance manuals.

1.3 DEFINITIONS

- A. System: An organized collection of parts, equipment, or subsystems united by regular interaction.
- B. Subsystem: A portion of a system with characteristics similar to a system.

1.4 CLOSEOUT SUBMITTALS

- A. Submit operation and maintenance manuals indicated. Provide content for each manual as specified in individual Specification Sections, and as reviewed and approved at the time of Section submittals. Submit reviewed manual content formatted and organized as required by this Section.
 - 1. Architect and Owner will comment on whether content of operation and maintenance submittals is acceptable.
 - 2. Where applicable, clarify and update reviewed manual content to correspond to revisions and field conditions.
- B. Format: Submit operation and maintenance manuals in the following format:
 - 1. Submit on digital media acceptable to Architect. Enable reviewer comments on draft submittals.
 - 2. Submit three paper copies. Architect will return two copies.

SECTION 017823 - OPERATION AND MAINTENANCE DATA

- C. Initial Manual Submittal: Submit draft copy of each manual at least 30 days before commencing demonstration and training. Architect and Owner will comment on whether general scope and content of manual are acceptable.
- D. Final Manual Submittal: Submit each manual in final form prior to requesting inspection for Substantial Completion and at least 15 days before commencing demonstration and training. Architect will return copy with comments.
 - 1. Correct or revise each manual to comply with Architect's comments. Submit copies of each corrected manual within 15 days of receipt of Architect's comments and prior to commencing demonstration and training.
- E. Comply with Section 017700 "Closeout Procedures" for schedule for submitting operation and maintenance documentation.

1.5 FORMAT OF OPERATION AND MAINTENANCE MANUALS

- A. Manuals, Electronic Files: Submit manuals in the form of a multiple file composite electronic PDF file for each manual type required.
 - 1. Electronic Files: Use electronic files prepared by manufacturer where available. Where scanning of paper documents is required, configure scanned file for minimum readable file size.
 - 2. File Names and Bookmarks: Bookmark individual documents based on file names. Name document files to correspond to system, subsystem, and equipment names used in manual directory and table of contents. Group documents for each system and subsystem into individual composite bookmarked files, then create composite manual, so that resulting bookmarks reflect the system, subsystem, and equipment names in a readily navigated file tree. Configure electronic manual to display bookmark panel on opening file.
- B. Manuals, Paper Copy: Submit manuals in the form of hard-copy, bound and labeled volumes.
 - 1. Binders: Heavy-duty, three-ring, vinyl-covered, loose-leaf binders, in thickness necessary to accommodate contents, sized to hold 8-1/2-by-11-inch paper; with clear plastic sleeve on spine to hold label describing contents and with pockets inside covers to hold folded oversize sheets.
 - a. If two or more binders are necessary to accommodate data of a system, organize data in each binder into groupings by subsystem and related components. Cross-reference other binders if necessary to provide essential information for proper operation or maintenance of equipment or system.
 - b. Identify each binder on front and spine, with printed title "OPERATION AND MAINTENANCE MANUAL," Project title or name, and subject matter of contents, and indicate Specification Section number on bottom of spine. Indicate volume number for multiple-volume sets.

SECTION 017823 - OPERATION AND MAINTENANCE DATA

2. Dividers: Heavy-paper dividers with plastic-covered tabs for each section of the manual. Mark each tab to indicate contents. Include typed list of products and major components of equipment included in the section on each divider, cross-referenced to Specification Section number and title of Project Manual.
3. Protective Plastic Sleeves: Transparent plastic sleeves designed to enclose diagnostic software storage media for computerized electronic equipment. Enclose title pages and directories in clear plastic sleeves.
4. Supplementary Text: Prepared on 8-1/2-by-11-inch white bond paper.
5. Drawings: Attach reinforced, punched binder tabs on drawings and bind with text.
 - a. If oversize drawings are necessary, fold drawings to same size as text pages and use as foldouts.
 - b. If drawings are too large to be used as foldouts, fold and place drawings in labeled envelopes and bind envelopes in rear of manual. At appropriate locations in manual, insert typewritten pages indicating drawing titles, descriptions of contents, and drawing locations.

1.6 REQUIREMENTS FOR EMERGENCY, OPERATION, AND MAINTENANCE MANUALS

- A. Organization of Manuals: Unless otherwise indicated, organize each manual into a separate section for each system and subsystem, and a separate section for each piece of equipment not part of a system. Each manual shall contain the following materials, in the order listed:
 1. Title page.
 2. Table of contents.
 3. Manual contents.
- B. Title Page: Include the following information:
 1. Subject matter included in manual.
 2. Name and address of Project.
 3. Name and address of Owner.
 4. Date of submittal.
 5. Name and contact information for Contractor.
 6. Name and contact information for Construction Manager.
 7. Name and contact information for Architect.
 8. Names and contact information for major consultants to the Architect that designed the systems contained in the manuals.
 9. Cross-reference to related systems in other operation and maintenance manuals.
- C. Table of Contents: List each product included in manual, identified by product name, indexed to the content of the volume, and cross-referenced to Specification Section number in Project Manual.

SECTION 017823 - OPERATION AND MAINTENANCE DATA

1. If operation or maintenance documentation requires more than one volume to accommodate data, include comprehensive table of contents for all volumes in each volume of the set.
- D. Manual Contents: Organize into sets of manageable size. Arrange contents alphabetically by system, subsystem, and equipment. If possible, assemble instructions for subsystems, equipment, and components of one system into a single binder.
- E. Identification: In the documentation directory and in each operation and maintenance manual, identify each system, subsystem, and piece of equipment with same designation used in the Contract Documents. If no designation exists, assign a designation according to ASHRAE Guideline 4, "Preparation of Operating and Maintenance Documentation for Building Systems."

1.7 OPERATION AND MAINTENANCE DOCUMENTATION DIRECTORY MANUAL

- A. Operation and Maintenance Documentation Directory: Prepare a separate manual that provides an organized reference to emergency, operation, and maintenance manuals. List items and their location to facilitate ready access to desired information. Include the following:
 1. List of Systems and Subsystems: List systems alphabetically. Include references to operation and maintenance manuals that contain information about each system.
 2. List of Equipment: List equipment for each system, organized alphabetically by system. For pieces of equipment not part of system, list alphabetically in separate list.
 3. Tables of Contents: Include a table of contents for each emergency, operation, and maintenance manual.

1.8 EMERGENCY MANUALS

- A. Emergency Manual: Assemble a complete set of emergency information indicating procedures for use by emergency personnel and by Owner's operating personnel for types of emergencies indicated.
- B. Content: Organize manual into a separate section for each of the following:
 1. Type of emergency.
 2. Emergency instructions.
 3. Emergency procedures.
- C. Type of Emergency: Where applicable for each type of emergency indicated below, include instructions and procedures for each system, subsystem, piece of equipment, and component:
 1. Fire.

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2. Flood.
 3. Gas leak.
 4. Water leak.
 5. Power failure.
 6. Water outage.
 7. System, subsystem, or equipment failure.
 8. Chemical release or spill.
- D. Emergency Instructions: Describe and explain warnings, trouble indications, error messages, and similar codes and signals. Include responsibilities of Owner's operating personnel for notification of Installer, supplier, and manufacturer to maintain warranties.
- E. Emergency Procedures: Include the following, as applicable:
1. Instructions on stopping.
 2. Shutdown instructions for each type of emergency.
 3. Operating instructions for conditions outside normal operating limits.
 4. Required sequences for electric or electronic systems.
 5. Special operating instructions and procedures.

1.9 SYSTEMS AND EQUIPMENT OPERATION MANUALS

- A. Systems and Equipment Operation Manual: Assemble a complete set of data indicating operation of each system, subsystem, and piece of equipment not part of a system. Include information required for daily operation and management, operating standards, and routine and special operating procedures.
1. Engage a factory-authorized service representative to assemble and prepare information for each system, subsystem, and piece of equipment not part of a system.
 2. Prepare a separate manual for each system and subsystem, in the form of an instructional manual for use by Owner's operating personnel.
- B. Content: In addition to requirements in this Section, include operation data required in individual Specification Sections and the following information:
1. System, subsystem, and equipment descriptions. Use designations for systems and equipment indicated on Contract Documents.
 2. Performance and design criteria if Contractor has delegated design responsibility.
 3. Operating standards.
 4. Operating procedures.
 5. Operating logs.
 6. Wiring diagrams.
 7. Control diagrams.
 8. Piped system diagrams.
 9. Precautions against improper use.
 10. License requirements including inspection and renewal dates.

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C. Descriptions: Include the following:

1. Product name and model number. Use designations for products indicated on Contract Documents.
2. Manufacturer's name.
3. Equipment identification with serial number of each component.
4. Equipment function.
5. Operating characteristics.
6. Limiting conditions.
7. Performance curves.
8. Engineering data and tests.
9. Complete nomenclature and number of replacement parts.

D. Operating Procedures: Include the following, as applicable:

1. Startup procedures.
2. Equipment or system break-in procedures.
3. Routine and normal operating instructions.
4. Regulation and control procedures.
5. Instructions on stopping.
6. Normal shutdown instructions.
7. Seasonal and weekend operating instructions.
8. Required sequences for electric or electronic systems.
9. Special operating instructions and procedures.

E. Systems and Equipment Controls: Describe the sequence of operation, and diagram controls as installed.

F. Piped Systems: Diagram piping as installed, and identify color coding where required for identification.

1.10 SYSTEMS AND EQUIPMENT MAINTENANCE MANUALS

A. Systems and Equipment Maintenance Manuals: Assemble a complete set of data indicating maintenance of each system, subsystem, and piece of equipment not part of a system. Include manufacturers' maintenance documentation, preventive maintenance procedures and frequency, repair procedures, wiring and systems diagrams, lists of spare parts, and warranty information.

1. Engage a factory-authorized service representative to assemble and prepare information for each system, subsystem, and piece of equipment not part of a system.
2. Prepare a separate manual for each system and subsystem, in the form of an instructional manual for use by Owner's operating personnel.

B. Content: For each system, subsystem, and piece of equipment not part of a system, include source information, manufacturers' maintenance documentation, maintenance

SECTION 017823 - OPERATION AND MAINTENANCE DATA

procedures, maintenance and service schedules, spare parts list and source information, maintenance service contracts, and warranties and bonds as described below.

- C. Source Information: List each system, subsystem, and piece of equipment included in manual, identified by product name and arranged to match manual's table of contents. For each product, list name, address, and telephone number of Installer or supplier and maintenance service agent, and cross-reference Specification Section number and title in Project Manual and drawing or schedule designation or identifier where applicable.
- D. Manufacturers' Maintenance Documentation: Include the following information for each component part or piece of equipment:
 - 1. Standard maintenance instructions and bulletins; 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.
 - a. Prepare supplementary text if manufacturers' standard printed data are not available and where the information is necessary for proper operation and maintenance of equipment or systems.
 - 2. Drawings, diagrams, and instructions required for maintenance, including disassembly and component removal, replacement, and assembly.
 - 3. Identification and nomenclature of parts and components.
 - 4. List of items recommended to be stocked as spare parts.
- E. Maintenance Procedures: Include the following information and items that detail essential maintenance procedures:
 - 1. Test and inspection instructions.
 - 2. Troubleshooting guide.
 - 3. Precautions against improper maintenance.
 - 4. Disassembly; component removal, repair, and replacement; and reassembly instructions.
 - 5. Aligning, adjusting, and checking instructions.
 - 6. Demonstration and training video recording, if available.
- F. Maintenance and Service Schedules: Include service and lubrication requirements, list of required lubricants for equipment, and separate schedules for preventive and routine maintenance and service with standard time allotment.
 - 1. Scheduled Maintenance and Service: Tabulate actions for daily, weekly, monthly, quarterly, semiannual, and annual frequencies.
 - 2. Maintenance and Service Record: Include manufacturers' forms for recording maintenance.

SECTION 017823 - OPERATION AND MAINTENANCE DATA

- G. Spare Parts List and Source Information: Include lists of replacement and repair parts, with parts identified and cross-referenced to manufacturers' maintenance documentation and local sources of maintenance materials and related services.
- H. Maintenance Service Contracts: Include copies of maintenance agreements with name and telephone number of service agent.
- I. Warranties and Bonds: Include copies of warranties and bonds and lists of circumstances and conditions that would affect validity of warranties or bonds.
 - 1. Include procedures to follow and required notifications for warranty claims.
- J. 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. Coordinate these drawings with information contained in record Drawings to ensure correct illustration of completed installation.
 - 1. Do not use original project record documents as part of maintenance manuals.

1.11 PRODUCT MAINTENANCE MANUALS

- A. Product Maintenance Manual: Assemble a complete set of maintenance data indicating care and maintenance of each product, material, and finish incorporated into the Work.
- B. Content: Organize manual into a separate section for each product, material, and finish. Include source information, product information, maintenance procedures, repair materials and sources, and warranties and bonds, as described below.
- C. Source Information: List each product included in manual, identified by product name and arranged to match manual's table of contents. For each product, list name, address, and telephone number of Installer or supplier and maintenance service agent, and cross-reference Specification Section number and title in Project Manual and drawing or schedule designation or identifier where applicable.
- D. Product Information: Include the following, as applicable:
 - 1. Product name and model number.
 - 2. Manufacturer's name.
 - 3. Color, pattern, and texture.
 - 4. Material and chemical composition.
 - 5. Reordering information for specially manufactured products.
- E. Maintenance Procedures: Include manufacturer's written recommendations and the following:
 - 1. Inspection procedures.
 - 2. Types of cleaning agents to be used and methods of cleaning.
 - 3. List of cleaning agents and methods of cleaning detrimental to product.

SECTION 017823 - OPERATION AND MAINTENANCE DATA

4. Schedule for routine cleaning and maintenance.
 5. Repair instructions.
- F. Repair Materials and Sources: Include lists of materials and local sources of materials and related services.
- G. Warranties and Bonds: Include copies of warranties and bonds and lists of circumstances and conditions that would affect validity of warranties or bonds.
1. Include procedures to follow and required notifications for warranty claims.

PART 2 - PRODUCTS

(NOT USED)

PART 3 - EXECUTION

(NOT USED)

END OF SECTION 017823

SECTION 017823 - OPERATION AND MAINTENANCE DATA

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SECTION 017839 - PROJECT RECORD DOCUMENTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. Section includes administrative and procedural requirements for project record documents, including the following:
 - 1. Record Drawings.
 - 2. Record Specifications.
 - 3. Record Product Data.
 - 4. Miscellaneous record submittals.
- B. Related Requirements:
 - 1. Section 017700 "Closeout Procedures" for general closeout procedures.
 - 2. Section 017823 "Operation and Maintenance Data" for operation and maintenance manual requirements.

1.3 CLOSEOUT SUBMITTALS

- A. Record Drawings: Comply with the following:
 - 1. Number of Copies: Submit one set of marked-up record prints.
 - 2. Number of Copies: Submit copies of record Drawings as follows:
 - a. Initial Submittal:
 - 1) Submit two paper-copy sets of marked-up record prints.
 - 2) Submit PDF electronic files of scanned record prints and one of file prints.
 - 3) Submit record digital data files and one set of plots.
 - 4) Architect will indicate whether general scope of changes, additional information recorded, and quality of drafting are acceptable.
 - b. Final Submittal:
 - 1) Submit three paper-copy sets of marked-up record prints.
 - 2) Submit PDF electronic files of scanned record prints and two sets of prints.
 - 3) Print each drawing, whether or not changes and additional information were recorded.

SECTION 017839 - PROJECT RECORD DOCUMENTS

- B. Record Specifications: Submit one paper copy and annotated PDF electronic files of Project's Specifications, including addenda and contract modifications.
- C. Record Product Data: Submit one paper copy and annotated PDF electronic files and directories of each submittal.
 - 1. Where record Product Data are required as part of operation and maintenance manuals, submit duplicate marked-up Product Data as a component of manual.
- D. Miscellaneous Record Submittals: See other Specification Sections for miscellaneous record-keeping requirements and submittals in connection with various construction activities. Submit one paper copy and annotated PDF electronic files and directories of each submittal.
- E. Reports: Submit written report quarterly indicating items incorporated into project record documents concurrent with progress of the Work, including revisions, concealed conditions, field changes, product selections, and other notations incorporated.

1.4 RECORD DRAWINGS

- A. Record Prints: Maintain one set of marked-up paper copies of the Contract Drawings and Shop Drawings, incorporating new and revised drawings as modifications are issued.
 - 1. Preparation: Mark record prints to show the actual installation where installation varies from that shown originally. Require individual or entity who obtained record data, whether individual or entity is Installer, subcontractor, or similar entity, to provide information for preparation of corresponding marked-up record prints.
 - a. Give particular attention to information on concealed elements that would be difficult to identify or measure and record later.
 - b. Accurately record information in an acceptable drawing technique.
 - c. Record data as soon as possible after obtaining it.
 - d. Record and check the markup before enclosing concealed installations.
 - e. Cross-reference record prints to corresponding photographic documentation.
 - 2. Content: Types of items requiring marking include, but are not limited to, the following:
 - a. Dimensional changes to Drawings.
 - b. Revisions to details shown on Drawings.
 - c. Depths of foundations.
 - d. Locations and depths of underground utilities.
 - e. Revisions to routing of piping and conduits.
 - f. Revisions to electrical circuitry.
 - g. Actual equipment locations.

SECTION 017839 - PROJECT RECORD DOCUMENTS

- h. Duct size and routing.
 - i. Locations of concealed internal utilities.
 - j. Changes made by Change Order or Work Change Directive.
 - k. Changes made following Architect's written orders.
 - l. Details not on the original Contract Drawings.
 - m. Field records for variable and concealed conditions.
 - n. Record information on the Work that is shown only schematically.
 3. Mark the Contract Drawings and Shop Drawings completely and accurately. Use personnel proficient at recording graphic information in production of marked-up record prints.
 4. Mark record sets with erasable, red-colored pencil. Use other colors to distinguish between changes for different categories of the Work at same location.
 5. Mark important additional information that was either shown schematically or omitted from original Drawings.
 6. Note Construction Change Directive numbers, alternate numbers, Change Order numbers, and similar identification, where applicable.
- B. Record Digital Data Files: Immediately before inspection for Certificate of Substantial Completion, review marked-up record prints with Architect and Owner. When authorized, prepare a full set of corrected digital data files of the Contract Drawings, as follows:
1. Format: Same digital data software program, version, and operating system as the original Contract Drawings.
 2. Format: DWG, AutoCAD 2010 or latest version, Microsoft Windows operating system.
 3. Format: Annotated PDF electronic file with comment function enabled.
 4. Incorporate changes and additional information previously marked on record prints. Delete, redraw, and add details and notations where applicable.
 5. Refer instances of uncertainty to Architect for resolution.
 6. Architect will furnish Contractor with one set of digital data files of the Contract Drawings for use in recording information.
 - a. See Section 013100 "Project Management and Coordination" for requirements related to use of Architect's digital data files.
 - b. Architect will provide data file layer information. Record markups in separate layers.
- C. Format: Identify and date each record Drawing; include the designation "PROJECT RECORD DRAWING" in a prominent location.
1. Record Prints: Organize record prints into manageable sets. Bind each set with durable paper cover sheets. Include identification on cover sheets.
 2. Format: Annotated PDF electronic file with comment function enabled.
 3. Record Digital Data Files: Organize digital data information into separate electronic files that correspond to each sheet of the Contract Drawings. Name

SECTION 017839 - PROJECT RECORD DOCUMENTS

each file with the sheet identification. Include identification in each digital data file.

4. Identification: As follows:
 - a. Project name.
 - b. Date.
 - c. Designation "PROJECT RECORD DRAWINGS."
 - d. Name of Architect and Construction Manager.
 - e. Name of Contractor.

1.5 RECORD SPECIFICATIONS

- A. Preparation: Mark Specifications to indicate the actual product installation where installation varies from that indicated in Specifications, addenda, and contract modifications.
 1. Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.
 2. Mark copy with the proprietary name and model number of products, materials, and equipment furnished, including substitutions and product options selected.
 3. Record the name of manufacturer, supplier, Installer, and other information necessary to provide a record of selections made.
 4. For each principal product, indicate whether record Product Data has been submitted in operation and maintenance manuals instead of submitted as record Product Data.
 5. Note related Change Orders, record Product Data, and record Drawings where applicable.
- B. Format: Submit record Specifications as annotated PDF electronic file.

1.6 RECORD PRODUCT DATA

- A. Recording: Maintain one copy of each submittal during the construction period for project record document purposes. Post changes and revisions to project record documents as they occur; do not wait until end of Project.
- B. Preparation: Mark Product Data to indicate the actual product installation where installation varies substantially from that indicated in Product Data submittal.
 1. Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.
 2. Include significant changes in the product delivered to Project site and changes in manufacturer's written instructions for installation.
 3. Note related Change Orders, record Specifications, and record Drawings where applicable.
- C. Format: Submit record Product Data as annotated PDF electronic file.

SECTION 017839 - PROJECT RECORD DOCUMENTS

1. Include record Product Data directory organized by Specification Section number and title, electronically linked to each item of record Product Data.

1.7 MISCELLANEOUS RECORD SUBMITTALS

- A. Assemble miscellaneous records required by other Specification Sections for miscellaneous record keeping and submittal in connection with actual performance of the Work. Bind or file miscellaneous records and identify each, ready for continued use and reference.
- B. Format: Submit miscellaneous record submittals as PDF electronic file.
 1. Include miscellaneous record submittals directory organized by Specification Section number and title, electronically linked to each item of miscellaneous record submittals.

1.8 MAINTENANCE OF RECORD DOCUMENTS

- A. Maintenance of Record Documents: Store record documents in the field office apart from the Contract Documents used for construction. Do not use project record documents for construction purposes. Maintain record documents in good order and in a clean, dry, legible condition, protected from deterioration and loss. Provide access to project record documents for Architect's and Construction Manager's reference during normal working hours.

PART 2 - PRODUCTS

(NOT USED)

PART 3 - EXECUTION

(NOT USED)

END OF SECTION 017839

SECTION 017839 - PROJECT RECORD DOCUMENTS

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SECTION 017900 - DEMONSTRATION AND TRAINING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. Section includes administrative and procedural requirements for instructing Owner's personnel, including the following:
 - 1. Instruction in operation and maintenance of systems, subsystems, and equipment.
 - 2. Demonstration and training video recordings.
- B. Furnish demonstration and training instruction time as part of the cost of equipment installed under Lump Sum bid items.

1.3 INFORMATIONAL SUBMITTALS

- A. Instruction Program: Submit outline of instructional program for demonstration and training, including a list of training modules and a schedule of proposed dates, times, length of instruction time, and instructors' names for each training module. Include learning objective and outline for each training module.
 - 1. Indicate proposed training modules using manufacturer-produced demonstration and training video recordings for systems, equipment, and products in lieu of video recording of live instructional module.
- B. Qualification Data: Instructors to be manufacturer's factory representatives holding certifications and experience as appropriate to the equipment installed. Submit for Owner approval.
- C. Attendance Record: For each training module, submit list of participants and length of instruction time.
- D. Evaluations: For each participant and for each training module, submit results and documentation of performance-based test.

1.4 CLOSEOUT SUBMITTALS

- A. Demonstration and Training Video Recordings: Submit two copies within seven days of end of each training module.
 - 1. Identification: On each copy, provide an applied label with the following information:
 - a. Name of Project.
 - b. Name and address of videographer.

SECTION 017900 - DEMONSTRATION AND TRAINING

- c. Name of Architect.
 - d. Name of Construction Manager.
 - e. Name of Contractor.
 - f. Date of video recording.
2. Transcript: Prepared and bound in format matching operation and maintenance manuals. Mark appropriate identification on front and spine of each binder. Include a cover sheet with same label information as the corresponding video recording. Include name of Project and date of video recording on each page.
3. Transcript: Prepared in PDF electronic format. Include a cover sheet with same label information as the corresponding video recording and a table of contents with links to corresponding training components. Include name of Project and date of video recording on each page.
4. At completion of training, submit complete training manual(s) for Owner's use prepared in same paper and PDF file format required for operation and maintenance manuals specified in Section 017823 "Operation and Maintenance Data."

1.5 QUALITY ASSURANCE

- A. Facilitator Qualifications: A firm or individual experienced in training or educating maintenance personnel in a training program similar in content and extent to that indicated for this Project, and whose work has resulted in training or education with a record of successful learning performance.
- B. Instructor Qualifications: A factory-authorized service representative, complying with requirements in Section 014000 "Quality Requirements," experienced in operation and maintenance procedures and training.
- C. Videographer Qualifications: A professional videographer who is experienced photographing demonstration and training events similar to those required.
- D. Pre-instruction Conference: Conduct conference at Project site to comply with requirements in Section 013100 "Project Management and Coordination." Review methods and procedures related to demonstration and training including, but not limited to, the following:
 1. Inspect and discuss locations and other facilities required for instruction.
 2. Review and finalize instruction schedule and verify availability of educational materials, instructors' personnel, audiovisual equipment, and facilities needed to avoid delays.
 3. Review required content of instruction.
 4. For instruction that must occur outside, review weather and forecasted weather conditions and procedures to follow if conditions are unfavorable.

SECTION 017900 - DEMONSTRATION AND TRAINING

1.6 COORDINATION

- A. Coordinate instruction schedule with Owner's operations. Adjust schedule as required to minimize disrupting Owner's operations and to ensure availability of Owner's personnel.
- B. Coordinate instructors, including providing notification of dates, times, length of instruction time, and course content.
- C. Coordinate content of training modules with content of approved emergency, operation, and maintenance manuals. Do not submit instruction program until operation and maintenance data have been reviewed and approved by Architect.

1.7 INSTRUCTION PROGRAM

- A. Program Structure: Develop an instruction program that includes individual training modules for each system and for equipment not part of a system, as required by individual Specification Sections.
- B. Training Modules: Develop a learning objective and teaching outline for each module. Include a description of specific skills and knowledge that participant is expected to master. For each module, include instruction for the following as applicable to the system, equipment, or component:
 - 1. Basis of System Design, Operational Requirements, and Criteria: Include the following:
 - a. System, subsystem, and equipment descriptions.
 - b. Performance and design criteria if Contractor is delegated design responsibility.
 - c. Operating standards.
 - d. Regulatory requirements.
 - e. Equipment function.
 - f. Operating characteristics.
 - g. Limiting conditions.
 - h. Performance curves.
 - 2. Documentation: Review the following items in detail:
 - a. Emergency manuals.
 - b. Systems and equipment operation manuals.
 - c. Systems and equipment maintenance manuals.
 - d. Product maintenance manuals.
 - e. Project Record Documents.
 - f. Identification systems.
 - g. Warranties and bonds.
 - h. Maintenance service agreements and similar continuing commitments.

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3. Emergencies: Include the following, as applicable:
 - a. Instructions on meaning of warnings, trouble indications, and error messages.
 - b. Instructions on stopping.
 - c. Shutdown instructions for each type of emergency.
 - d. Operating instructions for conditions outside of normal operating limits.
 - e. Sequences for electric or electronic systems.
 - f. Special operating instructions and procedures.
4. Operations: Include the following, as applicable:
 - a. Startup procedures.
 - b. Equipment or system break-in procedures.
 - c. Routine and normal operating instructions.
 - d. Regulation and control procedures.
 - e. Control sequences.
 - f. Safety procedures.
 - g. Instructions on stopping.
 - h. Normal shutdown instructions.
 - i. Operating procedures for emergencies.
 - j. Operating procedures for system, subsystem, or equipment failure.
 - k. Seasonal and weekend operating instructions.
 - l. Required sequences for electric or electronic systems.
 - m. Special operating instructions and procedures.
5. Adjustments: Include the following:
 - a. Alignments.
 - b. Checking adjustments.
 - c. Noise and vibration adjustments.
 - d. Economy and efficiency adjustments.
6. Troubleshooting: Include the following:
 - a. Diagnostic instructions.
 - b. Test and inspection procedures.
7. Maintenance: Include the following:
 - a. Inspection procedures.
 - b. Types of cleaning agents to be used and methods of cleaning.
 - c. List of cleaning agents and methods of cleaning detrimental to product.
 - d. Procedures for routine cleaning.
 - e. Procedures for preventive maintenance.
 - f. Procedures for routine maintenance.
 - g. Instruction on use of special tools.

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8. Repairs: Include the following:
 - a. Diagnosis instructions.
 - b. Repair instructions.
 - c. Disassembly; component removal, repair, and replacement; and reassembly instructions.
 - d. Instructions for identifying parts and components.
 - e. Review of spare parts needed for operation and maintenance.

1.8 PREPARATION

- A. Assemble educational materials necessary for instruction, including documentation and training module. Assemble training modules into a training manual organized in coordination with requirements in Section 017823 "Operation and Maintenance Data."
- B. Set up instructional equipment at instruction location.

1.9 INSTRUCTION

- A. Facilitator: Engage a qualified facilitator to prepare instruction program and training modules, to coordinate instructors, and to coordinate between Contractor and Owner for number of participants, instruction times, and location.
- B. Engage qualified instructors to instruct Owner's personnel to adjust, operate, and maintain systems, subsystems, and equipment not part of a system.
 1. Architect will furnish an instructor to describe basis of system design, operational requirements, criteria, and regulatory requirements.
 2. Owner will furnish an instructor to describe Owner's operational philosophy.
 3. Owner will furnish Contractor with names and positions of participants.
- C. Scheduling: Provide instruction at mutually agreed-on times. For equipment that requires seasonal operation, provide similar instruction at start of each season.
 1. Schedule training with Owner with at least seven days' advance notice.
- D. Training Location and Reference Material: Conduct training on-site in the completed and fully operational facility using the actual equipment in-place. Conduct training using final operation and maintenance data submittals.
- E. Evaluation: At conclusion of each training module, assess and document each participant's mastery of module by use of a demonstration performance-based test.
- F. Cleanup: Collect used and leftover educational materials and give to Owner. Remove instructional equipment. Restore systems and equipment to condition existing before initial training use.

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1.10 DEMONSTRATION AND TRAINING VIDEO RECORDINGS

- A. General: Engage a qualified commercial videographer to record demonstration and training video recordings. Record each training module separately. Include classroom instructions and demonstrations, board diagrams, and other visual aids, but not student practice.
 - 1. At beginning of each training module, record each chart containing learning objective and lesson outline.
- B. Digital Video Recordings: Provide high-resolution, digital video in MPEG format, produced by a digital camera with minimum sensor resolution of 12 megapixels and capable of recording in full HD mode with vibration reduction technology.
 - 1. Submit video recordings on thumb drive and by uploading to web-based Project software site.
 - 2. File Hierarchy: Organize folder structure and file locations according to Project Manual table of contents. Provide complete screen-based menu.
 - 3. File Names: Utilize file names based on name of equipment generally described in video segment, as identified in Project specifications.
 - 4. Contractor and Installer Contact File: Using appropriate software, create a file for inclusion on the equipment demonstration and training recording that describes the following for each Contractor involved on the Project, arranged according to Project Manual table of contents:
 - a. Name of Contractor/Installer.
 - b. Business address.
 - c. Business phone number.
 - d. Point of contact.
 - e. Email address.
- C. Recording: Mount camera on tripod before starting recording, unless otherwise necessary to adequately cover area of demonstration and training. Display continuous running time.
 - 1. Film training session(s) in segments not to exceed 15 minutes.
 - a. Produce segments to present a single significant piece of equipment per segment.
 - b. Organize segments with multiple pieces of equipment to follow order of Project Manual table of contents.
 - c. Where a training session on a particular piece of equipment exceeds 15 minutes, stop filming and pause training session. Begin training session again upon commencement of new filming segment.
- D. Light Levels: Verify light levels are adequate to properly light equipment. Verify equipment markings are clearly visible prior to recording.

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1. Furnish additional portable lighting as required.
- E. Narration: Describe scenes on video recording by audio narration by microphone while video recording is recorded. Include description of items being viewed.
- F. Transcript: Provide a transcript of the narration. Display images and running time captured from videotape opposite the corresponding narration segment.
- G. Preproduced Video Recordings: Provide video recordings used as a component of training modules in same format as recordings of live training.

PART 2 - PRODUCTS

(NOT USED)

PART 3 - EXECUTION

(NOT USED)

END OF SECTION 017900

SECTION 017900 - DEMONSTRATION AND TRAINING

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SECTION 031000 – CONCRETE FORMWORK

PART 1 GENERAL

1.1 SUMMARY

- A. Section Includes: Formwork for cast-in place concrete, with shoring, bracing, and anchorage; openings for other work; form accessories; and form stripping.
- B. Related Sections:
 - 1. The following Sections are related to the Work described in this Section. This list of Related Sections is provided for convenience only and is not intended to excuse or otherwise diminish the duty of the Contractor to see that the completed Work complies accurately with the Contract Documents.
 - a. Submittal Procedures: Section 013300
 - b. Concrete Reinforcement: Section 032000
 - c. Cast-in-Place Concrete: Section 033000

1.2 REFERENCES

- A. American Society of Mechanical Engineers: ASME A17.1 – Safety Code for Elevators and Escalators
- B. National Institute of Standards and Technology: PS 1 – Structural Plywood
- C. American Concrete Institute:
 - 1. ACI 211.1; Standard Practice for Selecting Proportions for Normal, Heavyweight, and Mass Concrete.
 - 2. ACI 301; Specifications for Structural Concrete for Buildings.
 - 3. ACI 305R; Hot Weather Concreting.
 - 4. ACI 306R; Cold Weather Concreting.
 - 5. ACI 308; Standard Practice for Curing Concrete.
 - 6. ACI 318; Building Code Requirements for Reinforced Concrete.
 - 7. ACI 347; Guide to Formwork for Concrete

1.3 DESIGN REQUIREMENTS

- A. Design, engineer, and construct formwork, shoring and bracing to conform to design and code requirements; resultant concrete to conform to required shape, line, dimension, and finish.

1.4 SUBMITTALS

- A. See Section 013300 – Submittal Procedures, for submittal procedures.
- B. Product Data: Submit manufacturer's literature describing products to be provided, such

SECTION 031000 – CONCRETE FORMWORK

as metal forming systems, form liners, etc., and installation requirements.

C. Shop Drawings:

1. Submit scaled shop drawings showing general layout of shores and re-shores, anchoring sizes and types, shapes, thickness, and other similar detailed information. Indicate pertinent dimensions, materials, bracing, and arrangement of joints and ties.
 - a. Shores and Reshores: Submit shop drawings for Shores and Reshores signed and sealed by a P.E. registered in the State in which the building is located.
2. Submit information describing location of construction joints with pour sequence for review by Structural Engineer.
3. Show adjacent or related portions of Work in a complete manner.
4. Shop drawings submittal shall be coordinated with shop drawings submission of related portions of Work, such as Concrete reinforcing (refer to Section 032000) and Cast-In-Place Concrete (refer to Section 033000).
5. Shop drawings shall be prepared under supervision and bear seal and signature of a registered professional engineer. Professional engineer shall be licensed in the State in which the building is located.

1.5 QUALITY ASSURANCE

- A. Perform work of this section in accordance with ACI 347, ACI 301, and ACI 318.
 1. Maintain one copy of standards on project site.
- B. Design formwork under direct supervision of a Professional Structural Engineer experienced in design of concrete formwork and licensed in the State in which the Project is located.
 1. Submit shop drawings and calculations for forms, shoring and reshoring, signed and sealed by a Professional Engineer registered in the State in which the Project is located.

1.6 REGULATORY REQUIREMENTS

- A. Conform to applicable code for design, fabrication, erection, and removal of formwork

1.7 COORDINATION

- A. Coordinate work under provisions of Section 013100.
- B. Coordinate this section with other sections of work which require attachment of components to formwork.

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- C. If formwork is placed after reinforcement resulting in insufficient concrete cover over reinforcement, request instructions from Engineer before proceeding.
- D. Coordinate work of other sections in forming and placing openings, slots, reglets, recesses, chases, sleeves, bolts, anchors and other inserts.

1.8 DELIVERY, STORAGE, AND HANDLING

- A. Store forms and accessories off ground in ventilated and protected manner to prevent deterioration from moisture.
- B. Deliver void forms and installation instructions in manufacturer's packaging. Coordinate work under provisions of Section 013100.

PART 2 PRODUCTS

2.1 SYSTEM DESCRIPTION

- A. Design Requirements:
 - 1. Design, engineer, and construct formwork, shoring, and bracing to conform to design and code requirements resultant concrete to conform to shape indicated, line, and dimension.
 - 2. Structural adequacy of forms, ties, shoring, and bracing shall be the responsibility of solely the Contractor. Requirements stated herein shall be considered minimum requirements for appearance purposes only, and shall not be considered as structural design.

2.2 WOOD FORM MATERIALS

- A. Form Materials: Per contractor's discretion.

Forms for Unexposed Finish Concrete: Form concrete surfaces which will be unexposed in finished structure with plywood, lumber, metal, or other acceptable material. Provide lumber dressed on at least two (2) edges and one side for tight fit.

Form Coatings: Provide commercial formulation forming compounds that will not bond with stain nor adversely affect concrete surfaces, and will not impair subsequent treatments of concrete surfaces.

- A. Softwood Plywood: PS 1, C Grade, Group 2.
- B. Softwood Plywood: PS 1, B-B High Density Concrete Form Overlay, Class I, ½ inch minimum thickness.
- C. Plywood: Douglas Fir species; solid one side grade; sound undamaged sheets with clean true edges.

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- D. Lumber: Douglas Fir species; #2 or better grade; with grade stamp clearly visible.

2.3 PREFABRICATED FORMS

A. Manufacturers:

1. Alabama Metal Industries Corp.
2. Molded Fiber Glass Concrete Forms Co.
3. Reward Wall Systems.
4. SureVoid Products, Inc.
5. Peri Form System.
6. Substitutions: See Section 016000 – Product Requirements.

- B. Preformed Steel Forms: Minimum 16 gage matched, tightfitting, stiffened to support weight of concrete without deflection detrimental to tolerances and appearance of finished surfaces.
- C. Preformed Plastic Forms: Thermoplastic polystyrene form liner, tightfitting, stiffened to support weight of concrete without deflection detrimental to tolerances and appearance of finished surfaces.
- D. Glass Fiber Fabric Reinforced Plastic Forms: Matched, tightfitting, stiffened to support weight of concrete without deflection detrimental to tolerances and appearance of finished concrete surfaces.
- E. Pan Type: Steel, of size and profile indicated.
- F. Tubular Column Type: Round, spirally wound laminated fiber material, surface treated with release agent, non-reusable, of sizes indicated.
- G. Void Forms: Moisture-resistant treated paper faces, biodegradable, structurally sufficient to support weight of wet concrete mix until initial set.

2.4 FORMWORK ACCESSORIES

- A. Form Ties: Removable type, galvanized metal, fixed-length, cone type, with waterproofing washer, back break dimension, free of defects that could leave holes larger than 1 inch in concrete surface. Provide acceptable products as indicated on Contract Drawings.
- B. Form Release Agent: Colorless mineral oil that will not stain concrete, absorb moisture or impair natural bonding or color characteristics of coating intended for use on concrete; manufactured by SPECCO INDUSTRIES, INC. or specifically approved equal. Agent shall not be detrimental to the environment.
- C. Corners: Filleted, wood chamfer type; size; maximum possible lengths.

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- D. Dovetail Anchor Slot: Galvanized steel, 22 gage thick, foam-filled, release tape-sealed slots, anchors for securing to concrete formwork.
- E. Flashing Reglets: Galvanized steel, 22 gage thick, longest possible lengths, with alignment splines for joints, foam-filled, release tape-sealed slots, anchors for securing to concrete formwork.
- F. Nails, Spikes, Lag Bolts, Through Bolts, Anchorages: Sized as required, of sufficient strength and character to maintain formwork in place while placing concrete.
- G. Waterstops:
 - 1. Rubber, minimum 1,750 psi tensile strength, minimum 50 degrees F (46 degrees C) to plus 175 degrees F (79 degrees C) working temperature range, width as required, maximum possible lengths, ribbed profile, preformed corner sections, heat welded jointing.
 - 2. Preformed mineral colloid strips, 3/8 inch thick, moisture expanding. Provide Bentonite RX material 101T by CETCO. 75% sodium Bentonite, 25% butyl rubber, trapezoidal shape with reinforcing scrim. Rectangle or square waterstop is not acceptable. Product shape must be directly manufactured. No private labeling of the waterstop is permitted.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify lines, levels, and centers before proceeding with formwork. Ensure that dimensions agree with drawings.

3.2 EARTH FORMS

- A. Earth forms are not permitted.

3.3 FORMS, GENERAL

- A. Design, erect, support, brace and maintain formwork to support vertical and lateral loads that might be applied until such loads can be supported by concrete structure. Construct formwork so concrete members and structures are of correct size, shape, alignment, elevation and position. Extend shoring at least three (3) floors under floor or roof being placed.
- B. Design formwork to be readily removable without impact, shock, or damage to cast-in-place concrete surfaces and adjacent materials.
- C. Construct forms to sizes, shapes, lines and dimensions shown, and to obtain accurate alignment, location, grades, level and plumb work in finished structures. Provide for

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openings, offsets, sinkages, keyways, recesses, moldings, rustication, reglets, chamfers, blocking, screeds, bulkheads, anchorage and inserts, and other features required in work. Use selected materials to obtain required finishes. Solidly butt joints and provide backup at joints to prevent leakage of cement paste. Provide formwork which shall provide smooth, neat concrete finishes in exposed areas of the building.

- D. Fabricate forms for easy removal without hammering or prying against concrete surfaces. Provide crush plates or wrecking plates where stripping may damage cast concrete surfaces. Provide top forms for inclined surfaces where slope is too steep to place concrete with bottom forms only. Kerf wood inserts for forming keyways, reglets, recesses, and the like, to prevent swelling and for easy removal.
- E. Provide temporary openings where interior area of formwork is inaccessible for cleanout, for inspection before concrete placement and for placement of concrete. Securely brace temporary openings and set tightly to forms to prevent loss of concrete mortar. Locate temporary openings on forms at inconspicuous locations.
- F. Chamfer exposed corners and edges of concrete slabs, columns, and walls in exposed areas of concrete structure, using wood chamfer strips fabricated for easy removal.
- G. Provisions for Other Trades: Provide openings in concrete formwork to accommodate work of other trades. Determine size and location of openings, recesses and chases from trades providing such items. Accurately place and securely support items built into forms.
- H. Cleaning and Tightening: Thoroughly clean forms and adjacent surfaces to receive concrete. Remove chips, wood, sawdust, dirt or other debris just before concrete is placed. Retighten forms and bracing after concrete placement is required to eliminate mortar leaks and maintain proper alignment.

3.4 ERECTIONS - CONCRETE

- A. Erect formwork, shoring, and bracing to achieve design requirements, in accordance with requirements of ACI 301.
- B. Provide bracing to ensure stability of formwork. Shore or strength formwork subject to overstressing by construction loads.
- C. Arrange and assemble formwork to permit dismantling and stripping. Do not damage concrete during stripping. Permit removal of remaining principal shores.
- D. Align joints and make watertight. Keep form joints to a minimum.
- E. Obtain approval before framing openings in structural members that are not indicated in drawings.
- F. Provide fillet strips on external corners of beams, joists, and columns.

SECTION 031000 – CONCRETE FORMWORK

- G. Install void forms in accordance with manufacturer's recommendations. Protect forms from moisture or crushing.
- H. Coordinate this Section with other Sections of work that require attachment of components to formwork.
- I. If formwork is placed after reinforcement, resulting in insufficient concrete cover over reinforcement, request instructions from Architect before proceeding.
- J. Construction joints:
 - 1. Joints shall be as located on Drawings. Concrete between construction joints shall be placed in one continuous operation. Steel reinforcing shall run continuous through joint. Joints shall be placed perpendicular to main reinforcement.

3.5 APPLICATION – FORM RELEASE AGENT

- A. Apply form release agent on formwork in accordance with manufacturer's recommendations. Apply to reasonably clean and dry surfaces only.
- B. Apply prior to placement of reinforcing steel, anchoring devices, and embedded items.
- C. Do not apply form release agent where concrete surfaces will receive special finishes or applied coverings that are affected by agent. Soak inside surfaces of untreated forms with clean water. Keep surfaces coated prior to placement of concrete.

3.6 INSERTS, EMBEDDED PARTS, AND OPENINGS

- A. Provide formed openings where required for items to be embedded in passing through concrete work.
- B. Locate and set in place items that will be cast directly into concrete. Coordinate work with the approved sleeving plan prepared by the Contractor.
- C. Coordinate with work of other Sections in forming and placing openings, slots, reglets, recesses, sleeves, bolts, anchors, other inserts, and components of other work.
- D. Position recessed anchor slots for brick veneer masonry anchors to spacing and intervals specified, and as indicated on contract drawings.
- E. Position recessed reglet slots for flashings to spacing and intervals specified in waterproofing Section and as indicated on contract drawings.
- F. Install accessories in accordance with manufacturer's instructions, so they are straight, level, and plumb. Ensure items are not disturbed during concrete placement.

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- G. Install both types of waterstops in accordance with manufacturer's instructions, so they are continuous without displacing reinforcement. Heat seal joints so they are watertight in accordance with manufacturers' recommendations.
- H. Provide temporary ports or openings in formwork where required to facilitate cleaning and inspection. Locate openings at bottom of forms to allow flushing water to drain.
- I. Close temporary openings with tightfitting panels, flush with inside face of forms, and neatly fitted so joints will not be apparent in exposed concrete surfaces.
- J. Dovetail Slots:
 - 1. Install reglets in concrete as needed to receive sheet metal flashing.
 - 2. Provide open or closed slot reglets slot sloped upward 45 degree, at least 1 inch deep and 3/16 inch wide.
- K. Reglets:
 - 1. Install reglets in concrete as needed to receive sheet metal flashing.
 - 2. Provide open or closed slot reglets slot sloped upward 45 degrees, at least 1 inch deep and 3/16 inch wide.

3.7 FORM CLEANING

- A. Clean forms as erection proceeds, to remove foreign matter within forms.
 - 1. Flush with water or use compressed air to remove remaining foreign matter. Ensure that water and debris drain to exterior through clean-out ports.
 - 2. During cold weather, remove ice and snow from within forms. Do not use deicing salts. Do not use water to clean out forms, unless formwork and concrete construction proceed within heated enclosure. Use compressed air or other means to remove foreign matter.

3.8 FORMWORK TOLERANCES

- A. Construct formwork to maintain tolerances required by ACI 301.
- B. Construct and align formwork for elevator hoistway, in accordance with ASME A17.1.
- C. Camber slabs and beams ¼ inch per 10 feet, in accordance with ACI 301.

3.9 FIELD QUALITY CONTROL

- A. An independent testing agency will perform field quality control tests, as specified in Section 014000.

SECTION 031000 – CONCRETE FORMWORK

- B. Inspect erected formwork, shoring, and bracing to ensure that work is in accordance with formwork design, and to verify that supports, fastenings, wedges, ties, and items are secure. Prepare and submit report documenting observations and test results in accordance with 013100.
- C. Do not reuse wood formwork more than two times for concrete surfaces to be exposed to view. Do not patch formwork.

3.10 FORM REMOVAL

- A. Testing 100% of formwork and shoring to be left in place until concrete for all deep beams, wall beams, and hung slabs has achieved 100% of the required design strength. Concrete walls above the slab designed as deep beams and/or slab supports shall not be altered, modified, or removed throughout the life of the structure.
- B. For transfer slabs, it is recommended that formwork and/or shoring be kept in place down to the slab on grade until the concrete reaches 100% of design strength and at least 28 days of age in order to reduce the possibility of large initial slab deflections. We can provide critical areas for this shoring to the Contractor if shoring the entire slab is not feasible.
- C. Loosen forms carefully. Do not wedge pry bars, hammers, or tools against finish concrete surfaces scheduled for exposure to view.
- D. Store removed forms to prevent damage to form materials or to fresh concrete. Discard damaged forms from project site.
- E. Reshores shall remain in place until concrete has attained its 28-day strength.

3.11 SCHEDULES

- A. Defect Walls, Columns, and Ceilings Not Exposed to View: Site fabricated plywood coated with form oil.
- B. Walls, Columns, and Ceilings Exposed to View: Site fabricated metal or smooth plywood.

END OF SECTION

SECTION 031000 – CONCRETE FORMWORK

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SECTION 032000 - CONCRETE REINFORCEMENT

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Reinforcing steel bars, wire fabric and accessories for cast-in-place concrete.

1.2 RELATED SECTIONS

- A. Section 031000 – Concrete Formwork.
- B. Section 033000 - Cast-in-Place Concrete.

1.3 REFERENCES

- A. ACI 301 - Structural Concrete for Buildings.
- B. ACI 315 – Details and Detailing of Concrete Reinforcement.
- C. ACI 318 - Building Code Requirements for Reinforced Concrete.
- D. ACI SP-66 - Detailing Manual.
- E. ANSI/AWS D1.4 - Structural Welding Code for Reinforcing Steel.
- F. ASTM A615 - Deformed and Plain Carbon-Steel Bars for Concrete Reinforcement.
- G. CRSI - Concrete Reinforcing Steel Institute Manual of Practice.
- H. CRSI 63 - Recommended Practice For Placing Reinforcing Bars.
- I. CRSI 65 - Recommended Practice For Placing Bar Supports, Specifications and Nomenclature.

1.4 SUBMITTALS

- A. Submit under provisions of Section 013300.
- B. Shop Drawings: Comply with requirements of ACI SP-66. Include bar schedules, shapes of bent bars, spacing of bars, and location of splices.
 - 1. Prepare shop drawings under seal and signature of a Professional Structural Engineer experienced in design of work of this type and licensed in the State in which the Project is located.
 - 2. Coordinate shop drawings with submittals for portions of work, including formwork (Section 031000), cast-in-place concrete (033000) and coordinated sleeve plan and slab edge drawings.

SECTION 032000 - CONCRETE REINFORCEMENT

- C. Manufacturer's Certificate: Certify that materials meet or exceed specified project requirements.

1.5 QUALITY ASSURANCE

- A. Perform work in accordance with ACI 301, CRSI-63, CRSI-65, and CRSI Manual of Practice. Maintain one copy of each document on project site.
- B. Submit certified copies of mill test report of reinforcement materials analysis.
- C. Provide Architect with access to fabrication plant to facilitate inspection of reinforcement. Provide notification of commencement and duration of shop fabrication in sufficient time to allow inspection.
- D. Welders' Certificates: Submit certifications for welders employed on the project, verifying AWS qualification within the previous 12 months.

1.6 QUALIFICATIONS

- A. Design reinforcement under direct supervision of a Professional Structural Engineer experienced in design of this work and licensed in the State in which the project is located.

1.7 COORDINATION

- A. Coordinate work under provisions of Section 013100.
- B. Coordinate with placement of formwork, formed openings, joints and other work.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Reinforcing Steel: ASTM A615, 60 psi (414 MPa) yield grade; deformed billet steel bars, uncoated finish. Refer to structural drawings for additional requirements
- B. Welded Steel Wire Fabric: ASTM A185 Plain Type; in flat sheets; uncoated finish.

2.2 ACCESSORIES

- A. Tie Wire: 16 gage (1.6 mm) annealed type.
- B. Chairs, Bolsters, Bar Supports, and Spacers: Sized and shaped for strength and support of reinforcement during concrete placement conditions including load bearing pad on bottom to prevent vapor barrier puncture.
- C. For concrete surfaces exposed to view where legs of wire bar supports contact forms, use CRSI Class 1 plastic protected or CRSI Class 2 stainless steel supports.

SECTION 032000 - CONCRETE REINFORCEMENT

- D. Provide stainless steel, galvanized, plastic, or plastic coated steel components for placement within 1-1/2 inches of weathering surfaces. For epoxy-coated reinforcement, use epoxy-coated or other dielectric-polymer-coated supports.

2.3 FABRICATION

- A. Fabricate concrete reinforcing in accordance with CRSI Manual of Practice.
- B. No welding of reinforcement is permitted.
- C. Locate reinforcing splices not indicated on drawings at point of minimum stress.
 - 1. Review locations of splices with Architect.
 - 2. Use contact lap splices as shown on contract drawings.
 - 3. Recoat concrete epoxy coated reinforcing with epoxy paint if bars have been cut or damaged epoxy coated reinforcement, clean surfaces, weld and re-protect welded joint in accordance with manufacturer's instructions and re-protect all field cuts and scratches.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Install all reinforcement in accordance with approved shop drawings.
- B. Place, support, and secure reinforcement against displacement. Do not deviate from required position.
 - 1. Comply with Concrete Reinforcing Steel Institute's recommended practice for "Placing Reinforcing Bars", for details and methods of reinforcement placement and supports, and as herein specified. Do not splice bars at corner of foundation
 - 2. Clean reinforcement of loose rust and mill scale, earth, ice and other materials which reduce or destroy bond with concrete.
 - 3. Accurately position, support and secure reinforcement against displacement by formwork, construction, or concrete placement operations. Locate and support reinforcing by metal chairs, runners, bolsters, spacers, and hangers as required.
 - 4. Place reinforcement to obtain at least minimum coverages for concrete protection, per structural notes. Arrange, space and securely tie bars and bar supports to hold reinforcement in position during concrete placement operations. Set wire ties so ends are directed into concrete, not toward exposed concrete surfaces.
 - 5. Install welded wire fabric in as long lengths as practicable. Lap adjoining pieces at least one full mesh and lace splices with wire. Offset end laps in adjacent widths to prevent continuous laps in either direction. Locate in middle 1/3 of slab-on-grade
- C. Do not displace or damage vapor barrier.

SECTION 032000 - CONCRETE REINFORCEMENT

- D. Accommodate placement of formed openings.
- E. Conform to applicable code(s) for concrete cover over reinforcement.
- F. Locate reinforcing splices not indicated on the plans, at point of minimum stress. Review location of splices with Engineer.
- G. Splice overlap shall be a minimum length of 40 diameters.
- H. Dowels shall be placed such that one end of the dowel is greased or set in a capped sleeve to allow longitudinal movement between it and one slab.
- I. Heating of bars for bending is prohibited.
- J. Conform to applicable code for concrete cover over reinforcement

3.2 FIELD QUALITY CONTROL

- A. Field inspection will be performed by an independent testing agency under provisions of Section 014000. Prepare and submit reports documenting the observations and test results.

END OF SECTION

SECTION 033000 – CAST-IN-PLACE CONCRETE

PART 1 GENERAL

1.1 SUMMARY

- A. Section Includes: Designing mix, furnishing, placing and curing Portland cement concrete, reinforced and unreinforced, as indicated.
- B. Related Sections:
 - 1. Submittal Procedures: Section 013300
 - 2. Section 031000 – Concrete Formwork
 - 3. Section 032000 – Concrete Reinforcement

1.2 REFERENCES

- A. American Association of State Highway and Transportation Officials, AASHTO M 182 Burlap cloth made from Jute or Kenaf.
- B. American Concrete Institute:
 - 1. ACI 211.1; Standard Practice for Selecting Proportions for Normal, Heavyweight, and Mass Concrete.
 - 2. ACI 301; Specifications for Structural Concrete for Buildings.
 - 3. ACI 304R; Guide for Measuring; Mixing, Transporting and Placing Concrete.
 - 4. ACI 305R; Hot Weather Concreting.
 - 5. ACI 306R; Cold Weather Concreting.
 - 6. ACI 308; Standard Practice for Curing Concrete.
 - 7. ACI 318; Building Code Requirements for Reinforced Concrete.
- C. American Society for Testing and Materials
 - 1. ASTM C31; Methods of Making and Curing Concrete Test Specimens in the Field.
 - 2. ASTM C33; Specification for Concrete Aggregates.
 - 3. ASTM C39; Test Method for Compressive Strength of Cylindrical Concrete Specimens.
 - 4. ASTM C78; Test Method Flexural Strength of Concrete (Using Simple Beam with Third- Point Loading).
 - 5. ASTM C94; Specification for Ready-Mixed Concrete.
 - 6. ASTM C143; Test Method for Slump of Portland Cement Concrete.
 - 7. ASTM C150; Specification for Portland Cement.
 - 8. ASTM C156; Test Method for Water Retention By Concrete Curing Materials.
 - 9. ASTM C171; Specification for Sheet Materials for Curing Concrete.
 - 10. ASTM C172; Methods of Sampling Freshly Mixed Concrete.
 - 11. ASTM C173; Test Method for Air Content of Freshly Mixed Concrete by the Volumetric Method.

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12. ASTM C192; Method of Making and Curing Concrete Test Specimens in the Laboratory. ASTM C231; Test Method for Air Content of Freshly Mixed Concrete by the Pressure Method.
 13. ASTM C260; Specification for Air-Entraining Admixtures for Concrete.
 14. ASTM C309; Specification for Liquid Membrane-Forming Compounds for Curing Concrete.
 15. ASTM C494; Specification for Chemical Admixtures for Concrete.
 16. ASTM C881; Standard Specification for Epoxy-Resin-Base Bonding Systems for Concrete.
 17. ASTM C882; Standard Test Method for Bond Strength of Epoxy - Resin Systems used with Concrete by Slant Shear.
 18. ASTM D1751; Specification for Preformed Expansion Joint Filler for Concrete Paving and Structural Construction (Nonextruding and Resilient Bituminous Types).
 19. ASTM D1752; Specification for Preformed Sponge Rubber and Cork Expansion Joint Fillers for Concrete Paving and Structural Construction.
 20. ASTM E329; Standard Practice for Use in the Evaluation of Testing and Inspection Agencies as Used in Construction.
- D. U.S. Army Corps of Engineers Specifications:
1. U.S. Corps of Engineers CRD-C 572 Specification for Waterstop.
- E. Federal Specifications:
1. Fed. Spec. SS-S-210A, Sealing Compound, Preformed Plastic, for Expansion Joints and Pipe Joints (Type 1 Rope Form).

1.3 SUBMITTALS

- A. Submit to Engineer in accordance with Section 01330 shop drawings, product data and information required to establish compliance with this section.
- B. Product Data: Submit manufacturer's descriptive product data and current specifications for the concrete accessories specified herein (admixtures, joint fillers, curing materials, floor hardeners, waterstops, etc.). Include installation instructions.
- C. Samples: Submit samples of materials being used when requested by the Engineer including names, sources and descriptions.
- D. Design Mix: Prior to production of concrete, submit for approval, on form attached at the end of this Section, all mix designs proposed for project. Include with the mix design a standard deviation analysis in accordance with ACI 301 Section 3.9.1 or trial mixture test data proposed in ACI 301 Section 3.9.3.3. Use materials in such proposed design mix as specified herein. Make such adjustments in the proposed design mix as directed by the Engineer. Make such adjustments at no increase in contract price.
- E. Test Reports:

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- F. Submit concrete test reports specified in Part 3, Field Quality Control in this Specification.
- G. Certificates:
 - 1. Furnish the Engineer and local authorities requiring same, certificates originated by the batch mixing plant certifying ready mixed concrete, as manufactured and delivered, to be in conformance with ASTM C94.
- H. Delivery Tickets: A delivery ticket shall accompany each load of concrete from the batch plant.
 - 1. Tickets must be signed by the Contractor's representative, noted as to time and place of pour and kept in a record at the site. Make such records available for inspection upon request by the Engineer.
 - 2. Information presented on the ticket to include the tabulation covered by ASTM C94, Section 16, as well as any additional information the local codes may require.
- I. Schedule: Submit schedule showing methods, construction joint locations and sequence of pouring a minimum of 10 days prior to placing concrete.
- J. Testing Agency: Submit name and qualifications of Testing Agency to Engineer for approval prior to proceeding with testing.

1.4 QUALITY ASSURANCE

- A. Testing Agency: An agency regularly performing work conforming to The American Society for Testing and Materials ASTM E329, Recommended Practice for Inspection and Testing Agencies for Concrete and Steel in Construction.
- B. Source Quality Control:
 - 1. Laboratory Tests: Materials stated herein require advance examination or testing according to methods referenced, or as required by the Engineer.
 - 2. Compression Test Cylinders: For laboratory trial batches, make in accordance with American Concrete Institute ACI 301. Test to consist of three compression test cylinders for each class of concrete with one broken at seven days and two broken at 28 days; ASTM C192 and ASTM C39.
 - 3. Flexural Strength Beams: For laboratory trial batches, make in accordance with American Concrete Institute ACI 301. Test to consist of three flexural strength beams (6 × 6 inches) for Class A concrete only, with one broken at seven days and two broken at 28 days; ASTM C192 and ASTM C78. Perform this test for vehicle pavement slabs only.

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1.5 PROJECT CONDITIONS

- A. ACI Compliance: Cast-in-place concrete work shall conform to ACI 301 except as modified by these Specifications or the Drawings.
- B. Concrete Encasement of Pipes: Encase pipes under structures and buildings indicated by the Drawings to be encased in concrete for the full length of the pipe run under the structure.
- C. Concrete Encasement of Conduits: Encase conduit runs as indicated and detailed on the Drawings as work of Division 16 - Electrical Sections.

1.6 EQUIPMENT BASES

Construct reinforced concrete bases for equipment and piping under this contract at no increase in contract price.

- A. SEQUENCING
 - 1. Where other construction work is relative to concrete pours, or must be supported by or embedded in concrete, those performing such related work must be given five days' notice to introduce or furnish embedded items before concrete is placed.

PART 2 PRODUCTS

2.1 MATERIALS

- A. Cement:
 - 1. Portland Cement: ASTM C150 of the following Type:
 - a. Type I, Normal.
 - b. Type II, Moderate Sulfate Resistance.
 - 2. Only one brand and manufacturer of approved cement shall be used for exposed concrete.
- B. Normal weight Concrete Aggregates: Process aggregate meeting requirements of ASTM C33 and subject to the following limitations.
 - 1. Coarse Aggregate Size: Maximum size of coarse aggregate shall not exceed the following requirements but in no case larger than 1-1/2 inches.
 - a. One-fifth narrowest dimension between sides of forms within which concrete is to be cast.
 - b. Three-fourths of the minimum clear spacing between reinforcing bars.
 - c. One-third the slab thickness for unreinforced slabs.

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- d. Reduced aggregate concrete containing aggregate with particle size not less than 1/8 inch nor more than 1/2 inch in any dimension and a maximum of 5 percent of particles passing a No. 8 sieve.
- C. Water: Clean and free from injurious amounts of oils, acids, alkalis, salts, organic materials, or other substances that may be deleterious to concrete or reinforcement.
- D. Concrete Admixtures:
 - 1. Prohibited Admixtures: Use only non-corrosive, non-chloride admixtures.
 - 2. Provide admixtures produced and serviced by established, reputable manufacturers and use in compliance with manufacturer's recommendations.
 - 3. Air-Entraining Admixture: Use a product conforming to requirements of ASTM C260.
 - 4. Water-Reducing Admixture: Use a product conforming to requirements of ASTM C494 Type A. (Use this for all concrete except where an admixture listed below is used).
 - a. Acceptable Manufacturers:
 - 1) Eucon WR-75; The Euclid Chemical Company.
 - 2) Pozzolith 220N; Master Builders.
 - 3) Plastocrete 161; Sika Corporation.
 - 4) Or Approved Equal.
 - 5. Water-Reducing and Retarding Admixture: Use a product conforming to requirements of ASTM C494, Type D.
 - a. Acceptable Manufacturers:
 - 1) Eucon Retarder-75; The Euclid Chemical Company.
 - 2) Pozzolith 100XR; Master Builders.
 - 3) Plastiment; Sika Corporation.
 - 6. Or Approved Equal. Water-Reducing, and Acceleration Admixture: Use a product conforming to requirements of ASTM C494, Types C or E. Not permitted for use in concrete for water retaining structures.
 - a. Acceptable Manufacturers:
 - 1) Accelguard 80; The Euclid Chemical Company.
 - 2) Pozzutec 20; Master Builders.
 - 3) Plastocrete 161 FL; Sika Corporation.
 - 4) Or Approved Equal.
 - 7. Store admixtures in a manner to prevent contamination, evaporation, moisture penetration or damage. Do not use products which have been stored longer than 6 months.

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8. Prior to the mix design review by the Engineer, provide written conformance to the specified requirements of the admixture.
- E. Preformed Expansion Joint Fillers:
1. Nonextruding and Resilient Bituminous Types (for exterior use in pavements and sidewalks only): ASTM D1751.
 2. Sponge Rubber and Cork Type: ASTM D1752.
 3. Self Expanding Cork Type: ASTM D1752.
 4. Acceptable Manufacturers:
 - a. A. C. Horn.
 - b. W. R. Meadows, Inc.
 - c. Or Approved Equal.
- F. Tongue and Groove Joint Material:
1. Galvanized steel, stay-in-place, keyed form, such as manufactured by Heckmann Building Products, Inc., or approved equal.
 2. Use only for slabs in structures that do not retain water.
- G. Vinyl Waterstops: Ribbed type manufactured from virgin polyvinyl chloride plastic compound conforming to U.S. Corps of Engineers CRD-C 572.
1. 6-inch Waterstop: $6 \times 3/8$ -inch, such as Vinylex Corporation; Cat. No. R6-38.
 2. 9-inch Waterstop: $9 \times 3/8$ -inch with center bulb of 1-inch outside diameter; such as Vinylex Corporation; Cat. No. RLB9-38.
 3. Acceptable Manufacturers:
 - a. Vinylex Corporation (Catalog Nos. as specified above).
 - b. A. C. Horn Inc.
 - c. W. R. Meadows, Inc.
 - d. Or Approved Equal.
 4. Retrofit Waterstop: $6 \times 3/8$ -inch with $3-3/16$ inch T leg; such as Greenstreak Product No. 609, or approved equal.
- H. Injected Vinylester-Based Resin Waterstop:
1. Injection Hose: Multiple use injection hose composed of polyvinyl chloride (PVC) compound with solid core to absorb concrete pressure and lateral openings along each side, at staggered intervals, to ensure a uniform discharge of the injection material.
 - a. Outside diameter: $3/4$ inch.
 - b. Longitudinal internal injection hole diameter: $1/4$ inch.
 - c. Discharge internal injection hole diameter: $1/8$ inch.

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- d. Injection hose to be field measured, cut and fabricated complete with reinforced PVC vent ends, color coded connecting nozzles, heat shrink-on sleeves and closure plugs, in strict accordance with the dimensions shown on the plans and as recommended by the manufacturer.
- e. Acceptable Manufacturers:
 - 1) Fuko Injection Hose, BBZ USA, Inc.
 - 2) Or Approved Equal.
2. Injection Material: Solvent free, low viscosity, two-part, water-swelling, acrylate-ester based injection resin.
 - a. Non-foaming and acrylamide free.
 - b. Increases volume 100 to 200 percent when in contact with water.
 - c. Swelling behavior reversible and not subject to aging.
 - d. Passive toward steel and harmless to bitumen, membranes and concrete.
 - e. Bonds well to moist surfaces.
 - f. Resistant to weak acids, salt solutions, oil, fats, hydrocarbons, alcohol, and alkali.
 - g. Acceptable Manufacturers:
 - 1) Duroseal Inject, BBZ USA, Inc.
 - 2) Or Approved Equal.
- I. Bentonite Waterstop: A specially formulated joint sealant which swells upon contact with water, and which will adhere to joint surfaces and itself. Provide waterstop in rope style configuration, approximately one inch square and packaged in continuous length coils. Material composition as follows:
 1. Butyl Rubber-Hydrocarbon; percent by weight of 24.9 when tested according to ASTM D297.
 2. Bentonite; 75 percent, conforming to SS-S-210A.
 3. Volatile Matter; one percent below the requirements of ASTM D6.
 4. Acceptable Manufacturers:
 - a. American Colloid Company; Waterstop RX.
 - b. Or Approved Equal.
- J. Surface Applied Waterstop: A specially formulated joint sealant which swells upon contact with water. Provide waterstop packaged in continuous length coils. Material composition as follows:
 1. Chloroprene rubber and chloroprene rubber modified to impart hydrophilic properties.
 2. Waterstop shall have a coating formulated to inhibit initial expansion due to moisture presence in the fresh concrete.
 3. Size: Dual extrusion design; 10 mm by 20 mm.
 4. Waterstop shall be secured to hardened concrete with the waterstop

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- manufacturer's standard adhesive binder.
- 5. Acceptable Manufacturers:
 - a. Greenstreak; Hydrotite VCJ.
 - b. ADECA; Ultraseal. Or equal.
- K. Curing Materials. Use curing materials that will not stain or affect concrete finish or lessen the concrete strength and comply with the following requirements:
 - 1. Burlap: Materials conforming to AASHTO M 182.
 - 2. Sheet Materials: Material conforming to ASTM C171.
 - 3. Liquid Membrane-Forming Curing Compound.
 - a. Use curing compounds which are nontoxic and free of taste, odor and complies with low V.O.C. requirements.
 - b. Where a finish material is to be applied over concrete with architectural finish, provide certification by the product manufacturer stating the curing compound as non-detrimental to the bond of the finish material.
 - c. Use material meeting the requirements of ASTM C309, Type 1.
 - d. Acceptable Manufacturers:
 - 1) L&M Cure; L&M Construction Chemicals, Inc.
 - 2) Masterkure 200W; Master Builders.
 - 3) Or Approved Equal.
- L. Chemical Hardener:
 - 1. Chemically reactive solution of inorganic siliceous materials formulated to harden and densify concrete surface.
 - a. Acceptable Manufacturers:
 - 1) ChemMasters - Chemisil Plus
 - 2) Or Approved Equal.
- M. Epoxy Bonding Compound: A high-modulus, low-viscosity, moisture-insensitive epoxy adhesive having the following properties:
 - 1. Compressive Properties, ASTM D695 at 28 days;
 - a. Compressive Strength: 8,000 psi. min.
 - 2. Tensile Properties, ASTM D638 at 14 days.
 - a. Tensile Strength: 4,000 psi. min.
 - b. Elongation at Break: One to three percent.
 - c. Modulus of Elasticity: 3×10^5 psi.

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3. Bond Strength, ASTM C882:
 - a. Plastic concrete to hardened concrete at 14 days (moist cure): 1,700 psi. min.
 4. Mixed epoxy resin adhesive shall conform to ASTM C881, Type II, Grade 2, Class B and C.
 5. Acceptable Manufacturers:
 - a. Sika Corporation; Sikadur 32 Hi-Mod.
 - b. Euclid Chemical Company; Euco Epoxy #452 MV or #620.
 - c. Or Approved Equal.
- N. Epoxy Adhesive (for grouting dowels): A high-modulus, moisture insensitive epoxy adhesive of thick (Gel) consistency having the following properties:
1. Compressive Properties, ASTM D695.
 - a. Compressive Strength: 10,000 psi. min. at 28 days.
 2. Tensile Properties, ASTM D638.
 - a. Tensile Strength: 3,000 psi. min. at 14 days.
 3. Bond Strength, ASTM C882, hardened concrete to hardened concrete:
 - a. 14 day, moist cure: 2,000 psi. min.
 4. Mixed epoxy resin adhesive shall conform to ASTM C881, Type I, Grade 3, Class B and C.
 5. Acceptable Manufacturers:
 - a. Sika Corporation; Sikadur 31 Hi-Mod Gel.
 - b. Euclid Chemical Company, Euco Epoxy #452 Gel or #620 Gel.
 - c. Or Approved Equal.

2.2 MIXES

- A. Selection of Proportions of Normal weight Concrete: ACI 211.1.
- B. Proportions of Ingredients: Establish proportions, including water cement ratio on the basis of either laboratory trial mixture tests or standard deviation analysis, with the materials specified herein.
 1. Laboratory Trial Mixture Test: ACI 301, Section 3.9 and ACI 318, Section 5.3.
 2. Standard Deviation Analysis: ACI 301, Section 3.9 and ACI 318, Section 5.3.
- C. Water-Cement Ratio:
 1. Class A Concrete shall have a maximum water-cement ratio of 0.45.

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2. Class B Concrete shall have a maximum water-cement ratio of 0.55.
 3. Proportion Class C Concrete to meet the strength requirement.
- D. Slump: Proportion and produce concrete to a slump as indicated below. The slump ranges apply when vibration is used to consolidate the concrete.

Types of Construction	Slump (inches)	
	Maximum*	Minimum
Reinforced foundation walls and footings	3	1
Plain footings, caissons, and substructure walls	3	1
Slabs, beams and reinforced walls	4	1
Building columns	4	1
Pavements and slabs-on-grade	3	1
Mass concrete	2	1

*May be increased 1 in. for methods of consolidation other than vibration.

1. Pumped concrete shall have a 5-inch maximum slump, measured prior to pumping.

2.3 ADMIXTURES

- A. Air Entraining: Provide air-entrained concrete for each concrete pour except where indicated otherwise on the Drawings or specified herein. Total air content required as follows:

Maximum-Size Coarse Aggregate,	Air Content Percent By Volume
1-1/2	5 ± 1
3/4 or 1	6 ± 1
3/8 or 1/2	7-1/2 ± 1

- B. Water-Reducing Admixture: Unless high temperatures occur or placing conditions dictate a change, use concrete containing a water-reducing admixture.
- C. Water-Reducing and Retarding Admixture: When high temperatures occur or placing conditions dictate, the water-reducing admixture (Type A) may be replaced with a water-reducing and retarding admixture (Type D). Notify the Engineer of such change and submit product data prior to placement of concrete.
- D. Water-Reducing and Accelerating Admixture: When low temperatures occur or placing conditions dictate, the water-reducing admixture (Type A) can be replaced with a water-reducing and accelerating admixture. Notify the Engineer of such change and submit product data prior to placement of concrete. Water-reducing and accelerating admixture (Type C and E) will not be permitted in concrete for water retaining structures.

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2.4 SOURCE QUALITY CONTROL

- A. General Requirement: Provide only Class A concrete in the project except for those cases where indicated otherwise on the Drawings or specified otherwise.
 - 1. Where in-ground encasement of piping is required, provide Class B concrete.
 - 2. Where in-ground encasement of conduit runs is required, provide Class B concrete.
- B. Classes of Concrete:
 - 1. Class A: 4,000 psi minimum compressive strength at 28 days; 564 pounds per cubic yard minimum cement content.
 - 2. Class B: 3,000 psi minimum compressive strength at 28 days; 517 pounds per cubic yard minimum cement content.
 - 3. Class C: 2,000 psi minimum compressive strength at 28 days; minimum cement content per cubic yard in accordance with current ready-mix plant standard practice.
- C. Specified Flexural Strength at 28 Days:
 - 1. Class A: 560 psi.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Site Verification of Conditions: Inspect work to receive cast-in-place concrete for deficiencies which would prevent proper execution of the finished work. Do not proceed with placing until such deficiencies are corrected to the satisfaction of the Engineer.

3.2 PREPARATION

- A. Joints and Embedded Items
 - 1. Construction Joints: Only the location of critical joints throughout the structures are indicated on the Drawings. Select additional joint locations in walls, slabs and beams subject to the Engineer's approval and meeting the following conditions:
 - a. Locate such joints to least impair the strength of the structure and near the middle of the span of structural slabs or beams.
 - b. The horizontal length between wall joints shall not exceed 30 feet in a continuous wall. At corners or other intersections of two or more walls, provide a joint in each wall at a distance less than 15 to 20 feet from the intersection point in all directions.
 - c. Space construction joints in structural slabs not greater than 30 feet in

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each direction, although some adjustments, as approved by the Engineer, may be permitted due to column spacing and details.

- d. If a beam intersects another beam at a proposed construction joint, offset the joint in the beam a distance equal to twice the width of the beam and provide adequate shear reinforcement as determined by the Engineer.
 - e. Maximum joint spacing for slabs-on-grade shall not be greater than 20 feet.
 - f. Provide waterstops in construction joints where such joints are exposed to liquids, in contact with earth, or subject to weather exposure.
 - g. Place walls and slabs in alternate sections allowing at least two days elapsed time for slabs and five days elapsed time for walls before concrete is placed against an adjacent vertical joint.
 - h. Submit requests for approval of joint locations ten days prior to scheduled concrete pours. Do not make concrete pours unless joint locations have been approved by the Engineer.
 - i. No exceptions permitted to the above requirements unless written approval is given by the Engineer.
2. Expansion Joints and Contraction Joints:
 - a. Install where indicated on the Contract Drawings.
 - b. Do not extend reinforcing or other embedded metal items through expansion and contraction joints except where indicated otherwise on Contract Drawings.
 - c. Provide waterstops in joints exposed to liquids, in contact with earth, or subject to weather exposure.
3. Bonding to New Concrete: Bond fresh concrete with hardened previously poured new concrete in accordance with the following:
 - a. Roughen and clean hardened concrete of foreign matter and laitance and dampen with water.
 - b. Cover the hardened concrete with a heavy coating of grout to approximately 1/2-inch thickness. Use grout of same material composition and proportions of concrete being poured except coarse aggregate omitted. Use grout with a slump of 6 inches minimum.
 - c. Place new concrete on grout before it has attained its initial set.
 - d. Other bonding methods must be approved by Engineer prior to use.
 4. Bonding to Existing Concrete: Roughen existing concrete in the area of bonding to produce exposed aggregate and an absolutely uncontaminated concrete surface.
 - a. Apply Epoxy Bonding Compound over existing prepared concrete in accordance with manufacturer's instructions.
 5. When concreting is to be discontinued for more than forty-five (45) minutes and if the construction plane is to be horizontal, install keyways, waterstops and

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embed dowels in the concrete before initial hardening. Use keyways and dowels in vertical concrete construction only when indicated or directed by the Engineer. Use waterstops for water retaining structures or structures below grade. Horizontal joints are not permitted in slabs or footings.

- a. Extend dowels placed in joint one splice length into wall and one splice length into next concrete pour.
6. PVC Waterstops:
 - a. Install in all joints where watertightness is required.
 - 1) Vinyl Waterstops:
 - a) Use ribbed-type waterstops of the following dimensions except as otherwise indicated on the Contract Drawings.
 - (1) Expansion joints in new construction: 9 inches wide by 3/8 inch thick, with center bulb.
 - (2) Contraction and construction joints: 6 inches wide by 3/8 inch thick; no center bulb.
 - b. Use continuous lengths without splices where possible.
 - c. Provide factory-formed and tested waterstop corners and intersections leaving only straight butt joint splice in the field.
 - d. Connect all adjoining waterstops including vertical and horizontal runs to provide a continuous water barrier.
 - e. Splices:
 - 1) Strength: Not less than 50 percent of the mechanical strength of the parent section.
 - 2) Watertightness: Make equal to that of continuous material.
 - 3) Heat seal adjacent surfaces in accordance with manufacturer's recommendations using a thermostatically controlled electric source of heat that provides sufficient heat to melt but not to char the material.
 - f. Adequately support waterstops to prevent displacement and deformity of the waterstops during concrete pours. Maintain two inch minimum clearance between waterstop and reinforcing steel.
 - g. Center waterstop on joint with one-half of waterstop width to be embedded in concrete on each side of joint. At expansion joints, keep center bulb unembedded.
 - h. In substructures and other structures required to be watertight, install waterstops if concreting is discontinued for a sufficient length of time which, in the opinion of the Engineer, may result in seepage cracks in concrete.
 7. Application of Paste and Gasket Waterstop

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- a. Install only in joints designated on the Contract Drawings.
 - b. Provide continuous strip of paste along existing concrete section with an overlap of not less than 2 inches.
 - c. Use paste strip which is minimum $3/4" \times 3/4"$ and place no closer than 3 inches from edge.
 - d. Apply gasket to paste according to manufacturer's recommendations.
8. Bentonite Waterstop: Install as recommended by the manufacturer at locations designated on the Drawings.
9. Surface Applied Waterstop Installation: Install surface applied waterstop at such location where indicated on the Drawings.
 - a. Install the waterstop in strict accordance with the manufacturer's installation instructions and with respect to the environmental requirements specified therein and substrate preparation.
10. Embedded Pipes and Conduits: Material not harmful to concrete may be permitted to be embedded in concrete upon approval by the Engineer. Items embedded shall satisfy the following:
 - a. Maximum outside dimension not greater than one-third the overall thickness of the member in which it is embedded.
 - b. Minimum spacing between items not less than 3 widths on center nor 3 inches clear between items.
 - c. Item shall not impair strength of member.
 - d. Provide 2 inch minimum clearance to face of slab.
11. Anchoring Reinforcement Dowels into Existing Concrete.
 - a. Drill holes for each dowel to the size and depth indicated on the Drawings with carbide tip bit or star bit. core drilling will not be permitted. Do not drill into or cut or otherwise damage existing reinforcement bars. If existing reinforcement bars are encountered during the drilling operation, relocate the hole to clear the existing reinforcement as directed by the Engineer.
 - b. Blow clean each finished hole with an oil free air jet and then flush with a jet of clean water.
 - c. Immediately prior to the grouting operation, remove all water from the hole and from the walls of the hole.
 - d. Mix and place the epoxy adhesive completely around the dowel bar in strict accordance with the manufacturer's recommendations, with particular attention given to manufacturer's specified time limit within which the material must be placed after mixing. Do not retemper grout that has begun to stiffen; discard such grout.

3.3 CONSTRUCTION

A. Production of Concrete

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1. Ready-Mixed Concrete:
 - a. Batched, mixed and transported in accordance with ASTM C94.
 - b. Add admixtures to the mix in accordance with ACI 301.
 - c. Plant equipment and facilities conforming to the "Check List for Certification of Ready Mixed Concrete Production Facilities" of the National Ready Mixed Concrete Association.

B. Placing

1. General: Conduct placement work in accordance with ACI 304R and such additional requirements as specified herein.
 - a. Complete discharge of the concrete within 1.5 hours or before the mixing drum has revolved 300 revolutions, whichever comes first, after the introduction of the mixing water to the cement and aggregates or the introduction of the cement to the aggregates.
2. Preparation:
 - a. Prepare formwork in advance and remove snow, ice, water and debris from within forms.
 - b. Pre-position reinforcement in advance of concrete pours.
 - c. Pre-position waterstops, expansion joint materials, anchors and embedded items in advance of concrete pours.
 - d. Sprinkle subgrades sufficiently to eliminate water loss from concrete in accordance with ACI 301 Chapter 11.
 - e. Do not place concrete on frozen surfaces.
3. Conveying:
 - a. Handle concrete from mixer to final deposit rapidly by methods which will prevent segregation or loss of ingredients to maintain required quality of concrete.
 - b. Do not convey concrete through aluminum or aluminum alloy.
 - c. Do not place concrete by pumps or other similar devices without prior written approval of the Engineer.
 - d. Placing concrete by pumping methods shall conform to the applicable requirements of ACI 304R, Chapter 9, and ACI 304R.2.
4. Depositing:
 - a. Do not drop concrete freely where reinforcing will cause segregation, nor more than four (4) feet.
 - b. Deposit concrete in approximately horizontal layers of 12 to 18 inches.
 - c. Do not allow concrete to flow laterally more than three feet. Place concrete at such a rate that concrete which is being integrated with fresh concrete

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is still plastic.

- d. Do not deposit concrete on concrete which has hardened sufficiently to cause the formation of seams or planes of weakness within sections.
- e. Do not use concrete which has partially hardened or has been contaminated by foreign materials.
- f. Do not subject concrete to procedures which will cause segregation.
- g. Do not place concrete in forms containing standing water.
- h. Make placement within sections continuously to produce monolithic unit.
- i. Do not begin placement of concrete in beams or slabs until concrete previously placed in walls or columns have attained initial set.
- j. Do not bend reinforcement out of position when placing concrete.

5. Consolidation:

- a. Consolidate concrete by vibration, spading, rodding or other manual methods. Work concrete around reinforcement, embedded items and into corners; eliminate all air or stone pockets and other causes of honeycombing, pitting or planes of weakness.
- b. Use vibration equipment of internal type and not the type attached to forms and reinforcement.
- c. Use vibrators capable of transmitting vibration to concrete in frequencies sufficient to provide satisfactory consolidation.
- d. Do not leave vibrators in one spot long enough to cause segregation. Remove concrete segregated by vibrator operation.
- e. Do not use vibrators to spread concrete.
- f. Have sufficient reserve vibration equipment to guard against shutdown of work occasioned by failure of equipment in operation.

6. Cold Weather Concreting: Perform cold weather concrete work in accordance with ACI 306R and the following additional requirements.

- a. Provide concrete delivered at the job-site in accordance with the following temperature limitations:

Air Temperature Degrees F.	Minimum Concrete Temperature, Degrees F.	
	For Sections With Least Dimension Less Than 12	For Sections With Least Dimension 12 Inches or
30 to 45	60	55
0 to 30	65	60

- b. Provide equipment for heating concrete materials and protecting concrete during freezing or near-freezing weather.
- c. Maintain concrete at temperatures listed in Table 1.4.1 of ACI 306R as follows, after the concrete has developed a compressive strength of 500 psi:
 - 1) slab-on-grade: 2 days.
 - 2) walls and supported slabs: 3 days.

SECTION 033000 – CAST-IN-PLACE CONCRETE

- d. If the strength is not achieved, maintain the minimum temperature an additional 24 hours or until the 500 psi strength is reached.
 - e. Make additional concrete cylinders to verify strength achievement of 500 psi; however, additional cylinders are not required for every pour, provided concrete temperatures are maintained fairly uniform. Once two sets of cylinders have been broken and a strength of 500 psi is achieved, additional cylinders will not be required, except for random testing as determined by the Engineer.
 - f. Remove temperature protection after 500 psi is achieved, but in a manner so thermal shock does not occur to the exposed concrete. The removal criteria shall be as stated in ACI 306R.
 - g. Leave housing, covering, or other protection used in curing intact at least 24 hours after artificial heating is discontinued.
 - h. Surfaces with which the concrete is to come in contact must be free of frost, snow and ice. Subgrade shall be free of frost. Do not place concrete around any embedment which has a temperature below freezing.
 - i. If water or aggregate is heated above 100 degrees F, combine water with aggregate in the mixer before cement is added. Do not mix cement with water or with mixtures of water and aggregate having a temperature greater than 100 degrees F.
 - j. Provide equipment for heating concrete materials and protecting concrete during freezing or near-freezing weather. Do not use foreign materials or materials containing snow or ice.
 - k. Surfaces with which the concrete is to come in contact with must be free of frost, snow and ice.
7. Hot Weather Concreting: Perform hot weather concrete work in accordance with ACI 305R and the following additional requirements.
- a. Temperature of concrete delivered at the job-site shall not exceed 90 degrees F.
 - b. Cool ingredients before mixing to prevent temperature in excess of 90 degrees F.
 - c. Make provisions for windbreaks, shading, fog spraying, sprinkling or wet cover when necessary.

C. Finishing:

- 1. General: Finish concrete in the various specified manners either to remain as natural concrete or to receive an additional applied finish or material
- 2. Concrete slabs shall be tested for flatness and drainage in accordance with the requirements of this Section. There shall be no depressions within a ten (10) foot straightedge, in any direction, which shall hold water. All concrete slabs shall drain in the directions of their slopes and shall not hold water. Slabs which hold water shall be removed and reinstalled to drain correctly
- 3. Finishing Tolerances for Slabs

SECTION 033000 – CAST-IN-PLACE CONCRETE

- a. F-number finishing tolerances:
 - 1) Finish surfaces to tolerances specified in the following paragraphs, measured according to ASTM E1155 for a randomly trafficked floor surface. Measure preferably within 24 hours, but not more than 72 hours, of concrete placement and while floor remains shored. Test area corresponding to Specified Overall Values shall be defined as an entire floor at any given elevation. Test area corresponding to Minimum Local Values shall be defined as an individual floor section measurement.
 - 2) Locations: All floor slabs: No slab areas shall hold water.
 - a) Specified Overall F-numbers: Flatness Ff=25, Levelness Fl=20.
 - b) Minimum Local F-number: Flatness Ff=17, Levelness Fl=15.
 - b. Correct unacceptable slab tolerances by re-floating, grinding or leveling to achieve specified surface tolerances.
 - c. Use highway straightedge to re-straighten slabs. Do not use bull floats.
 - d. Measure before removing shores.
- 4. Concrete slabs shall be tested for flatness and drainage in accordance with the requirements of this Section. There shall be no depressions within a ten (10) foot straightedge, in any direction, which shall hold water. All concrete slabs shall drain in the directions of their slopes and shall not hold water. Slabs which hold water shall be removed and reinstalled to drain correctly
 - 5. Formed Surfaces: Provide one or more of the following finishes to the surfaces of the concrete after removal of forms. The locations where these finishes are required are listed herein or specified on the Drawings. Allowable surface irregularities are designed as either "abrupt" or "gradual". Check gradual irregularities using 5-foot straightedges.
 - a. "Rough Form" finish: Surface may include roughness and irregularities not to exceed 1/2 inch, but tie holes and defects shall be patched.
 - b. "Ordinary Wall" finish: Surface that is true and uniform without any conspicuous offsets or bulges. Gradual irregularities not to exceed 1/2 inch and abrupt irregularities not to exceed 1/4 inch.
 - c. "Plywood" finish: Similar to the ordinary wall finish. Construct the surface of the forms using 5/8-inch plywood or boards lined with tempered hardboard not less than 3/16 inch thick. Place the plywood or liner sheets in an orderly and symmetrical arrangement using sheets as large as practicable. Do not use sheets showing torn grain, worn edges, patches of holes from previous use, or other defects which will impair the texture of the concrete surfaces. Remove gradual irregularities exceeding 1/2 inch and abrupt irregularities exceeding 1/8 inch. Completely remove all fins on the surface. Rub all surfaces which cannot meet these requirements.
 - d. "Rubbed" finish: Apply to a freshly hardened "plywood" finish. Complete rubbing within one day of removal of forms. Wet surfaces and rub with a carborundum brick or other abrasive until all form marks, projections and

SECTION 033000 – CAST-IN-PLACE CONCRETE

irregularities have been removed and a smooth uniform surface, texture, and color are produced. Wash the surface clean after rubbing.

6. Unformed Surfaces: In concrete having unformed surfaces, use just sufficient mortar to avoid the necessity for excessive floating. Slope exposed unformed surfaces to provide quick, positive drainage and to avoid puddles in low spots. Unless otherwise noted, set floor drains 1/2 inch below the normal floor elevation and slope floor toward the drain. Slope all surfaces exposed to weather 1/4 inch per foot for drainage unless noted otherwise on Drawings.
 - a. "Floated" Finish: After concrete has been placed, consolidated, struck off and leveled, do not work further until ready for floating. Begin floating when water sheen has disappeared and when the surface has stiffened sufficiently to permit the operation. During or after first floating, check planeness of surface with a ten foot straightedge applied at not less than two different angles. Cut down high spots and fill low spots during this procedure to produce a surface with true planes within 1/4 inch in ten feet as determined by a ten-foot straightedge placed anywhere on the slab in any direction. Following straightedge checking, refloat slab immediately to a uniform sandy texture.
 - b. "Steel Trowel" Finish: Obtained by working a floated finish with a steel trowel. First troweling shall produce a smooth surface which is relatively free of defects but which may still show some trowel marks. Perform additional troweling by hand after the surface has hardened sufficiently. Perform final troweling when a ringing sound is produced as the trowel is moved over the surface. Thoroughly consolidate surface by hand trowel operations. Produce finished surface essentially free of trowel marks, uniform in texture and appearance, with true planes within 1/4 inch in ten feet, as determined by a ten-foot straightedge placed anywhere on the slab in any direction.
 - c. "Broom or Belt" Finish: Immediately after concrete has received a floated finish, give surface a coarse transverse scored texture by drawing a broom or burlap across the surface.
 - d. "Nonslip" Finish: The surfaces shall be given a "dry shake" application of non-slip aggregate surfacer. The rate of application of such material not to be less than 25 pounds per 100 square feet.

1) Apply in accordance with manufacturer's recommendations.

7. Special Finishes:

- a. Deck Finish: Power or single hand troweling of slab surface followed by a light hair broom drawn across the slab to produce fine shallow scored texture.
- b. Architectural Finishes. Special finishes such as Vinyl Asbestos Tile, Quarry Tile, Ceramic Tile, or other, when used, shall be as specified herein or on the Drawings.

SECTION 033000 – CAST-IN-PLACE CONCRETE

- c. Application for Finishes: Except where the type of finish is indicated on the drawings or under "Special Finish", all concrete surfaces shall be finished as indicated below.
- d. "Rough Form" Finish:
 - 1) All surfaces to be covered by earth and not exposed to view.
- e. "Ordinary Wall" Finish:
 - 1) Interior and exterior wall and slab surfaces not exposed to view.
 - 2) Inside vertical surfaces of tank type structures below an elevation which is 18 inches below normal water surface.
 - 3) Interior walls of filters below an elevation which is 6 inches below the filter media.
 - 4) All wall and overhead surfaces of pump station, clearwell and mudwell.
 - 5) Undersides of slabs which will be covered by architectural ceilings.
- f. "Plywood" Finish:
 - 1) All surfaces to be painted.
- g. "Rubbed" Finish:
 - 1) All interior and exterior surfaces exposed to view which are not to be painted.
 - 2) All exterior surfaces to a point 6 inches below finished ground.
 - 3) Inside vertical surfaces of tank type structures above an elevation which is 18 inches below normal water surface.
 - 4) Interior walls of filters above an elevation which is 6 inches below filter media.
 - 5) Equipment pads, pipe supports, etc.
- h. "Floated" Finish:
 - 1) All unformed surfaces unless otherwise specified.
- i. "Steel Trowel" Finish:
 - 1) Interior floors of structures except where Architectural Finish is to be applied.
 - 2) Interior stair treads.
 - 3) Tops of exposed walls.
 - 4) Floors of clearwells and basins.
- j. "Broom or Belt" Finish:
 - 1) Sidewalks, exterior ramps and platforms.
 - 2) Unloading dock platform.

SECTION 033000 – CAST-IN-PLACE CONCRETE

- 3) Walkways on the process tanks.
- k. "Nonslip" Finish:
 - 1) Exterior stair treads and landings.
- l. Architectural Finishes:
 - 1) As specifically called for in these Specifications or on the Drawings.
- m. "Secondary Containment Area" Finish:
 - 1) In accordance with Section 09967.
- n. Application of Chemical Hardener: Apply to floor surfaces as scheduled on Drawings. Concrete must be a minimum of twenty-eight (28) days old and cured by water or sheet material curing methods.
- o. Concrete surfaces must be clean, dry and free of residues, oil, wax, sealers, curing compounds, laitance or other contaminants in order to promote maximum penetration of hardener.
- p. Apply hardener in two applications in accordance with hardener manufacturer's instructions and by such methods as stated in instructions.
- q. Application: Mechanical scrubbers, equipped with brushes are the preferred method of application for the first coat.
- r. Pour chemical hardener directly from the container onto the surface to be treated, maintaining an application rate of 200 square ft. per gallon. Scrub chemical hardener into the surface for 15-20 minutes, working all areas evenly.
- s. Apply second coat using sprayers or rollers in accordance with manufacturer's instructions.

3.4 PROTECTION

- A. General: Immediately after placement and finishing, protect concrete from premature drying, excessive hot or cold temperatures and mechanical injury. Perform curing by either water curing, sheet form curing or liquid membrane forming methods in accordance with ACI 308. Cure concrete continuously for a minimum of seven days at ambient temperatures above 40 degrees F.
- B. Hot Weather Curing: See Hot Weather Concreting this Section.
- C. Cold Weather Curing: See Cold Weather Concreting this Section.
- D. Application of Liquid Membrane-Forming Curing Compound: Compound shall restrict the loss of water to not more than 0.039 g/cm^2 of surface in 72 hours when tested in accordance with ASTM C156 at the coverage rate recommended by the manufacturer.
 - 1. Submit letter from manufacturer stating coverage rate to meet this restriction in loss of water.

SECTION 033000 – CAST-IN-PLACE CONCRETE

2. Finishing operations must be completed prior to application. Apply compound as soon as the free water on the surface disappears and no water sheen is visible. Surface shall be capable of taking walking workmen without being marred. Apply compound in two (2) applications.
 3. Do not apply curing compound to construction joint surfaces. Protect exposed reinforcement during application of curing compound. Water cure those areas not coated with compound.
 4. Do not use liquid membrane-forming curing compound when the ambient air temperature during placement and for 24 hours after placement is or will fall below 35 degrees F.
 5. Do not use liquid membrane-forming curing compounds on concrete surfaces which will receive later treatments, such as hardeners, special finishes, protective coating, damp proofing, waterproofing, future grout, grout fill or coatings.
- E. Curing of surfaces to receive Membrane Waterproofing shall be controlled by water fog spraying, water damped coverings, and/or impermeable sheet film cover for the full 7-day period specified above. All concrete surfaces shall have a minimum cure of 28 days before application of the membrane. The use of liquid membrane-forming curing compounds on these surfaces is prohibited.
- F. Finished surfaces and slabs shall be protected from the direct rays of the sun to prevent checking and crazing.

3.5 FIELD QUALITY CONTROL

- A. Testing and Inspection:
1. During the entire period when concrete is being placed, provide testing services by an independent testing laboratory at no cost to the Owner.
 2. The Engineer reserves the right to make any and all tests as he deems necessary during the progress of the work.
 3. Failure of the independent testing laboratory or the Engineer to detect defective work will not prevent rejection when defect is later discovered, nor will it obligate the Engineer for final acceptance.
 4. The Independent Testing Laboratory shall:
 - a. Obtain composite samples in accordance with ASTM C172.
 - b. Mold and cure three test specimens for each strength test in accordance with ASTM C31 and as follows:
 - 1) Concrete compression test: Use standard 6 inch × 12 inch cylinders.
 - 2) Concrete flexural strength: Use 6 inch × 6 inch × 12 inch beams.
 - 3) Identify each test by number, mix, amount of admixture, origin of sample in the structure, the date the test specimen was made, the date the test specimen was tested, the amount of slump determined, and the compressive and flexural strength test results.
 - 4) Test Methods:
 - a) Compressive strength test: ASTM C39.
 - b) Flexural strength test: ASTM C78.

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- c) Test one specimen at 7 days for information and test two specimens at 28 days for acceptance. A strength test is the average of the strengths of the two cylinders tested at 28 days.
 - d) Perform one strength test for each 50 cu. yds. of concrete poured, unless waived by the Engineer, but not less than one test for each structure.
 - c. Make slump tests for each truck load upon truck arrival at the job-site and whenever consistency of concrete appears to vary in accordance with ASTM C143.
 - d. Make air content tests for each truck load upon truck arrival at the job-site in accordance with ASTM C231 or ASTM C173.
 - e. Prepare and submit all reports required in the various standards and specifications referenced herein.
 - 1) Distribution of reports shall be:
 - a) Two copies to the Engineer.
 - b) One or more copies, as required, to the Contractor.
 - f. Immediately notify the Contractor and the Engineer of any test results which do not conform to the Specification requirements.
- B. Evaluation and Acceptance:
- 1. The strength level of the concrete will be considered satisfactory if the averages of all sets of three consecutive strength tests equal or exceed specified strength and no individual strength test result is below specified strength by more than 500 psi.
 - 2. If the concrete fails to meet the specified strength requirements the Engineer may require one or both of the following:
 - a. The Engineer shall have the right to order a change in the mix proportions for the remaining concrete being poured.
 - b. The Engineer may order tests on the in-place concrete. Testing shall be in accordance with ACI 301 at no increase in contract price.

3.6 REPAIR/RESTORATION

A. Defective Concrete

- 1. Porous areas, open or porous construction joints and honeycombed concrete will be considered to indicate that the requirements for mixing, placing and handling have not been complied with and will be sufficient cause for rejection of the members of the structure thus affected.
- 2. Defective work exposed upon removal of forms shall be entirely removed or repaired within forty-eight hours after forms have been removed.
- 3. Repaired areas will not be accepted if:

SECTION 033000 – CAST-IN-PLACE CONCRETE

- a. The structural requirements have been impaired by reducing the net section of compression members
 - b. The bond between the steel and concrete has been reduced
 - c. The area is not finished to conform in every respect to the texture, contour, and color of the surrounding concrete.
4. If the above requirements are not satisfied or if there are excessive honeycombs or other defects, the Engineer may require that the members of unit involved be entirely removed and satisfactorily replaced at no additional expense to the Owner.
5. The Engineer will determine the extent and manner of action to be taken for the correction of defective concrete as may be revealed by surface defects or otherwise.
 - a. Prior to repair of structural defects or defects which impair watertightness (shrinkage cracks, etc.), submit proposed material and repair methods to the Engineer for approval.
6. As soon as the forms have been stripped and the concrete surfaces exposed, remove fins and other projections, fill recesses left by the removal of form ties, and repair surface defects which do not impair structural strength. Clean all exposed concrete surfaces and adjoining work stained by leakage of concrete to the satisfaction of the Engineer.
7. Hammer pack tie holes and other small cavities with a stiff mortar of the same material, but somewhat leaner than that in the concrete. Clean the cavity and the area wetted before mortar is placed.
8. Repair and patch defective areas with cement mortar of mix proportions and materials identical to those used in the surrounding concrete. Produce a finish on the patch that is indistinguishable from the surrounding concrete.
9. Where the honeycomb or voids are not excessive and repairs are authorized by the Engineer, chip out the defective areas in a square shape to sound solid concrete with a depth not less than 2 inches. Make edges of cuts perpendicular to concrete surface or slightly undercut to provide a key at the edge of the patch. Before placing cement mortar, thoroughly clean, dampen and brush coat area to be patched with neat cement grout. Other patching materials may be used if accepted by Engineer in writing prior to start of repair work. The patch should be kept damp for seven days at a temperature above 50 degrees F.

END OF SECTION

SECTION 033000 – CAST-IN-PLACE CONCRETE

SECTION 033000 – CAST-IN-PLACE CONCRETE

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SECTION 432441 – OPEN SCREW PUMPS

PART 1 - GENERAL

This specification includes work to remove, replace and startup two existing wastewater screw pumps, with coordination to maintain one in operation at all times. Work includes removal, in sequence, of one pump at a time, of the pumps which operate with the clarifiers located at the Inc. Village of Greenport, Moore's Lane sanitary sewage treatment plant. The Owner has purchased the new pumps and hardware, and manufacturers technician site visits as listed herein. Contractor shall supply coordination, labor, cranes, hoists, hardware, tools, concrete, grout, electrical reconnection and miscellaneous appurtenances to result in a complete and fully functional installation.

1.1 SECTION INCLUDES

- A. Open Screw Pumps and installation hardware, furnished by Owner.
- B. Coordination with Manufacturer's field technicians for installation and adjustment.
- C. Startup, testing, and demonstration.

1.2 REFERENCES

- A. AISC - American Institute of Steel Construction.
- B. ANSI/NFPA 70 - National Electric Code.
- C. ASME - American Society of Mechanical Engineers.
- D. ASTM A666 - Austenitic Stainless Steel, Sheet, Strip, Plate and Flat Bar.
- E. ASTM B209 - Aluminum and Aluminum-Alloy Sheet and Plate.
- F. NEMA MG1 - Motors and Generators.

1.3 SYSTEM DESCRIPTION

- A. Open Screw Pump: Archimedean screw pump for high efficiency, low speed, low head lift of wastewater, with bearings, bearing lubrication grease system, drive train, motor, and mounting brackets.
- B. Motor Drives: Base mounted, shaft drive.
- C. Bearing Assemblies: grease lubricated with separate grease pumps and grease feed lines; upper 4.5", lower 3".
- D. Pump Trough: Concrete, corners and fillets poured to loose tolerance to moving pump lift screw; concrete grout final finish to close tolerance (1/4 inch).

SECTION 432441 – OPEN SCREW PUMPS

- E. Fiberglass Trough Cover Panels: Reutilize existing.

1.4 DESIGN REQUIREMENTS

- A. The extent of Owner supplied materials are detailed in the attached manufacturers literature.
- B. The Owner has purchased 64 hours of Manufacturers Field Technician time to support installation efforts by Contractor. If additional time is required to complete the installation, it shall be paid for by the Contractor at no additional cost to the Owner.
- C. Contractor shall furnish all necessary field equipment, materials and labor to accomplish installation of pumps under Manufacturer's direction and approval

1.5 PERFORMANCE REQUIREMENTS

- A. Flow Rate: 1,300 gpm (each pump).
- B. Lift: 16'.
- C. Slope: 38 degrees.
- D. Pump Screw: Diameter - 30" (nominal), Length – 27.85' (flights).
- E. Screw Weight: 3,800 pounds (without stub shafts).
- F. Motor: 10 HP.
- G. Drive Output: 55 RPM.

1.6 SUBMITTALS

- A. Submit shop drawings, operation and maintenance manuals, and safety plan in accordance with the "Supplementary Conditions" portion of this specification.
- B. Product Data: Manufacturers data is attached. Submit for additional materials utilized.
- C. Shop Drawings: Indicate pertinent dimensions, plan layout of equipment, attachment and mounting details, required clearances, power requirements and wiring diagrams. Indicate concrete and grouting locations and characteristics.
- D. Manufacturer's Instructions: Indicate special procedures and conditions required for proper installation. Submit Manufacturers written approval of conditions and equipment for each stage of installation.

1.7 OPERATION AND MAINTENANCE DATA

- A. Submit under provisions of the "Supplementary Conditions" portion of this specification.

SECTION 432441 – OPEN SCREW PUMPS

- B. Maintenance Data: Indicate types and methods of lubrication, cleaning schedules, spare parts list and names of local parts suppliers.

1.8 QUALITY ASSURANCE

- A. Owner's Observation: Notify Owner in advance of completion of each stage of installation. Facilitate Owner's inspection.

1.9 DELIVERY, STORAGE AND HANDLING

- A. Pump components are stored on site. Keep secure during construction period.
- B. Store and handle products to the site in strict compliance with manufacturers written instructions and recommendations, and under provisions of the "Division 1" portion of this specification.
- C. Leave protective coverings in place just prior to installation.
- D. Protect from damage due to weather, excessive temperature, and construction operations.
- E. Store new components and components to be reutilized, on smooth surfaces, free from dirt, mud and debris.
- F. Handle components with forklifts, hoists and manufacturer's recommended equipment during transportation and site construction. Protect components from damage during storage, movement and during installation.

1.10 COORDINATION

- A. Coordinate work under provisions of the "Division 1" portion of this specification.
- B. Perform system installation, inspection, start-up and testing with direction of manufacturer's field representatives.

1.11 WARRANTY

- A. Manufacturer's Warranty: Manufacturer's field representatives shall witness and approve Contractor's work, and shall provide manufacturer's standard limited warranty against defects in materials and workmanship and shall approve in writing the performance of the completed installation.
- B. Warranty shall be given by the contractor that all workmanship and materials used in the construction and installation shall be of the highest quality in all respects and that any part or parts which prove defective within one year from the final acceptance date,

SECTION 432441 – OPEN SCREW PUMPS

due to defects in workmanship or materials, shall be removed and replaced with new parts free of charge.

- C. It shall be the responsibility of the contractor to repair any and all damage to the equipment that may be caused by any reason other than the negligence of the Owner, up to the time of final acceptance.

PART 2 - PRODUCTS

2.1 MANUFACTURER

- A. Lakeside Equipment Corporation; Bartlett, Illinois.

2.2 COMPONENTS

- A. Open Screw Pump: as per attached manufacturer's literature.
- B. Motor and Drive: as per attached manufacturer's literature.
- C. Mounting Hardware: as per attached manufacturer's literature.
- D. Grease pump and motor: as per attached manufacturer's literature.
- E. Lubrication Tubing: furnished by Contractor.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify existing site conditions and substrate under provisions of Section 013100.
- B. Verify location proposed for crane or hoist to disassemble the existing pump components and install the new pump components, and coordinate for site access to minimize interference to Owner and other contracts.
- C. Owner will remove existing pumps from service, one at a time, to allow inspection of existing pumps. Contractor to provide and operate trash pump to fully drain pump inlet chamber.

SECTION 432441 – OPEN SCREW PUMPS

3.2 COORDINATION

- A. Maintain availability of each pump system for Owner's use to the maximum extent possible.
- B. Schedule and perform disassembly, cleaning, inspection, and reinstallation work for each pump unit in sequence and to the convenience of Owner.
- C. Complete work and return pump system to operation for Owner's use prior to removing other pump unit from service.
- D. Store dismantled pump components in location convenient to Owner and dispose of off-site.

3.3 CLEANING

- A. Fully drain pump inlet chamber in coordination with Owner. Power wash existing pump, pump tube, inlet chamber and pump bearings to allow thorough and convenient inspection.
- B. Remove all liquids and solids using pumps, vacuum truck, and manual tools as required and directed. Prevent damage to pump system components and mounting areas. Report on volumes of materials removed and dispose of as directed.
- C. Document conditions at completion of cleaning with digital photographs, and notify Owner and Engineer of any factors that may impact existing pump removal or new pump installation.
- D. Provide recommendations for method of pump removal; concrete and grout repair, if required; and pump reinstallation.

3.4 INSTALLATION

- A. Remove all existing pump components following the instructions of manufacturer's field representatives, and in accordance with approved shop drawings.
- B. Repair pump tube surface to restore close tolerance to new pump screw flights; replace lubrication system grease tubing for use with new bearings.
- C. Install all new pump and related components following the instructions of manufacturer's field representatives and in accordance with approved shop drawings.
- D. Reconnect pump and grease pump motors and verify proper function under supervision of manufacturer's field representatives, and coordinate with Owner for entry of water to pump suction chamber.
- E. Verify operation, test pump capacity, and demonstrate operation to Owner.

SECTION 432441 – OPEN SCREW PUMPS

3.5 FIELD QUALITY CONTROL

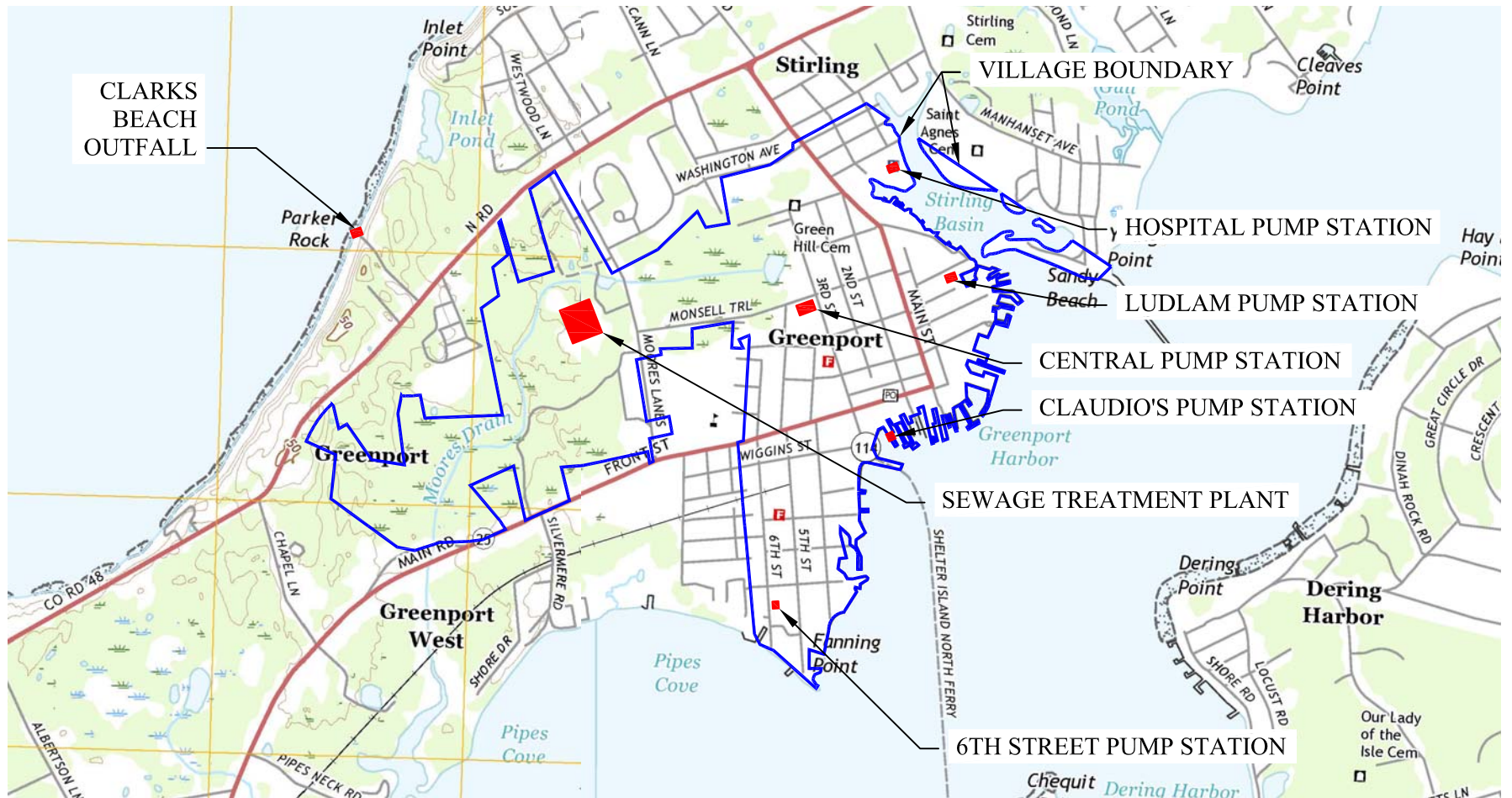
- A. Manufacturer's representative to supervise proper replacement of pump, bearings, bearing lubrication system, drive and motor, and testing of equipment.
- B. Field inspection and testing will be performed under provisions of Section 017900.
- C. If tests indicate work does not meet specified requirements, remove work, replace and retest at no cost to Owner.

3.6 PERFORMANCE TESTING

- A. Coordinate schedule for startup of various equipment and systems. Notify Owner two (2) days prior to startup for each item.
- B. Verify that each piece of equipment or system has been checked for proper placement and operation.

END OF SECTION 432441

FIGURES

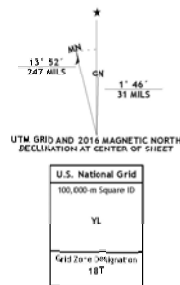


Produced by the United States Geological Survey
North American Datum of 1983 (NAD83)
World Geodetic System of 1984 (WGS84). Projection and
1 000-meter grid: Universal Transverse Mercator, Zone 18T
10 000-foot ticks: New York Coordinate System of 1983 (long
island zone)

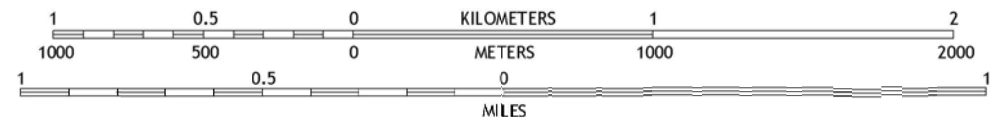
This map is not a legal document. Boundaries may be
generalized for this map scale. Private lands within government
reservations may not be shown. Obtain permission before
entering private lands.

Imagery.....NAIP, June 2013
Roads.....U.S. Census Bureau, 2015 - 2016
Names.....GNIS, 2016
Hydrography.....National Hydrography Dataset, 2013
Contours.....National Elevation Dataset, 2015
Boundaries.....Multiple sources; see metadata file 1972 - 2016

Wetlands.....FWS National Wetlands Inventory 1977 - 2014



SCALE 1:24 000



PREPARED BY:



J.R. HOLZMACHER P.E., LLC

*The Third Generation of Excellence
In Water Supply, Water Resources,
Civil and Environmental Engineering*

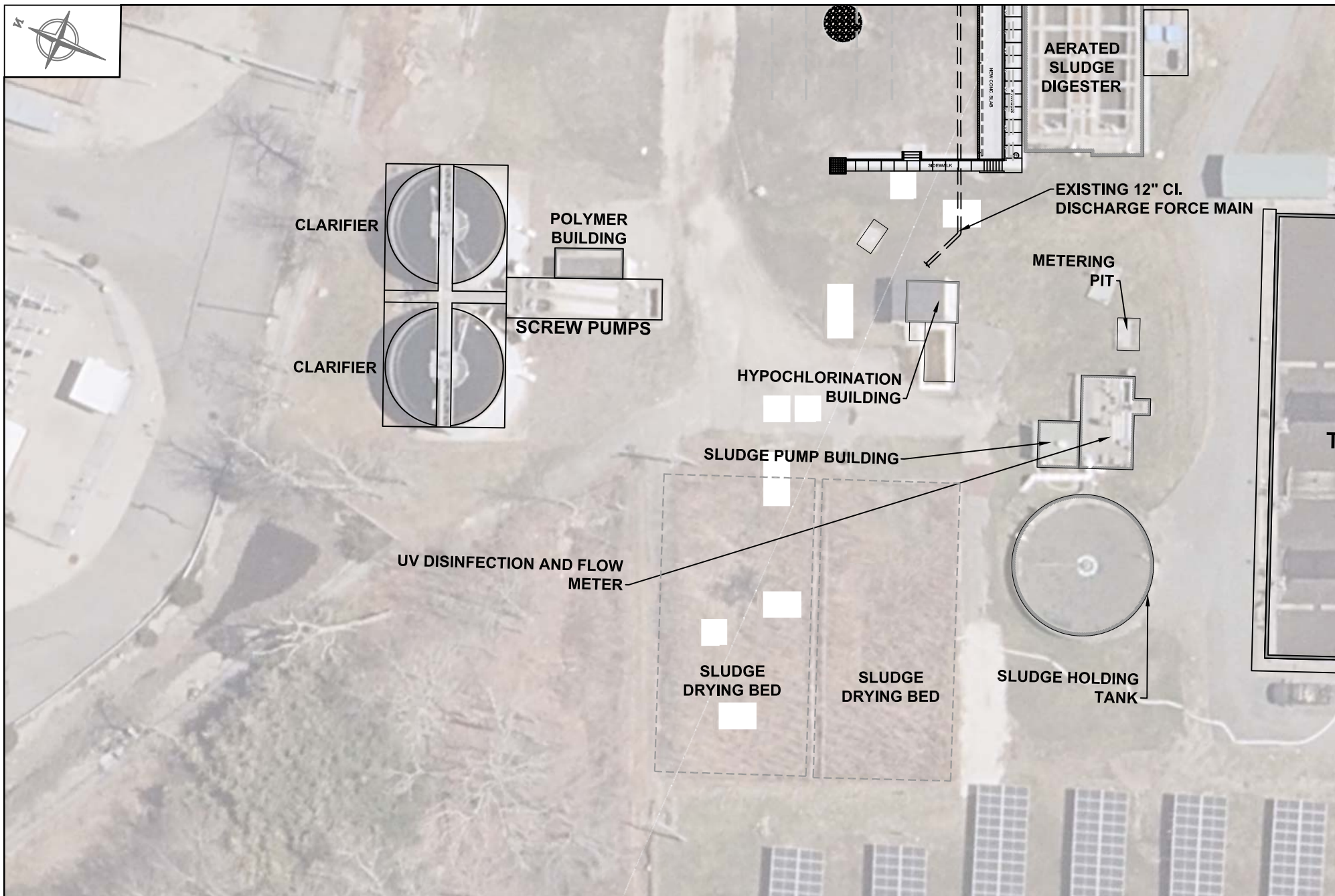
3555 VETERANS MEMORIAL HIGHWAY,
SUITE A, RONKONKOMA, NY 11779
PHONE # (631) 234-2220 FAX # (631) 234-2221
E-MAIL: info@holzmacher.com

TITLE:

Pump Station Locations

Inc. Village of Greenport, NY
SANITARY WASTEWATER SYSTEM CAPITAL
IMPROVEMENTS AND RENOVATION

DWN: DC	SCALE: As Shown	DATE: 12-5-2024	PROJECT NO.: GrptV24-04
CHKD: JRH	APPD: JRH	REV.: -	NOTES: -
FIGURE NO.:			1



PREPARED BY:		J.R. HOLZMACHER P.E., LLC		TITLE:		DWN:		SCALE:		DATE:		PROJECT NO.:	
		<i>The Third Generation of Excellence In Water Supply, Water Resources, Civil and Environmental Engineering</i>		Sewage Treatment Plant Site Plan		DC		1"=40'		12-5-2024		GrptV24-04	
		3555 VETERANS MEMORIAL HIGHWAY, SUITE A, RONKONKOMA, NY 11779		Inc. Village of Greenport, NY		CHKD:		APPD:		REV.:		NOTES:	
		PHONE # (631) 234-2220 FAX # (631) 234-2221		SANITARY WASTEWATER SYSTEM CAPITAL		JRHH		JRHH		-		-	
		E-MAIL: info@holzmacher.com		IMPROVEMENTS AND RENOVATION		FIGURE NO.:				2			

APPENDIX A
NYS PREVAILING WAGE RATE SCHEDULE



Kathy Hochul, Governor

Roberta Reardon, Commissioner

Village of Greenport

James Holzmacher
3555 VETERANS MEMORIAL HWY
STE A
RONKONKOMA NY 11779

Schedule Year 2025 through 2026
Date Requested 02/17/2026
PRC# 2026004301

Location Village of Greenport
Project ID#
Project Type SCREW PUMP REPLACEMENT

PREVAILING WAGE SCHEDULE FOR ARTICLE 8 PUBLIC WORK PROJECT

Attached is the current schedule(s) of the prevailing wage rates and prevailing hourly supplements for the project referenced above. A unique Prevailing Rate Case Number (PRC#) has been assigned to the schedule(s) for your project.

The schedule is effective from July 2025 through June 2026. All updates, corrections, posted on the 1st business day of each month, and future copies of the annual determination are available on the Department's website www.labor.ny.gov. Updated PDF copies of your schedule can be accessed by entering your assigned PRC# at the proper location on the website.

It is the responsibility of the contracting agency or its agent to annex and make part, the attached schedule, to the specifications for this project, when it is advertised for bids and /or to forward said schedules to the successful bidder(s), immediately upon receipt, in order to insure the proper payment of wages.

Please refer to the "General Provisions of Laws Covering Workers on Public Work Contracts" provided with this schedule, for the specific details relating to other responsibilities of the Department of Jurisdiction.

Upon completion or cancellation of this project, enter the required information and mail **OR** fax this form to the office shown at the bottom of this notice, **OR** fill out the electronic version via the NYSDOL website.

NOTICE OF COMPLETION / CANCELLATION OF PROJECT

Date Completed: _____ Date Cancelled: _____

Name & Title of Representative: _____

Phone: (518) 457-5589 Fax: (518) 485-1870
W. Averell Harriman State Office Campus, Bldg. 12, Room 130, Albany, NY 12240

General Provisions of Laws Covering Workers on Article 8 Public Work Contracts

Introduction

The Labor Law requires public work contractors and subcontractors to pay laborers, workers, or mechanics employed in the performance of a public work contract not less than the prevailing rate of wage and supplements (fringe benefits) in the locality where the work is performed.

Contractor Registry

Effective December 30, 2024 all contractors and subcontractors submitting bids or performing construction work on public work projects, or private projects covered by Article 8 of the Labor Law, are required to register with the New York State Department of Labor (NYSDOL) under Labor Law Section 220-i. To register, contractors and subcontractors must submit an application through NYSDOL's Contractor Registry portal which is available through the agency's Management System for Protecting Worker Rights (MPWR) <https://mpwr-public.labor.ny.gov/en/login>.

For additional information, please visit [online](#).

Responsibilities of the Department of Jurisdiction

A Department of Jurisdiction (Contracting Agency) includes a state department, agency, board or commission; a county, city, town or village; a school district, board of education or board of cooperative educational services; a sewer, water, fire, improvement and other district corporation; a public benefit corporation; and a public authority awarding a public work contract.

The Department of Jurisdiction (Contracting Agency) awarding a public work contract MUST obtain a Prevailing Rate Schedule listing the hourly rates of wages and supplements due the workers to be employed on a public work project. This schedule may be obtained by completing and forwarding a "Request for wage and Supplement Information" form (PW 39) to the Bureau of Public Work. The Prevailing Rate Schedule MUST be included in the specifications for the contract to be awarded and is deemed part of the public work contract.

Upon the awarding of the contract, the law requires that the Department of Jurisdiction (Contracting Agency) furnish the following information to the Bureau: the name and address of the contractor, the date the contract was let and the approximate dollar value of the contract. To facilitate compliance with this provision of the Labor Law, a copy of the Department's "Notice of Contract Award" form (PW 16) is provided with the original Prevailing Rate Schedule.

The Department of Jurisdiction (Contracting Agency) is required to notify the Bureau of the completion or cancellation of any public work project. The Department's PW 200 form is provided for that purpose.

Both the PW 16 and PW 200 forms are available for completion [online](#).

Hours

No laborer, worker, or mechanic in the employ of a contractor or subcontractor engaged in the performance of any public work project shall be permitted to work more than eight hours in any day or more than five days in any week, except in cases of extraordinary emergency. The contractor and the Department of Jurisdiction (Contracting Agency) may apply to the Bureau of Public Work for a dispensation permitting workers to work additional hours or days per week on a particular public work project.

Wages and Supplements

The wages and supplements to be paid and/or provided to laborers, workers, and mechanics employed on a public work project shall be not less than those listed in the current Prevailing Rate Schedule for the locality where the work is performed. If a prime contractor on a public work project has not been provided with a Prevailing Rate Schedule, the contractor must notify the Department of Jurisdiction (Contracting Agency) who in turn must request an original Prevailing Rate Schedule form the Bureau of Public Work. Requests may be submitted by: mail to NYSDOL, Bureau of Public Work, State Office Bldg. Campus, Bldg. 12, Rm. 130, Albany, NY 12226; Fax to Bureau of Public Work (518) 485-1870; or electronically at the NYSDOL website www.labor.ny.gov.

Upon receiving the original schedule, the Department of Jurisdiction (Contracting Agency) is REQUIRED to provide complete copies to all prime contractors who in turn MUST, by law, provide copies of all applicable county schedules to each subcontractor and obtain from each subcontractor, an affidavit certifying such schedules were received. If the original schedule expired, the contractor may obtain a copy of the new annual determination from the NYSDOL website www.labor.ny.gov.

The Commissioner of Labor makes an annual determination of the prevailing rates. This determination is in effect from July 1st through June 30th of the following year. The annual determination is available on the NYSDOL website

Payrolls and Payroll Records

Every contractor and subcontractor MUST keep original payrolls or transcripts subscribed and affirmed as true under penalty of perjury. As per Article 6 of the Labor law, contractors and subcontractors are required to establish, maintain, and preserve for not less than six (6) years, contemporaneous, true, and accurate payroll records. At a minimum, payrolls must show the following information for each person employed on a public work project: Name, Address, Last 4 Digits of Social Security Number, Classification(s) in which the worker was employed, Hourly wage rate(s) paid, Supplements paid or provided, and Daily and weekly number of hours worked in each classification.

The filing of payrolls to the Department of Jurisdiction is a condition of payment. Every contractor and subcontractor shall submit to the Department of Jurisdiction (Contracting Agency), within thirty (30) days after issuance of its first payroll and every thirty (30) days thereafter, a transcript of the original payrolls, subscribed and affirmed as true under penalty of perjury. The Department of Jurisdiction (Contracting Agency) shall collect, review for facial validity, and maintain such payrolls.

In addition, the Commissioner of Labor may require contractors to furnish, with ten (10) days of a request, payroll records sworn to as their validity and accuracy for public work and private work. Payroll records include, but are not limited to time cards, work description sheets, proof that supplements were provided, cancelled payroll checks and payrolls. Failure to provide the requested information within the allotted ten (10) days will result in the withholding of up to 25% of the contract, not to exceed \$100,000.00. If the contractor or subcontractor does not maintain a place of business in New York State and the amount of the contract exceeds \$25,000.00, payroll records and certifications must be kept on the project worksite.

The prime contractor is responsible for any underpayments of prevailing wages or supplements by any subcontractor.

All contractors or their subcontractors shall provide to their subcontractors a copy of the Prevailing Rate Schedule specified in the public work contract as well as any subsequently issued schedules. A failure to provide these schedules by a contractor or subcontractor is a violation of Article 8, Section 220-a of the Labor Law.

All subcontractors engaged by a public work project contractor or its subcontractor, upon receipt of the original schedule and any subsequently issued schedules, shall provide to such contractor a verified statement attesting that the subcontractor has received the Prevailing Rate Schedule and will pay or provide the applicable rates of wages and supplements specified therein. (See NYS Labor Laws, Article 8 . Section 220-a).

Determination of Prevailing Wage and Supplement Rate Updates Applicable to All Counties

The wages and supplements contained in the annual determination become effective July 1st whether or not the new determination has been received by a given contractor. Care should be taken to review the rates for obvious errors. Any corrections should be brought to the Department's attention immediately. It is the responsibility of the public work contractor to use the proper rates. If there is a question on the proper classification to be used, please call the district office located nearest the project. Any errors in the annual determination will be corrected and posted to the NYSDOL website on the first business day of each month. Contractors are responsible for paying these updated rates as well, retroactive to July 1st.

When you review the schedule for a particular occupation, your attention should be directed to the dates above the column of rates. These are the dates for which a given set of rates is effective. To the extent possible, the Department posts rates in its possession that cover periods of time beyond the July 1st to June 30th time frame covered by a particular annual determination. Rates that extend beyond that instant time period are informational ONLY and may be updated in future annual determinations that actually cover the then appropriate July 1st to June 30th time period.

Withholding of Payments

When a complaint is filed with the Commissioner of Labor alleging the failure of a contractor or subcontractor to pay or provide the prevailing wages or supplements, or when the Commissioner of Labor believes that unpaid wages or supplements may be due, payments on the public work contract shall be withheld from the prime contractor in a sufficient amount to satisfy the alleged unpaid wages and supplements, including interest and civil penalty, pending a final determination.

When the Bureau of Public Work finds that a contractor or subcontractor on a public work project failed to pay or provide the requisite prevailing wages or supplements, the Bureau is authorized by Sections 220-b and 235.2 of the Labor Law to so notify the financial officer of the Department of Jurisdiction (Contracting Agency) that awarded the public work contract. Such officer MUST then withhold or cause to be withheld from any payment due the prime contractor on account of such contract the amount indicated by the Bureau as sufficient to satisfy the unpaid wages and supplements, including interest and any civil penalty that may be assessed by the Commissioner of Labor. The withholding continues until there is a final determination of the underpayment by the Commissioner of Labor or by the court in the event a legal proceeding is instituted for review of the determination of the Commissioner of Labor.

The Department of Jurisdiction (Contracting Agency) shall comply with this order of the Commissioner of Labor or of the court with respect to the release of the funds so withheld.

Summary of Notice Posting Requirements

The current Prevailing Rate Schedule must be posted in a prominent and accessible place on the site of the public work project. The prevailing wage schedule must be encased in, or constructed of, materials capable of withstanding adverse weather conditions and be titled "PREVAILING RATE OF WAGES" in letters no smaller than two (2) inches by two (2) inches.

The "[Public Work Project](#)" notice must be posted at the beginning of the performance of every public work contract, on each job site.

Every employer providing workers' compensation insurance and disability benefits must post notices of such coverage in the format prescribed by the Workers' Compensation Board in a conspicuous place on the jobsite.

Every employer subject to the NYS Human Rights Law must conspicuously post at its offices, places of employment, or employment training centers, notices furnished by the State Division of Human Rights.

Employers liable for contributions under the Unemployment Insurance Law must conspicuously post on the jobsite notices furnished by the NYS Department of Labor.

Apprentices

Employees cannot be paid apprentice rates unless they are individually registered in a program registered with the NYS Commissioner of Labor. The allowable ratio of apprentices to journeymen in any craft classification can be no greater than the statewide building trade ratios promulgated by the Department of Labor and included with the Prevailing Rate Schedule. An employee listed on a payroll as an apprentice who is not registered as above or is performing work outside the classification of work for which the apprentice is indentured, must be paid the prevailing journeyworker's wage rate for the classification of work the employee is actually performing.

NYSDOL Labor Law, Article 8, Section 220-3, require that only apprentices individually registered with the NYS Department of Labor may be paid apprenticeship rates on a public work project. No other Federal or State Agency of office registers apprentices in New York State.

Persons wishing to verify the apprentice registration of any person must do so in writing by mail, to the NYSDOL Office of Employability Development / Apprenticeship Training, State Office Bldg. Campus, Bldg. 12, Albany, NY 12226 or by Fax to NYSDOL Apprenticeship Training (518) 457-7154. All requests for verification must include the name and social security number of the person for whom the information is requested.

The only conclusive proof of individual apprentice registration is written verification from the NYSDOL Apprenticeship Training Albany Central office. Neither Federal nor State Apprenticeship Training offices outside of Albany can provide conclusive registration information.

It should be noted that the existence of a registered apprenticeship program is not conclusive proof that any person is registered in that program. Furthermore, the existence or possession of wallet cards, identification cards, or copies of state forms is not conclusive proof of the registration of any person as an apprentice.

Interest and Penalties

In the event that an underpayment of wages and/or supplements is found:

- Interest shall be assessed at the rate then in effect as prescribed by the Superintendent of Banks pursuant to section 14-a of the Banking Law, per annum from the date of underpayment to the date restitution is made.
- A Civil Penalty may also be assessed, not to exceed 25% of the total of wages, supplements, and interest due.

Debarment

Any contractor or subcontractor and/or its successor shall be ineligible to submit a bid on or be awarded any public work contract or subcontract with any state, municipal corporation or public body for a period of five (5) years when:

- Two (2) willful determinations have been rendered against that contractor or subcontractor and/or its successor within any consecutive six (6) year period.
- There is any willful determination that involves the falsification of payroll records or the kickback of wages or supplements.

Criminal Sanctions

Willful violations of the Prevailing Wage Law (Article 8 of the Labor Law) may be a felony punishable by fine or imprisonment of up to 15 years, or both.

Discrimination

No employee or applicant for employment may be discriminated against on account of age, race, creed, color, national origin, sex, disability or marital status.

No contractor, subcontractor nor any person acting on its behalf, shall by reason of race, creed, color, disability, sex or national origin discriminate against any citizen of the State of New York who is qualified and available to perform the work to which the employment relates (NYS Labor Law, Article 8, Section 220-e(a)).

No contractor, subcontractor, nor any person acting on its behalf, shall in any manner, discriminate against or intimidate any employee on account of race, creed, color, disability, sex, or national origin (NYS Labor Law, Article 8, Section 220-e(b)).

The Human Rights Law also prohibits discrimination in employment because of age, marital status, or religion.

There may be deducted from the amount payable to the contractor under the contract a penalty of \$50.00 for each calendar day during which such person was discriminated against or intimidated in violation of the provision of the contract (NYS Labor Law, Article 8, Section 220-e(c)).

The contract may be cancelled or terminated by the State or municipality. All monies due or to become due thereunder may be forfeited for a second or any subsequent violation of the terms or conditions of the anti-discrimination sections of the contract (NYS Labor Law, Article 8, Section 220-e(d)).

Every employer subject to the New York State Human Rights Law must conspicuously post at its offices, places of employment, or employment training centers notices furnished by the State Division of Human Rights.

Workers' Compensation

In accordance with Section 142 of the State Finance Law, the contractor shall maintain coverage during the life of the contract for the benefit of such employees as required by the provisions of the New York State Workers' Compensation Law.

A contractor who is awarded a public work contract must provide proof of workers' compensation coverage prior to being allowed to begin work.

The insurance policy must be issued by a company authorized to provide workers' compensation coverage in New York State. Proof of coverage must be on form C-105.2 (Certificate of Workers' Compensation Insurance) and must name this agency as a certificate holder.

If New York State coverage is added to an existing out-of-state policy, it can only be added to a policy from a company authorized to write workers' compensation coverage in this state. The coverage must be listed under item 3A of the information page.

The contractor must maintain proof that subcontractors doing work covered under this contract secured and maintained a workers' compensation policy for all employees working in New York State.

Every employer providing worker's compensation insurance and disability benefits must post notices of such coverage in the format prescribed by the Workers' Compensation Board in a conspicuous place on the jobsite.

Unemployment Insurance

Employers liable for contributions under the Unemployment Insurance Law must conspicuously post on the jobsite notices furnished by the New York State Department of Labor.



Kathy Hochul, Governor

Roberta Reardon, Commissioner

Village of Greenport

James Holzmacher
3555 VETERANS MEMORIAL HWY
STE A
RONKONKOMA NY 11779

Schedule Year 2025 through 2026
Date Requested 02/17/2026
PRC# 2026004301

Location Village of Greenport
Project ID#
Project Type SCREW PUMP REPLACEMENT

Notice of Contract Award

New York State Labor Law, Article 8, Section 220.3a requires that certain information regarding the awarding of public work contracts, be furnished to the Commissioner of Labor. One "Notice of Contract Award" (PW 16, which may be photocopied), **MUST** be completed for **EACH** prime contractor on the above referenced project.

Upon notifying the successful bidder(s) of this contract, enter the required information and mail **OR** fax this form to the office shown at the bottom of this notice, **OR** fill out the electronic version via the NYSDOL website.

Contractor Information

All information must be supplied

Federal Employer Identification Number: _____		
Name: _____		
Address: _____ _____		
City: _____	State: _____	Zip: _____
Amount of Contract: \$ _____	Contract Type:	
Approximate Starting Date: ____/____/____	☐ (01) General Construction	
Approximate Completion Date: ____/____/____	☐ (02) Heating/Ventilation	
	☐ (03) Electrical	
	☐ (04) Plumbing	
	☐ (05) Other : _____	

Phone: (518) 457-5589 Fax: (518) 485-1870
W. Averell Harriman State Office Campus, Bldg. 12, Room 130, Albany, NY 12226

Social Security Numbers on Certified Payrolls:

The Department of Labor is cognizant of the concerns of the potential for misuse or inadvertent disclosure of social security numbers. Identity theft is a growing problem and we are sympathetic to contractors' concern regarding inclusion of this information on payrolls if another identifier will suffice.

For these reasons, the substitution of the use of the last four digits of the social security number on certified payrolls submitted to contracting agencies on public work projects is now acceptable to the Department of Labor. This change does not affect the Department's ability to request and receive the entire social security number from employers during its public work/ prevailing wage investigations.

Construction Industry Fair Play Act: Required Posting for Labor Law Article 25-B § 861-d

Construction industry employers must post the "Construction Industry Fair Play Act" notice in a prominent and accessible place on the job site. Failure to post the notice can result in penalties of up to \$1,500 for a first offense and up to \$5,000 for a second offense. The posting is included as part of this wage schedule. Additional copies may be obtained from the NYS DOL website, <https://dol.ny.gov/public-work-and-prevailing-wage>

If you have any questions concerning the Fair Play Act, please call the State Labor Department toll-free at 1-866-435-1499 or email us at: dol.misclassified@labor.ny.gov .

Worker Notification: (Labor Law §220, paragraph a of subdivision 3-a)

Effective June 23, 2020

This provision is an addition to the existing wage rate law, Labor Law §220, paragraph a of subdivision 3-a. It requires contractors and subcontractors to provide written notice to all laborers, workers or mechanics of the *prevailing wage and supplement rate* for their particular job classification *on each pay stub**. It also requires contractors and subcontractors to *post a notice* at the beginning of the performance of every public work contract *on each job site* that includes the telephone number and address for the Department of Labor and a statement informing laborers, workers or mechanics of their right to contact the Department of Labor if he/she is not receiving the proper prevailing rate of wages and/or supplements for his/her job classification. The required notification will be provided with each wage schedule, may be downloaded from our website www.labor.ny.gov or be made available upon request by contacting the Bureau of Public Work at 518-457-5589. *In the event the required information will not fit on the pay stub, an accompanying sheet or attachment of the information will suffice.

**To all State Departments, Agency Heads and Public Benefit Corporations
IMPORTANT NOTICE REGARDING PUBLIC WORK ENFORCEMENT FUND**

Budget Policy & Reporting Manual

B-610

Public Work Enforcement Fund

effective date December 7, 2005

1. Purpose and Scope:

This Item describes the Public Work Enforcement Fund (the Fund, PWEF) and its relevance to State agencies and public benefit corporations engaged in construction or reconstruction contracts, maintenance and repair, and announces the recently-enacted increase to the percentage of the dollar value of such contracts that must be deposited into the Fund. This item also describes the roles of the following entities with respect to the Fund:

- New York State Department of Labor (DOL),
- The Office of the State of Comptroller (OSC), and
- State agencies and public benefit corporations.

2. Background and Statutory References:

DOL uses the Fund to enforce the State's Labor Law as it relates to contracts for construction or reconstruction, maintenance and repair, as defined in subdivision two of Section 220 of the Labor Law. State agencies and public benefit corporations participating in such contracts are required to make payments to the Fund.

Chapter 511 of the Laws of 1995 (as amended by Chapter 513 of the Laws of 1997, Chapter 655 of the Laws of 1999, Chapter 376 of the Laws of 2003 and Chapter 407 of the Laws of 2005) established the Fund.

3. Procedures and Agency Responsibilities:

The Fund is supported by transfers and deposits based on the value of contracts for construction and reconstruction, maintenance and repair, as defined in subdivision two of Section 220 of the Labor Law, into which all State agencies and public benefit corporations enter.

Chapter 407 of the Laws of 2005 increased the amount required to be provided to this fund to .10 of one-percent of the total cost of each such contract, to be calculated at the time agencies or public benefit corporations enter into a new contract or if a contract is amended. The provisions of this bill became effective August 2, 2005.

To all State Departments, Agency Heads and Public Benefit Corporations
IMPORTANT NOTICE REGARDING PUBLIC WORK ENFORCEMENT FUND

OSC will report to DOL on all construction-related ("D") contracts approved during the month, including contract amendments, and then DOL will bill agencies the appropriate assessment monthly. An agency may then make a determination if any of the billed contracts are exempt and so note on the bill submitted back to DOL. For any instance where an agency is unsure if a contract is or is not exempt, they can call the Bureau of Public Work at the number noted below for a determination. Payment by check or journal voucher is due to DOL within thirty days from the date of the billing. DOL will verify the amounts and forward them to OSC for processing.

For those contracts which are not approved or administered by the Comptroller, monthly reports and payments for deposit into the Public Work Enforcement Fund must be provided to the Administrative Finance Bureau at the DOL within 30 days of the end of each month or on a payment schedule mutually agreed upon with DOL.

Reports should contain the following information:

- Name and billing address of State agency or public benefit corporation;
- State agency or public benefit corporation contact and phone number;
- Name and address of contractor receiving the award;
- Contract number and effective dates;
- Contract amount and PWEF assessment charge (if contract amount has been amended, reflect increase or decrease to original contract and the adjustment in the PWEF charge); and
- Brief description of the work to be performed under each contract.

Checks and Journal Vouchers, payable to the "New York State Department of Labor" should be sent to:

Department of Labor
Administrative Finance Bureau-PWEF Unit
Building 12, Room 464
State Office Campus
Albany, NY 12226

Any questions regarding billing should be directed to NYSDOL's Administrative Finance Bureau-PWEF Unit at (518) 457-3624 and any questions regarding Public Work Contracts should be directed to the Bureau of Public Work at (518) 457-5589.

Required Notice under Article 25-B of the Labor Law

**Attention All Employees, Contractors and Subcontractors:
You are Covered by the Construction Industry Fair Play Act**

The law says that you are an employee unless:

- You are free from direction and control in performing your job, **and**
- You perform work that is not part of the usual work done by the business that hired you, **and**
- You have an independently established business.

Your employer cannot consider you to be an independent contractor unless all three of these facts apply to your work.

It is against the law for an employer to misclassify employees as independent contractors or pay employees off the books.

Employee Rights: If you are an employee, you are entitled to state and federal worker protections. These include:

- Unemployment Insurance benefits, if you are unemployed through no fault of your own, able to work, and otherwise qualified,
- Workers' compensation benefits for on-the-job injuries,
- Payment for wages earned, minimum wage, and overtime (under certain conditions),
- Prevailing wages on public work projects,
- The provisions of the National Labor Relations Act, and
- A safe work environment.

It is a violation of this law for employers to retaliate against anyone who asserts their rights under the law. Retaliation subjects an employer to civil penalties, a private lawsuit or both.

Independent Contractors: If you are an independent contractor, **you must pay all taxes and Unemployment Insurance contributions required by New York State and Federal Law.**

Penalties for paying workers off the books or improperly treating employees as independent contractors:

- **Civil Penalty**
 - First offense: Up to \$2,500 per employee
 - Subsequent offense(s): Up to \$5,000 per employee
- **Criminal Penalty**
 - First offense: Misdemeanor - up to 30 days in jail, up to a \$25,000 fine and debarment from performing public work for up to one year.
 - Subsequent offense(s): Misdemeanor - up to 60 days in jail or up to a \$50,000 fine and debarment from performing public work for up to 5 years.

If you have questions about your employment status or believe that your employer may have violated your rights and you want to file a complaint, call the Department of Labor at (866) 435-1499 or send an email to dol.misclassified@labor.ny.gov. All complaints of fraud and violations are taken seriously. You can remain anonymous.

Employer Name:

IA 999 (09/16)



Attention Employees

THIS IS A: **PUBLIC WORK PROJECT**

If you are employed on this project as a **worker, laborer, or mechanic** you are entitled to receive the **prevailing wage and supplements rate** for the classification at which you are working.

Your pay stub and wage notice received upon hire must clearly state your wage rate and supplement rate.

Chapter 629 of
the Labor Laws
of 2007:

These wages are set by law and must be posted at the work site. They can also be found at:
<https://dol.ny.gov/bureau-public-work>



If you feel that you have not received proper wages or benefits, please call our nearest office.*

Albany	(518) 457-2744	Patchogue	(631) 687-4882
Binghamton	(607) 721-8005	Rochester	(585) 258-4505
Buffalo	(716) 847-7159	Syracuse	(315) 428-4056
Garden City	(516) 228-3915	Utica	(315) 793-2314
New York City	(212) 932-2419	White Plains	(914) 997-9507
Newburgh	(845) 568-5287		

* For New York City government agency construction projects, please contact the Office of the NYC Comptroller at (212) 669-4443, or www.comptroller.nyc.gov – click on Bureau of Labor Law.

Contractor Name: _____

Project Location: _____

Requirements for OSHA 10 Compliance

Article 8 §220-h requires that when the advertised specifications, for every contract for public work, is \$250,000.00 or more the contract must contain a provision requiring that every worker employed in the performance of a public work contract shall be certified as having completed an OSHA 10 safety training course. The clear intent of this provision is to require that all employees of public work contractors, required to be paid prevailing rates, receive such training "prior to the performing any work on the project."

The Bureau will enforce the statute as follows:

All contractors and sub contractors must attach a copy of proof of completion of the OSHA 10 course to the first certified payroll submitted to the contracting agency and on each succeeding payroll where any new or additional employee is first listed.

Proof of completion may include but is not limited to:

- Copies of bona fide course completion card (*Note: Completion cards do not have an expiration date.*)
- Training roster, attendance record or other documentation from the certified trainer pending the issuance of the card.
- Other valid proof

**A certification by the employer attesting that all employees have completed such a course is not sufficient proof that the course has been completed.

Any questions regarding this statute may be directed to the New York State Department of Labor, Bureau of Public Work at 518-457-5589.

WICKS

Public work projects are subject to the Wicks Law requiring separate specifications and bidding for the plumbing, heating and electrical work, when the total project's threshold is \$3 million in Bronx, Kings, New York, Queens and, Richmond counties; \$1.5 million in Nassau, Suffolk and Westchester counties; and \$500,000 in all other counties.

For projects below the monetary threshold, bidders must submit a sealed list naming each subcontractor for the plumbing, HVAC and electrical and the amount to be paid to each. The list may not be changed unless the public owner finds a legitimate construction need, including a change in specifications or costs or the use of a Project Labor Agreement (PLA), and must be open to public inspection.

Allows the state and local agencies and authorities to waive the Wicks Law and use a PLA if it will provide the best work at the lowest possible price. If a PLA is used, all contractors shall participate in apprentice training programs in the trades of work it employs that have been approved by the Department of Labor (DOL) for not less than three years. They shall also have at least one graduate in the last three years and use affirmative efforts to retain minority apprentices. PLA's would be exempt from Wicks, but deemed to be public work subject to prevailing wage enforcement.

The Commissioner of Labor shall have the power to enforce separate specification requirements on projects, and may issue stop-bid orders against public owners for non-compliance.

Other new monetary thresholds, and similar sealed bidding for non-Wicks projects, would apply to certain public authorities including municipal housing authorities, NYC Construction Fund, Yonkers Educational Construction Fund, NYC Municipal Water Finance Authority, Buffalo Municipal Water Finance Authority, Westchester County Health Care Association, Nassau County Health Care Corp., Clifton-Fine Health Care Corp., Erie County Medical Center Corp., NYC Solid Waste Management Facilities, and the Dormitory Authority.

Contractors must pay subcontractors within a 7 days period.

(07.19)

Introduction to the Prevailing Rate Schedule

Information About Prevailing Rate Schedule

This information is provided to assist you in the interpretation of particular requirements for each classification of worker contained in the attached Schedule of Prevailing Rates.

Classification

It is the duty of the Commissioner of Labor to make the proper classification of workers taking into account whether the work is heavy and highway, building, sewer and water, tunnel work, or residential, and to make a determination of wages and supplements to be paid or provided. It is the responsibility of the public work contractor to use the proper rate. If there is a question on the proper classification to be used, please call the district office located nearest the project. District office locations and phone numbers are listed below. Prevailing Wage Schedules are issued separately for "General Construction Projects" and "Residential Construction Projects" on a county-by-county basis.

General Construction Rates apply to projects such as: Buildings, Heavy & Highway, and Tunnel and Water & Sewer rates. Residential Construction Rates generally apply to construction, reconstruction, repair, alteration, or demolition of one family, two family, row housing, or rental type units intended for residential use. Some rates listed in the Residential Construction Rate Schedule have a very limited applicability listed along with the rate. Rates for occupations or locations not shown on the residential schedule must be obtained from the General Construction Rate Schedule. Please contact the local Bureau of Public Work office before using Residential Rate Schedules, to ensure that the project meets the required criteria.

*Contractor Registry (LL 220-I): Effective December 30th, 2024

Labor Law Section 220-i(6) prohibits contractors from bidding on public work and prohibits both contractors and subcontractors from commencing work on private and public projects subject to prevailing wage requirements. This section requires contractors to submit their Certificate of Registration with their bid materials. Each Certificate of Registration will have a unique registration number. Failure to provide proof of registration, as required by Labor Law Section 220-i, as a minimum qualification will result in the bidder being deemed non-responsive. There is a public database of registered contractors and subcontractors available online at data.ny.gov to confirm registration validity. For additional information on how to register and the requirements, visit <https://dol.ny.gov/public-work-contractor-and-subcontractor-registry-landing>

*Electronic Certified Payroll (LL 220-J): Effective December 31st, 2025

Effective December 31, 2025, all contractors and subcontractors who perform public work, or covered private work subject to the prevailing wage, will be required to submit certified payrolls electronically to the Bureau of Public Work and Prevailing Wage Enforcement. Additional information about the electronic certified payroll submission system will be made available on the Department's Website at <https://dol.ny.gov/Electronic-Payroll>

Payrolls and Payroll Records

Every contractor and subcontractor MUST keep original payrolls or transcripts subscribed and affirmed as true under penalty of perjury. Payrolls must be maintained for at least three (3) years from the projects date of completion. Additionally, as per Article 6 of the Labor Law, contractors and subcontractors are required to establish, maintain, and preserve for not less than six (6) years, contemporaneous, true, and accurate payroll records.

At a minimum, payrolls must show the following information for each person employed on a public work project: Name; Address, Last 4 Digits of Social Security number, Classification(s) in which the worker was employed, Hourly wage rate(s) paid, Supplements paid or provided, and Daily and weekly number of hours worked in each classification.

Payroll records and transcripts are required to be kept on site during all the time that work under that contract is being performed.

NOTE: For more detailed information regarding Article 9 prevailing wage contracts, please refer to "General Provisions of Laws Covering Workers on Article 9 Public Work Building Service Contracts".

If you have any questions concerning the attached schedule or would like additional information, please write to:

New York State Department of Labor
Bureau of Public Work
State Office Campus, Bldg. 12
Albany, NY 12240

OR

Contact the nearest BUREAU of PUBLIC WORK District Office

District Office Locations:	Telephone #	FAX #
Bureau of Public Work - Albany	518-457-2744	518-485-0240
Bureau of Public Work - Binghamton	607-721-8005	607-721-8004

Bureau of Public Work - Buffalo	716-847-7159	716-847-7650
Bureau of Public Work - Garden City	516-228-3915	516-794-3518
Bureau of Public Work - Newburgh	845-568-5287	845-568-5332
Bureau of Public Work - New York City	212-932-2419	212-775-3579
Bureau of Public Work - Patchogue	631-687-4882	631-687-4902
Bureau of Public Work - Rochester	585-258-4505	585-258-4708
Bureau of Public Work - Syracuse	315-428-4056	315-428-4671
Bureau of Public Work - Utica	315-793-2314	315-793-2514
Bureau of Public Work - White Plains	914-997-9507	914-997-9523
Bureau of Public Work - Central Office	518-457-5589	518-485-1870

Paid Holidays

Paid Holidays are days for which an eligible employee receives a regular day's pay, but is not required to perform work. If an employee works on a day listed as a paid holiday, this remuneration is in addition to payment of the required prevailing rate for the work actually performed.

Overtime

At a minimum, all work performed on a public work project in excess of eight hours in any one day or more than five days in any workweek is overtime. However, the specific overtime requirements for each trade or occupation on a public work project may differ. Specific overtime requirements for each trade or occupation are contained in the prevailing rate schedules.

Overtime holiday pay is the premium pay that is required for work performed on specified holidays. It is only required where the employee actually performs work on such holidays.

The applicable holidays are listed under HOLIDAYS: OVERTIME. The required rate of pay for these covered holidays can be found in the OVERTIME PAY section listings for each classification.

Supplemental Benefits

Particular attention should be given to the supplemental benefit requirements. Although in most cases the payment or provision of supplements is straight time for all hours worked, some classifications require the payment or provision of supplements, or a portion of the supplements, to be paid or provided at a premium rate for premium hours worked. Supplements may also be required to be paid or provided on paid holidays, regardless of whether the day is worked. The Overtime Codes and Notes listed on the particular wage classification will indicate these conditions as required.

Effective Dates

When you review the schedule for a particular occupation, your attention should be directed to the dates above the column of rates. These are the dates for which a given set of rates is effective. The rate listed is valid until the next effective rate change or until the new annual determination which takes effect on July 1 of each year.

All contractors and subcontractors are required to pay the current prevailing rates of wages and supplements. If you have any questions please contact the Bureau of Public Work or visit the New York State Department of Labor website (www.labor.ny.gov) for current wage rate information.

Shift Work

If the timeline of the contract requires shift work be performed to meet deadlines, the BPWE will enforce the shift work rate as the required rate on the project whether or not shift work is specifically addressed in the contract.

Paid Prenatal Leave

Every employer shall be required to provide to its employees twenty hours of paid prenatal personal leave during any fifty-two week calendar period. Paid prenatal personal leave shall mean leave taken for the health care services received by an employee during their pregnancy or related to such pregnancy, including physical examinations, medical procedures, monitoring and testing, and discussions with a healthcare provider related to the pregnancy. Paid prenatal personal leave may be taken in hourly increments. Benefits for paid prenatal personal leave shall be paid in hourly installments. Employees shall receive compensation at the employee's regular rate of pay, or the applicable minimum wage established by the labor law, whichever is greater, for the use of Paid Prenatal leave.

Apprentice Training Ratios

The following are the allowable ratios of registered Apprentices to Journey-workers.

For example, the ratio 1:1,1:3 indicates the allowable initial ratio is one Apprentice to one Journeyworker. The Journeyworker must be in place on the project before an Apprentice is allowed. Then three additional Journeyworkers are needed before a second Apprentice is allowed. The last ratio repeats indefinitely. Therefore, three more Journeyworkers must be present before a third Apprentice can be hired, and so on.

Please call Apprentice Training Central Office at (518) 457-6820 if you have any questions.

Title (Trade)	Ratio
Boilermaker (Construction)	1:1,1:4
Boilermaker (Shop)	1:1,1:3
Carpenter (Bldg.,H&H, Pile Driver/Dockbuilder)	1:1,1:4
Carpenter (Residential)	1:1,1:3
Electrical (Outside) Lineman	1:1,1:2
Electrician (Inside)	1:1,1:3
Elevator/Escalator Construction & Modernizer	1:1,1:2
Glazier	1:1,1:3
Insulation & Asbestos Worker	1:1,1:3
Iron Worker	1:1,1:4
Laborer	1:1,1:3
Mason	1:1,1:4
Millwright	1:1,1:4
Op Engineer	1:1,1:5
Painter	1:1,1:3
Plumber & Steamfitter	1:1,1:3
Roofer	1:1,1:2
Sheet Metal Worker	1:1,1:3
Sprinkler Fitter	1:1,1:2

If you have any questions concerning the attached schedule or would like additional information, please contact the nearest BUREAU of PUBLIC WORK District Office or write to:

New York State Department of Labor
Bureau of Public Work
State Office Campus, Bldg. 12
Albany, NY 12226

District Office Locations:	Telephone #	FAX #
Bureau of Public Work - Albany	518-457-2744	518-485-0240
Bureau of Public Work - Binghamton	607-721-8005	607-721-8004
Bureau of Public Work - Buffalo	716-847-7159	716-847-7650
Bureau of Public Work - Garden City	516-228-3915	516-794-3518
Bureau of Public Work - Newburgh	845-568-5287	845-568-5332
Bureau of Public Work - New York City	212-932-2419	212-775-3579
Bureau of Public Work - Patchogue	631-687-4882	631-687-4902
Bureau of Public Work - Rochester	585-258-4505	585-258-4708
Bureau of Public Work - Syracuse	315-428-4056	315-428-4671
Bureau of Public Work - Utica	315-793-2314	315-793-2514
Bureau of Public Work - White Plains	914-997-9507	914-997-9523
Bureau of Public Work - Central Office	518-457-5589	518-485-1870

Suffolk County General Construction

Asbestos Worker

02/01/2026

JOB DESCRIPTION Asbestos Worker

DISTRICT 4

ENTIRE COUNTIES

Bronx, Kings, Nassau, New York, Queens, Richmond, Suffolk

WAGES

Per Hour:

07/01/2025

01/05/2026

Asbestos Worker
Removal & Abatement ONLY*

\$ 48.25

\$ 48.50

NOTE: * For Mechanical Systems that are NOT to be SCRAPPED.

SUPPLEMENTAL BENEFITS

Per Hour:

Asbestos Worker
Removal & Abatement Only

\$ 15.71

\$ 18.02

OVERTIME PAY

See (B, B2, *E, J) on OVERTIME PAGE

*Hours worked on Saturdays are paid at time and one half only if forty hours have been worked during the week.

HOLIDAY

Paid: See (1) on HOLIDAY PAGE
Overtime: See (5, 6, 8) on HOLIDAY PAGE

REGISTERED APPRENTICES

Apprentice Removal & Abatement Only:

1000 hour terms at the following percentage of Journeyman's wages per hour.

1st	2nd	3rd	4th
78%	80%	83%	89%

SUPPLEMENTAL BENEFITS Per Hour:

All Terms: \$ 15.71 \$ 18.02

4-12a - Removal Only

Boilermaker

02/01/2026

JOB DESCRIPTION Boilermaker

DISTRICT 4

ENTIRE COUNTIES

Bronx, Dutchess, Kings, Nassau, New York, Orange, Putnam, Queens, Richmond, Rockland, Suffolk, Sullivan, Ulster, Westchester

WAGES

Per Hour:

07/01/2025

01/01/2026

Boilermaker

\$ 68.88

\$ 70.38

Repairs & Renovations

68.88

70.38

Repairs & Renovation: Includes Repairing, Renovating and Replacement of parts to an existing unit(s).

SUPPLEMENTAL BENEFITS

Per Hour:

Boilermaker 33.5% of Hourly
Repair & Renovations Wage Paid
+ \$26.85

NOTE: "Hourly Wage Paid" shall include any and all premium(s) pay.

OVERTIME PAY

See (*B, O, **U) on OVERTIME PAGE

Note:* Includes 9th & 10th hours, double for 11th or more.

** Labor Day ONLY, if worked.

Repairs & Renovation see (B,E,Q) on OT Page

HOLIDAY

Paid: See (1) on HOLIDAY PAGE
Overtime: See (5, 6, 11, 12, 15, 25, 26, 29) on HOLIDAY PAGE

REGISTERED APPRENTICES

(1/2) Year Terms at the following percentage of Boilermaker's wage per hour:

1st	2nd	3rd	4th	5th	6th	7th
65%	70%	75%	80%	85%	90%	95%

SUPPLEMENTAL BENEFITS:

33.5% of Hourly Wage Paid Plus Amount Below:

1st	2nd	3rd	4th	5th	6th	7th
\$20.36	21.28	22.22	23.12	24.07	25.00	25.93

NOTE: "Hourly Wage Paid" shall include any and all premium(s)

4-5

Broadband	02/01/2026

JOB DESCRIPTION Broadband

DISTRICT 4

ENTIRE COUNTIES

Bronx, Kings, Nassau, New York, Putnam, Queens, Richmond, Rockland, Suffolk, Westchester

PARTIAL COUNTIES

Orange: Entire County except Village of Greenwood Lake, Village of Highland Falls, Town of Tuxedo, and Town of Patterson

WAGES

Per Hour:	07/01/2025	07/01/2026
Field Tech	\$ 53.97	\$ 55.59
Install/Repair		

"Broadband", "Broadband Service", or "Broadband Internet" means mass-market retail service by wire or radio that provides the capability to transmit data to and receive data from all or substantially all internet endpoints, including any capabilities that are incidental to and enable the operation of the communications service, but excluding dial-up internet access service.

For outside work (excluding installation on building construction/alteration/renovation projects), stopping at first point of attachment (demarcation), installing/maintaining/repairing broadband internet service.

Applies to projects receiving ConnectAll funding that are subject to New York State Labor Law §224-E.

SUPPLEMENTAL BENEFITS

Per Hour: \$ 23.54

OVERTIME PAY

See (B, K, *R) on OVERTIME PAGE
Note: *Two and one half times the hourly rate after the 8th hour

HOLIDAY

Paid: See (5, 6, 7, 11, 12) on HOLIDAY PAGE
Overtime: See (5, 6, 7, 11, 12) on HOLIDAY PAGE

4-CWA-Dist1

Carpenter	02/01/2026

JOB DESCRIPTION Carpenter

DISTRICT 8

ENTIRE COUNTIES

Bronx, Kings, Nassau, New York, Putnam, Queens, Richmond, Rockland, Suffolk, Westchester

WAGES

Per hour:	07/01/2025
Piledriver	\$ 61.59 + 10.16*

Dockbuilder \$ 61.59
+ 10.16*

*This portion of the benefit is NOT subject to the SAME PREMIUM as shown for overtime.

SUPPLEMENTAL BENEFITS

Per hour:

Journeyworker \$ 46.48

OVERTIME PAY

See (B, E2, O) on OVERTIME PAGE

HOLIDAY

Paid: See (1) on HOLIDAY PAGE.

Paid: for 1st & 2nd yr.

Apprentices See (5,6,11,13,25)

Overtime: See (5,6,11,13,25) on HOLIDAY PAGE.

REGISTERED APPRENTICES

Wages per hour

(1)year terms:

1st	2nd	3rd	4th
\$ 27.98	\$ 33.58	\$ 41.96	\$ 50.35
+ 5.66*	+ 5.66*	+ 5.66*	+ 5.66*

*This portion of the benefit is NOT subject to the SAME PREMIUM as shown for overtime.

Supplemental benefits per hour:

All Terms: \$ 33.03

8-1556 Db

Carpenter

02/01/2026

JOB DESCRIPTION Carpenter

DISTRICT 8

ENTIRE COUNTIES

Bronx, Kings, Nassau, New York, Queens, Richmond, Rockland, Suffolk, Westchester

WAGES

Per hour: 07/01/2025

Carpet/Resilient

Floor Coverer \$ 59.05
+ 8.39*

*This portion of the benefit is NOT subject to the SAME PREMIUM as shown for overtime.

INCLUDES HANDLING & INSTALLATION OF ARTIFICIAL TURF AND SIMILAR TURF INDOORS/OUTDOORS.

SUPPLEMENTAL BENEFITS

Per hour:

\$ 40.49

OVERTIME PAY

See (B, E, Q) on OVERTIME PAGE

HOLIDAY

Paid: See (18, 19) on HOLIDAY PAGE.

Paid for 1st & 2nd yr.

Apprentices See (5,6,11,13,16,18,19,25)

Overtime: See (5,6,11,13,16,18,19,25) on HOLIDAY PAGE.

REGISTERED APPRENTICES

Wage per hour - (1) year terms:

1st	2nd	3rd	4th
\$ 26.54	\$ 29.60	\$ 34.05	\$ 42.40
+ 2.00*	+ 2.54*	+ 3.00*	+ 3.94*

*This portion of the benefit is NOT subject to the SAME PREMIUM as shown for overtime.

Supplemental benefits per hour:

1st	2nd	3rd	4th
\$ 15.84	\$ 16.95	\$ 20.29	\$ 21.35

8-2287

Carpenter**02/01/2026**

JOB DESCRIPTION Carpenter

DISTRICT 8

ENTIRE COUNTIES

Bronx, Dutchess, Kings, Nassau, New York, Orange, Putnam, Queens, Richmond, Rockland, Suffolk, Westchester

WAGES

Per Hour: 07/01/2025

Marine Construction:

Marine Diver \$ 76.46
+ 10.16*

Marine Tender \$ 56.00
+ 10.16*

*This portion of the benefit is NOT subject to the SAME PREMIUM as shown for overtime

SUPPLEMENTAL BENEFITS

Per Hour:

Journeyworker \$ 46.48

OVERTIME PAY

See (B, E, E2, Q) on OVERTIME PAGE

HOLIDAY

Paid: See (18, 19) on HOLIDAY PAGE

Overtime: See (5, 6, 11, 13, 16, 18, 19, 25) on HOLIDAY PAGE

REGISTERED APPRENTICES

Wages per hour:

One (1) year terms.

1st year	\$ 27.98 + 5.66*
2nd year	33.58 + 5.66*
3rd year	41.96 + 5.66*
4th year	50.35 + 5.66*

*This portion of the benefit is NOT subject to the SAME PREMIUM as shown for overtime.

Supplemental Benefits

Per Hour:

All terms \$ 33.03

8-1456MC

Carpenter**02/01/2026**

JOB DESCRIPTION Carpenter

DISTRICT 8

ENTIRE COUNTIES

Bronx, Kings, Nassau, New York, Putnam, Queens, Richmond, Rockland, Suffolk, Westchester

WAGES

Per hour: 07/01/2025

Building
Millwright \$ 60.83
+ 13.12*

*This portion of the benefit is NOT subject to the SAME PREMIUM as shown for overtime.

SUPPLEMENTAL BENEFITS

Per hour:

Millwright \$ 45.91

OVERTIME PAY

See (B, E, Q) on OVERTIME PAGE

HOLIDAY

Paid: See (18, 19) on HOLIDAY PAGE

Paid: See (18,19) on HOLIDAY PAGE.

Overtime See (5,6,8,11,13,18,19,25) on HOLIDAY PAGE.

REGISTERED APPRENTICES

Wages per hour:

One (1) year terms:

1st.	2nd.	3rd.	4th.
\$ 32.74	\$ 38.39	\$ 44.04	\$ 55.34
+ 7.08*	+ 8.25*	+ 9.42*	+ 11.76*

*This portion of the benefit is NOT subject to the SAME PREMIUM as shown for overtime.

Supplemental benefits per hour:

One (1) year terms:

1st.	2nd.	3rd.	4th.
\$ 31.16	\$ 33.69	\$ 36.87	\$ 41.29

8-740.1

Carpenter

02/01/2026

JOB DESCRIPTION Carpenter

DISTRICT 8

ENTIRE COUNTIES

Bronx, Kings, Nassau, New York, Queens, Richmond, Suffolk, Westchester

WAGES

Per Hour:

07/01/2025

Timberman \$ 56.59
+ 10.42*

*This portion of the benefit is NOT subject to the SAME PREMIUM as shown for overtime.

SUPPLEMENTAL BENEFITS

Per Hour:

07/01/2025

\$ 45.79

OVERTIME PAY

See (B, E, E2, Q) on OVERTIME PAGE

HOLIDAY

Overtime: See (5, 6, 11, 13, 25) on HOLIDAY PAGE

Paid: See (1) on HOLIDAY PAGE.

Paid: for 1st & 2nd yr.

Apprentices See (5,6,11,13,25)

Overtime: See (5,6,11,13,25) on HOLIDAY PAGE.

REGISTERED APPRENTICES

Wages per hour:

One (1) year terms:

1st	2nd	3rd	4th
\$ 25.96	\$ 31.07	\$ 38.72	\$ 46.38
+ 5.71*	+ 5.71*	+ 5.71*	+ 5.71*

*This portion of the benefit is NOT subject to the SAME PREMIUM as shown for overtime.

Supplemental benefits per hour:

All terms \$ 32.78

8-1556 Tm

Carpenter**02/01/2026**

JOB DESCRIPTION Carpenter

DISTRICT 8

ENTIRE COUNTIES

Bronx, Kings, Nassau, New York, Queens, Richmond, Rockland, Westchester

PARTIAL COUNTIES

Orange: South of but including the following, Waterloo Mills, Slate Hill, New Hampton, Goshen, Blooming Grove, Mountainville, east to the Hudson River.

Putnam: South of but including the following, Cold Spring, TompkinsCorner, Mahopac, Croton Falls, east to Connecticut border.

Suffolk: West of Port Jefferson and Patchogue Road to Route 112 to the Atlantic Ocean.

WAGES

Per hour: 07/01/2025

Core Drilling:

Driller \$ 47.88
+ 3.45*

Driller Helper \$ 37.58
+ 3.45*

Note: Hazardous Waste Pay Differential:

For Level C, an additional 15% above wage rate per hour

For Level B, an additional 15% above wage rate per hour

For Level A, an additional 15% above wage rate per hour

Note: When required to work on water: an additional \$ 3.00 per hour.

*This portion of the benefit is NOT subject to the SAME PREMIUM as shown for overtime.

SUPPLEMENTAL BENEFITS

Per hour:

Driller and Helper \$ 31.04

OVERTIME PAY

See (B, G, P) on OVERTIME PAGE

HOLIDAY

Paid: See (5, 6, 13, 25) on HOLIDAY PAGE

Overtime: See (5, 6, 13, 25) on HOLIDAY PAGE

8-1536-CoreDriller

Carpenter - Building / Heavy&Highway**02/01/2026**

JOB DESCRIPTION Carpenter - Building / Heavy&Highway

DISTRICT 4

ENTIRE COUNTIES

Suffolk

PARTIAL COUNTIES

Nassau: Entire County EXCEPT for the portion of Nassau County that lies both west of Seaford Creek AND south of the Southern State Parkway.

WAGES

Per Hour: 07/01/2025

Carpenter (Building) \$ 53.56

Carpenter
(Heavy & Highway) \$ 53.56

SHIFT WORK

ADD 15% to straight time hourly wage for NEW YORK STATE D.O.T. and other GOVERNMENTAL MANDATED Off-Shift Work.

SUPPLEMENTAL BENEFITS

Per Hour:

Both Carpenter
Categories \$ 34.43

OVERTIME PAY

See (B, E, Q) on OVERTIME PAGE

HOLIDAY

Paid: See (1) on HOLIDAY PAGE
Overtime: See (5, 6, 16, 25) on HOLIDAY PAGE

REGISTERED APPRENTICES

One(1) Year Terms at the following

Per Hour:

1st	2nd	3rd	4th
\$ 26.27	\$ 30.85	\$ 35.44	\$ 40.02

Supplemental Benefits

Per Hour:

All Terms: \$ 17.88

4-Reg.Council Nass/Suff

Electrician

02/01/2026

JOB DESCRIPTION Electrician

DISTRICT 4

ENTIRE COUNTIES

Nassau, Suffolk

WAGES

Per Hour: 07/01/2025 04/25/2026

Electrical Maintenance \$ 49.79 \$ 51.29

Traffic Signal \$ 50.75 \$ 52.25
Maintenance

"PLEASE NOTE"

Applicable to "EXISTING ELECTRICAL SYSTEMS" including, but not limited to TRAFFIC SIGNALS & STREET LIGHTING.

Not used for add-ons.

SUPPLEMENTAL BENEFITS

Per Hour:

Electrical Maintenance: 14% of Hourly Wage Paid + \$25.15 14% of Hourly Wage Paid + \$26.46

Traffic Signal: 14% of Hourly Wage Paid + \$25.30 14% of Hourly Wage Paid + \$26.65
Maintenance

NOTE: "Hourly Wage Paid" shall include any and all premium(s) pay

OVERTIME PAY

See (B, E2, K, P) on OVERTIME PAGE

HOLIDAY

Paid: See (1) on HOLIDAY PAGE
Overtime: See (5, 6, 15, 16, 25, 26) on HOLIDAY PAGE

REGISTERED APPRENTICES

Term(s) at the following Percentage of Journeyman(s) Wage:

1st 6mo	40%
2nd 6mo	50%
2nd year	60%
3rd year	70%
4th year	80%
5th year	90%

Supplemental Benefits: 07/01/2025 04/25/2026

1st 6mo	5% + \$5.51	5% + \$5.86
2nd 6mo	10% + \$6.45	10% + \$6.88
2nd year	11% + \$7.65	11% + \$8.49
3rd year	12% + \$10.41	12% + \$11.07
4th year	13% + \$14.58	13% + \$15.51

5th year 14% + \$18.46 14% + \$19.49

NOTE: Percentages are on "Hourly Wage Paid"

NOTE: "Hourly Wage Paid" shall include any and all premium(s) pay

4-25m

Electrician

02/01/2026

JOB DESCRIPTION Electrician

DISTRICT 4

ENTIRE COUNTIES

Nassau, Suffolk

WAGES

Per Hour: 07/01/2025

Tree Trimmer/Remover and
Line Clearance Specialist

\$ 44.51

Groundman*

26.70

Rates apply to all tree trimming/removal contracts including but not limited to "Electrical Line Clearance"/"Long Island Railroad Right of Ways".

For Building Construction or Road/Highway Construction Contracts, Heavy & Highway Laborer and Operating Engineer classifications Apply.

* NOTE: Utilization of Groundman Classification not to exceed 20% of the company(s) workforce on project. Please contact local district office for clarification.

SUPPLEMENTAL BENEFITS

Per Hour: 07/01/2025

Tree Trimmer,
Line Clearance Specialist,
and Groundman

20% of Hourly Wage
+ \$13.98

OVERTIME PAY

See (B, E, P, S) on OVERTIME PAGE

HOLIDAY

Paid: See (5, 6, 8, 16, 23, 24, 25, 26, 29) on HOLIDAY PAGE

Overtime: See (5, 6, 8, 16, 23, 24, 25, 26, 29) on HOLIDAY PAGE

4-1049/Tree

Electrician

02/01/2026

JOB DESCRIPTION Electrician

DISTRICT 4

ENTIRE COUNTIES

Nassau, Suffolk

WAGES

Per Hour: 07/01/2025 04/25/2026

Electrician/Wireman
Inside/Outside

\$ 64.25

\$ 66.75

SUPPLEMENTAL BENEFITS

Per Hour

Electrician/Wireman
Inside/Outside

18% of Hourly
Wage Paid
+ \$ 35.69

18% of Hourly
Wage Paid
+ \$37.05

OVERTIME PAY

See (B, E, E2, Q, *V) on OVERTIME PAGE

Note: 6% of the 18% of the above supplemental benefit to be calculated at OVERTIME WAGE PAID.

HOLIDAY

Paid: See (1) on HOLIDAY PAGE

Overtime: See (5, 6, 15, 16, 25, 26) on HOLIDAY PAGE

REGISTERED APPRENTICES

6 Month Terms at the following Wages:

1st & 2nd 07/01/2025 04/25/2026
\$25.70 \$ 26.70

3rd & 4th	27.63	28.70
5th & 6th	28.91	30.04
7th	32.13	33.38
8th	35.34	36.71
9th	41.76	43.39
10th	48.19	50.06

Supplemental Benefits Per Hour:

1st	5% + \$ 5.67	5% + \$ 5.88
2nd	10% + \$ 7.00	10% + \$ 7.26
3rd	11% + \$ 8.27	11% + \$ 8.58
4th	12% + \$ 9.67	12% + \$ 10.04
5th	12% + \$ 9.70	12% + \$ 10.06
6th	12% + \$ 10.04	12% + \$ 10.41
7th	15% + \$ 12.60	15% + \$ 13.07
8th	15% + \$ 12.60	15% + \$ 13.08
9th	16% + \$ 19.81	16% + \$ 20.55
10th	16% + \$ 19.86	16% + \$ 20.62

NOTE: Percentages are on "Hourly Wage Paid"

4-25

Electrician	02/01/2026

JOB DESCRIPTION Electrician

DISTRICT 4

ENTIRE COUNTIES

Nassau, Suffolk

WAGES

Per Hour:	07/01/2025	4/26/2025
Electrician		
Pump & Tank	\$ 48.65	\$ 50.15

SUPPLEMENTAL BENEFITS

Per Hour:		
Electrician		
Pump & Tank	18% of Hourly Wage paid + \$27.24	18% of Hourly Wage paid + 28.61

NOTE: "Hourly Wage Paid" shall include any and all premium(s) pay

OVERTIME PAY

See (B, E, Q) on OVERTIME PAGE

HOLIDAY

Overtime: See (5, 6, 16, 25) on HOLIDAY PAGE

4-25 Pump & Tank

Electrician	02/01/2026

JOB DESCRIPTION Electrician

DISTRICT 4

ENTIRE COUNTIES

Nassau, Suffolk

WAGES

Per Hour:	07/01/2025	04/25/2026
Telephone and Integrated Tele-Data System Electrician	\$ 42.93	\$ 44.43

This rate classification applies to ALL Voice, Data & Video work.: Excluding Fire Alarm Systems and Energy Management Systems (HVAC Controls), in those cases the regular Electrician rate applies. To ensure proper use of this rate please call Nassau Offices at (516)228-3912 or Suffolk Offices at (631)687-4882.

SUPPLEMENTAL BENEFITS

Per Hour:

Tele-Data Electrician	18% of Hourly Wage	18% of Hourly Wage

Paid + \$ 24.70

Paid + \$ 25.80

NOTE: "Hourly Wage Paid" shall include any and all premium(s) pay

OVERTIME PAY

See (B, E, E2, Q) on OVERTIME PAGE

HOLIDAY

Paid: See (1) on HOLIDAY PAGE

Overtime: See (5, 6, 15, 16, 25, 26) on HOLIDAY PAGE

4-25tela

Electrician Lineman

02/01/2026

JOB DESCRIPTION Electrician Lineman

DISTRICT 4

ENTIRE COUNTIES

Nassau, Queens, Suffolk

WAGES

07/01/2025

03/29/2026

Utility Distribution & Transmission Line Construction:

Per Hour:

Lineman/Splicer	\$ 70.57	\$ 73.40
Material Man	61.40	63.86
Heavy Equip. Operator	56.46	58.72
Groundman	42.34	44.04
Flagman	31.76	33.03

Natural Gasline Construction:

Per Hour:

Journeyman U.G.Mech \$ 57.63

SUPPLEMENTAL BENEFITS

07/01/2025

03/29/2026

Per Hour:

Utility Distribution & Transmission Line Construction:

Lineman/Splicer

Material Man

Heavy Equip. Operator 33.25% of Hourly

Groundman Wage Paid +

Flagman \$ 16.28

33.25% of Hourly

Wage Paid +

\$ 16.94

Natural Gasline Construction:

Per Hour:

Journeyman U.G.Mech. 30% of Hourly
Wage Paid +
\$ 15.94

NOTE: "Hourly Wage Paid" shall include any and all premium(s) pay

OVERTIME PAY

See (B, E, Q) on OVERTIME PAGE

OVERTIME for Natural Gas Mechanic:(B,G,P)

HOLIDAY

Paid: See (1) on HOLIDAY PAGE

Overtime: See (5, 6, 8, 16, 23, 25, 26) on HOLIDAY PAGE

Same as Above for Natural Gas Mechanic.

REGISTERED APPRENTICES

1000 hour Terms at the following Percentage of Journeyman's Wage.

(Lineman Only)

1st	2nd	3rd	4th	5th	6th	7th
60%	65%	70%	75%	80%	85%	90%

SUPPLEMENTAL BENEFIT:

	07/01/2025	03/29/2026
All Terms	32.25% of Hourly Wage Paid + \$ 16.28	32.25% of Hourly Wage Paid + \$ 16.94

4-1049 Line/Gas

Elevator Constructor

02/01/2026

JOB DESCRIPTION Elevator Constructor

DISTRICT 4

ENTIRE COUNTIES

Bronx, Kings, Nassau, New York, Queens, Richmond, Suffolk

PARTIAL COUNTIES

Rockland: Entire County except for the Township of Stony Point

Westchester: Entire County except for the Townships of Bedford, Lewisboro, Cortland, Mt. Kisco, North Salem, Pound Ridge, Somers and Yorktown.

WAGES

Per hour:

	07/01/2025	03/17/2026
Elevator Constructor	\$ 83.27	\$ 86.43
Modernization & Service/Repair	65.54	68.06

SUPPLEMENTAL BENEFITS

Per Hour:

Elevator Constructor	\$ 47.65	\$ 48.96
Modernization & Service/Repairs	46.47	47.73

OVERTIME PAY

Constructor See (D, M, T) on OVERTIME PAGE.

Modern/Service See (B, E5, P) on OVERTIME PAGE.

HOLIDAY

Paid: See (5, 6, 8, 11, 15, 16, 25) on HOLIDAY PAGE

Overtime: See (5, 6, 8, 11, 15, 16, 25) on HOLIDAY PAGE

REGISTERED APPRENTICES

WAGES PER HOUR:

6 MONTH TERMS:

1st Term*	2nd & 3rd Term*	4th & 5th Term	6th & 7th Term	8th & 9th Term
50%	50%	55%	65%	75%

* Note: 1st, 2nd, 3rd Terms are based on average of the Constructor, the Modernization and the Service/Repair wage.
Terms 4 thru 9 Based on the Journeyman's wage of classification they are working in.

SUPPLEMENTAL BENEFITS:

	07/01/2025	03/17/2026
Elevator Constructor		
1st Term	\$ 0.00	\$ 0.00
2nd & 3rd Term	36.90	37.66
4th & 5th Term	37.99	38.80
6th & 7th Term	39.70	40.60
8th & 9th Term	41.40	42.39
Modernization & Service/Repair		
1st Term	\$ 0.00	0.00
2nd & 3rd Term	36.88	37.63
4th & 5th Term	37.58	38.37
6th & 7th Term	39.20	40.09

8th & 9th Term	40.83	41.81	4-1

Glazier	02/01/2026

JOB DESCRIPTION Glazier

DISTRICT 8

ENTIRE COUNTIES

Bronx, Dutchess, Kings, Nassau, New York, Orange, Putnam, Queens, Richmond, Rockland, Suffolk, Sullivan, Ulster, Westchester

WAGES

Per hour:

	07/01/2025	11/01/2025
Glazier, Glass Tinting and Window Film	\$ 64.23	\$ 65.23
Scaffolding, including swing scaffold	69.23	70.23
*Mechanical Equipment	65.23	66.23
**Repair & Maintenance	31.71	32.44

*Mechanical equipment, scissor jacks, man lifts, booms & buckets 30' or more, but not pipe scaffolding.

**Repair & Maintenance- All repair & maintenance work on a particular building whenever performed, where the total cumulative Repair & Maintenance contract value is under \$193,000.

SUPPLEMENTAL BENEFITS

Per hour:

Glazier, Glass Tinting Window Film, Scaffolding and Mechanical Equipment	\$ 43.03	\$ 43.88
Repair & Maintenance	25.12	25.37

OVERTIME PAY

See (B, E, Q, V) on OVERTIME PAGE

For 'Repair & Maintenance' see (B, B2, I, S) on overtime page.

HOLIDAY

Paid: See (5, 6, 16, 25) on HOLIDAY PAGE

Overtime: See (5, 6, 16, 25) on HOLIDAY PAGE

For 'Repair & Maintenance'

Paid: See(5, 6, 16, 25)

Overtime: See(5, 6, 16, 25)

REGISTERED APPRENTICES

Wage per hour:

(1) year terms at the following wage rates:

	07/01/2025	11/01/2025
1st term	\$ 22.79	\$ 23.29
2nd term	31.15	31.71
3rd term	41.53	42.23
4th term	50.90	51.70

Supplemental Benefits:

(Per hour)

1st term	\$ 19.56	\$ 19.80
2nd term	27.85	28.31
3rd term	33.49	34.09
4th term	36.73	37.41

8-1087 (DC9 NYC)

Insulator - Heat & Frost	02/01/2026

JOB DESCRIPTION Insulator - Heat & Frost

DISTRICT 4

ENTIRE COUNTIES

Bronx, Kings, Nassau, New York, Queens, Richmond, Suffolk

WAGES

Per Hour:	07/01/2025	06/01/2026
Insulators		Additional
Heat & Frost	\$ 71.76	\$2.50*

* To be allocated at a later date.

SUPPLEMENTAL BENEFITS

Per Hour:

Insulators	\$ 37.51
Heat & Frost	

OVERTIME PAY

See (A, E, *Q, V) on OVERTIME PAGE

* Triple time for Labor Day (If worked)

HOLIDAY

Paid: See (1) on HOLIDAY PAGE

Overtime: See (5, 6, 11, 15, 16, 25, 26) on HOLIDAY PAGE

REGISTERED APPRENTICES

1 year terms at the following Wages Per Hour:

1st	2nd	3rd	4th
\$ 32.30	\$ 39.47	\$ 46.65	\$ 53.83
Supplemental Benefits:			
1st	2nd	3rd	4th
\$ 16.90	\$ 20.64	\$ 24.40	\$ 28.15

4-12

Ironworker

02/01/2026

JOB DESCRIPTION Ironworker

DISTRICT 9

ENTIRE COUNTIES

Bronx, Kings, Nassau, New York, Queens, Richmond, Suffolk, Westchester

WAGES

Per Hour:	07/01/2025	01/01/2026
Stone Derrickmen Rigger	\$ 76.86	\$ 77.82
Stone Handset Derrickman	74.38	75.67

SUPPLEMENTAL BENEFITS

Per hour:

Stone Derrickmen Rigger	\$ 47.34	\$ 48.02
Stone Handset Derrickman	46.51	47.01

OVERTIME PAY

See (B, D1, *E, Q, **V) on OVERTIME PAGE

*Time and one-half shall be paid for all work on Saturday up to eight (8) hours and double time shall be paid for all work thereafter.

** Benefits same premium as wages on Holidays only

HOLIDAY

Paid: See (18) on HOLIDAY PAGE

Overtime: See (5, 6, 8, 25) on HOLIDAY PAGE

Work stops at schedule lunch break with full day's pay.

REGISTERED APPRENTICES

Wage per hour:

Stone Derrickmen Rigger:	1st	2nd	3rd	4th
07/01/2025	\$ 38.28	\$ 54.28	\$ 60.39	\$ 66.50
01/01/2026	\$ 38.91	\$ 55.02	\$ 61.21	\$ 67.39

Supplemental Benefits:

Per hour:				
07/01/2025	23.84	35.82	35.82	35.82
01/01/2026	24.02	36.27	36.27	36.27

Stone Handset:

1/2 year terms at the following hourly wage rate:

	1st	2nd	3rd	4th
07/01/2025	\$ 36.69	\$ 52.22	\$ 58.10	\$ 63.99
01/01/2026	\$ 37.34	\$ 53.27	\$ 59.24	\$ 65.20

Supplemental Benefits:

Per hour:				
07/01/2025	23.75	35.52	35.52	35.52
01/01/2026	24.00	35.77	35.77	35.77

9-197D/R

Ironworker**02/01/2026**

JOB DESCRIPTION Ironworker

DISTRICT 4

ENTIRE COUNTIES

Bronx, Kings, Nassau, New York, Queens, Richmond, Suffolk, Westchester

WAGES

Per Hour:	07/01/2025	01/01/2026
Ornamental	\$ 48.15	\$ 48.40
Chain Link Fence	48.15	48.40
Guide Rail	48.15	48.40

SUPPLEMENTAL BENEFITS

Per hour:		
Journeyworker:	\$ 68.17	\$ 69.04

OVERTIME PAY

See (B, B1, Q, V) on OVERTIME PAGE

HOLIDAY

Paid: See (1) on HOLIDAY PAGE
Overtime: See (5, 6, 25) on HOLIDAY PAGE

REGISTERED APPRENTICES

1 year terms at the following wages per hour:

	1st	2nd	3rd	4th
07/01/2025	\$ 25.98	\$ 28.45	\$ 30.80	\$ 34.39
01/01/2026	\$ 26.40	\$ 28.92	\$ 31.30	\$ 34.95

Supplemental Benefits per hour:

1st	2nd	3rd	4th
\$ 16.29	18.29	19.29	21.29

4-580-Or

Ironworker**02/01/2026**

JOB DESCRIPTION Ironworker

DISTRICT 4

ENTIRE COUNTIES

Bronx, Kings, Nassau, New York, Queens, Richmond, Suffolk, Westchester

WAGES

PER HOUR:	07/01/2025	01/01/2026
Ironworker:		
Structural	\$ 58.95	\$ 59.20
Bridges		
Machinery		

SUPPLEMENTAL BENEFITS

Per hour paid:

Journeyman \$ 92.60 \$ 94.11

OVERTIME PAY

See (B, B1, Q, *V) on OVERTIME PAGE

*NOTE: Benefits are calculated for every hour paid.

HOLIDAY

Paid: See (1) on HOLIDAY PAGE

Overtime: See (5, 6, 18, 19) on HOLIDAY PAGE

REGISTERED APPRENTICES

6 month terms at the following wages per hour:

	1st	2nd	3rd-6th
07/01/2025	\$ 30.61	\$ 31.21	\$ 31.82
01/01/2026	\$ 30.74	\$ 31.34	\$ 31.95

Supplemental Benefits

PER HOUR PAID: \$ 64.38

4-40/361-Str

Ironworker

02/01/2026

JOB DESCRIPTION Ironworker

DISTRICT 4

ENTIRE COUNTIES

Bronx, Kings, Nassau, New York, Queens, Richmond, Suffolk, Westchester

PARTIAL COUNTIES

Rockland: Southern section - south of Convent Road and east of Blue Hills Road.

WAGES

Per hour: 07/01/2025

Reinforcing &
Metal Lathing \$ 57.00

"Base Wage" 55.20**

** For OVERTIME/PREMIUM CALCULATION purposes only.

SUPPLEMENTAL BENEFITS

Per hour:

Reinforcing &
Metal Lathing \$ 46.27

OVERTIME PAY

See (B, E, Q, *X) on OVERTIME PAGE

*Only \$23.50 per Hour for non worked hours

** OVERTIME/PREMIUMS are calculated on Reinforcing & Metal Lathing "Base Wage" then adding: \$ 1.80 per hour.

Supplemental Benefit Premiums for Overtime Hours worked:

Time & One Half \$ 52.77
Double Time 59.27

HOLIDAY

Paid: See (1) on HOLIDAY PAGE

Overtime: See (5, 6, 11, 13, *18, **19, 25) on HOLIDAY PAGE

REGISTERED APPRENTICES

(1) year terms at the following wage rates:

1st	2nd	3rd	4th
\$ 22.55	\$ 25.00	\$ 28.00	\$ 30.00

Base Wage:

\$21.00*	\$23.20*	\$26.20*	\$28.20*

* "Base Wage" are utilized for PREMIUM/OVERTIME Calculations ONLY then adding:

\$ 1.55 per hour for 1st Term
\$ 1.80 per hour for all other terms.

SUPPLEMENTAL BENEFITS Per Hour:

1st	2nd	3rd	4th
\$ 18.17	\$ 18.22	\$ 17.22	\$ 17.22

4-46Reinf

Laborer - Building	02/01/2026

JOB DESCRIPTION Laborer - Building

DISTRICT 4

ENTIRE COUNTIES

Nassau, Suffolk

WAGES

Per Hour: 07/01/2025

Building Laborer \$ 45.35
"Base Wage" 42.55*

* For OVERTIME/PREMIUM CALCULATIONS purposes only.

SUPPLEMENTAL BENEFITS

Per Hour:

Building Laborer \$ 32.36

OVERTIME PAY

See (B, E, Q) on OVERTIME PAGE

See also(H)for Fire Watch on OVERTIME PAGE

Asbestos Worker See (B, H)

* OVERTIME/PREMIUMS are calculated on Building Laborer "Base Rate" then adding: \$2.80 per hour worked.

HOLIDAY

Paid: See (1) on HOLIDAY PAGE

Overtime: See (5, 6, 25) on HOLIDAY PAGE

Asbestos Worker see (5,6,8 & 28)

REGISTERED APPRENTICES

Regular Hours Work Terms

Term #1 0-1000 Hrs
Term #2 1001-2000Hrs
Term #3 2001-3000Hrs
Term #4 3001-3000Hrs

Wages per hour:

1st	2nd	3rd	4th
\$19.09	24.35	30.03	35.15

Supplemental Benefits per hour worked:

1st	2nd	3rd	4th
\$ 25.25	26.63	27.06	27.27

4-66

Laborer - Building	02/01/2026

JOB DESCRIPTION Laborer - Building

DISTRICT 4

ENTIRE COUNTIES

Bronx, Kings, Nassau, New York, Queens, Richmond, Suffolk

WAGES

Per Hour: 07/01/2025 01/01/2026

Asbestos, Lead and \$ 41.95 \$ 42.90
Hazardous Material
Abatement Laborer

NOTE: For Asbestos removal from Mechanical Systems that are NOT to be scrapped see ASBESTOS WORKER Classification
For Re-Roofing Asbestos Removal See ROOFER Classification

SUPPLEMENTAL BENEFITS

Per Hour:

Asbestos, Lead and Hazardous Material Abatement Laborer	\$ 21.76	\$ 23.37

OVERTIME PAY

See (B, B2, I) on OVERTIME PAGE

Asbestos, Lead and Hazardous Material Abatement Laborer	\$ 61.93	\$ 62.90

HOLIDAY

Paid: See (1) on HOLIDAY PAGE

Overtime: See (5, 6, 8, 28) on HOLIDAY PAGE

REGISTERED APPRENTICES

1000 hour terms at the following wages per hour:

	1st	2nd	3rd	4th
07/01/2025	\$22.12	\$23.12	\$26.12	\$28.12
01/01/2026	\$22.86	\$23.91	\$26.98	\$29.14

OVERTIME PAY:

	1st	2nd	3rd	4th
07/01/2025	\$32.50	\$34.00	\$38.50	\$41.50
01/01/2026	\$33.26	\$34.83	\$39.44	\$42.68

SUPPLEMENTAL BENEFIT

Per Hour:

All Terms	\$ 15.68	\$ 16.94

4-NYDC(78)

Laborer - Heavy&Highway

02/01/2026

JOB DESCRIPTION Laborer - Heavy&Highway

DISTRICT 4

ENTIRE COUNTIES

Nassau, Suffolk

WAGES

Laborer (Heavy/Highway):

GROUP # 1: Asphalt Rakers, Concrete Curb Formsetters.

GROUP # 2: Asphalt Shovelers, Rollerboy and Tampers.

GROUP # 3: Basic Laborer, Power Tool(Jackhammer), Landscape Construction(Non-Building), Traffic Control Personnel(Flagger)

WAGES PER HOUR:

	07/01/2025
GROUP # 1	
Total Wage Paid	63.83
"Base Wage"	54.23*
GROUP # 2	
Total Wage Paid	62.36
"Base Wage"	52.76*
GROUP # 3	
Total Wage Paid	57.89
"Base Wage"	48.29*

* For OVERTIME/PREMIUM CALCULATIONS purposes only.

SHIFT WORK

Additional 30% to "Base Wage" for all hours worked on New York State D.O.T. and/or other Government Mandated Off-Shift Work.

Hazardous Material Work add an Additional 10% of base wage

SUPPLEMENTAL BENEFITS

Per Hour:

ALL GROUPS 37.18

After Forty (40) paid hours in a work week

OVERTIME PAY 21.94

OVERTIME PAY

See (B, E2, F) on OVERTIME PAGE

NOTES: Premium/Overtime Pay to be calculated on "Base Wage" ONLY. Then adding the difference between "Total Wage Paid" and "Base Wage"

Example Group #3 \$48.29 X Time and One Half = \$72.44 + \$9.60 = \$82.04

HOLIDAY

Paid: See (1) on HOLIDAY PAGE

Overtime: See (1) on HOLIDAY PAGE

REGISTERED APPRENTICES

1000 hour(s) Terms at the following Percentage of the Journey Worker "Base Wage".

1st 0-1000/Hrs.	60%
2nd 1001-2000/Hrs.	70%
3rd 2001-3000/Hrs.	80%
4th 3001-4000/Hrs.	90%

Supplemental Benefits per hour:

All APPRENTICES \$37.18

After Forty(40) paid hours in a work Week
21.94

4-1298

Mason

02/01/2026

JOB DESCRIPTION Mason

DISTRICT 4

ENTIRE COUNTIES

Bronx, Kings, Nassau, New York, Queens, Richmond, Suffolk

WAGES

Per Hour: 07/01/2025

Brick/Block Layer \$ 68.84

"Base Wage" 57.30*

* For OVERTIME/PREMIUM CALCULATIONS purposes only.

SUPPLEMENTAL BENEFITS

Per Hour:

Brick/Block Layer \$ 36.70

OVERTIME PAY

See (A, E, E2, Q) on OVERTIME PAGE

* OVERTIME/PREMIUMS are calculated on Brick/Block Layer "Base Wage" then adding: \$11.29 per hour worked.

HOLIDAY

Paid: See (1) on HOLIDAY PAGE

Overtime: See (5, 6, 25) on HOLIDAY PAGE

REGISTERED APPRENTICES

Terms at the following Percentage of Brick/Block Layer "Base Wage" then adding \$ 6.04 per hour.:

1st	2nd	3rd	4th	5th	6th
40%	50%	60%	70%	80%	90%

Supplemental Benefits per hour:

All Apprentices \$ 26.25

4-1Brk

Mason - Building **02/01/2026**

JOB DESCRIPTION Mason - Building

DISTRICT 9

ENTIRE COUNTIES

Nassau, Rockland, Suffolk, Westchester

WAGES

Per hour:	07/01/2025	12/01/2025	6/1/2026 Additional
Tile Setters	\$ 65.03	\$ 65.64	\$ 1.28

SUPPLEMENTAL BENEFITS

Per Hour:	\$ 29.61* +8.53	\$ 30.11* +8.54

* This portion of benefits subject to same premium rate as shown for overtime wages.

OVERTIME PAY

See (B, E, Q, V) on OVERTIME PAGE

Work beyond 10 hours on Saturday shall be paid at double the hourly wage rate.

HOLIDAY

Paid: See (1) on HOLIDAY PAGE
Overtime: See (5, 6, 11, 15, 16, 25) on HOLIDAY PAGE

REGISTERED APPRENTICES

Wage per hour:

(750 hour) term at the following wage rate:

Term:	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th
	1-750	751-1500	1501-2250	2251-3000	3001-3750	3751-4500	4501-5250	5251-6000	6001-6750	6501-7000
07/01/2025	\$22.34	\$27.46	\$34.56	\$39.66	\$43.35	\$46.96	\$50.69	\$55.79	\$58.36	\$65.03
12/01/2025	\$22.70	\$27.86	\$35.07	\$40.22	\$43.96	\$47.61	\$51.39	\$56.55	\$59.16	\$65.54

Supplemental Benefits per hour:

	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th
07/01/2025	\$13.00* +\$.76	\$13.00* +\$.81	\$16.11* +\$.92	\$16.11* +\$.97	\$17.11* +\$1.44	\$18.61* +\$1.49	\$19.61* +\$1.92	\$19.61* +\$1.97	\$19.61* +\$4.57	\$29.61* +\$8.53
12/01/2025	\$13.00* + \$.76	\$13.00* + \$.82	\$16.11* + \$.92	\$16.11* + \$.97	\$17.11* +\$1.44	\$18.61* +\$1.50	\$19.61* +\$1.93	\$19.61* +\$1.98	\$19.61* +\$4.58	\$30.11* +\$8.54

* This portion of benefits subject to same premium rate as shown for overtime wages.

9-7/52A

Mason - Building **02/01/2026**

JOB DESCRIPTION Mason - Building

DISTRICT 9

ENTIRE COUNTIES

Bronx, Kings, Nassau, New York, Queens, Richmond, Suffolk, Westchester

WAGES

Building	07/01/2025	01/01/2026

Wages per hour:

Mosaic & Terrazzo Mechanic	\$ 61.77	\$ 62.27
Mosaic & Terrazzo Finisher	60.17	60.67

SUPPLEMENTAL BENEFITS

Per hour:

Mosaic & Terrazzo Mechanic	\$ 31.56* + \$10.91	\$ 31.66* + \$11.37
Mosaic & Terrazzo Finisher	\$ 31.56* + 10.89	\$ 31.66* + 11.35

*This portion of benefits subject to same premium rate as shown for overtime wages.

OVERTIME PAY

See (A, E, Q) on OVERTIME PAGE

Deduct \$7.00 from hourly wages before calculating overtime.

HOLIDAY

Paid: See (1) on HOLIDAY PAGE

Overtime: See (5, 6, 8, 11, 15, 16, 25) on HOLIDAY PAGE

Easter Sunday is an observed holiday. Holidays falling on a Saturday will be observed on that Saturday. Holidays falling on a Sunday will be celebrated on the Monday.

REGISTERED APPRENTICES

Wages Per hour:

	1st 0- 1500	2nd 1501- 3000	3rd 3001- 3750	4th 3751- 4500	5th 4501- 5250	6th 5251- 6000
07/01/2025	\$25.50	\$32.80	\$40.21	\$41.37	\$49.69	\$56.54
01/01/2026	\$25.72	\$33.06	\$40.57	\$41.80	\$50.18	\$56.58

Supplemental Benefits per hour:

07/01/2025	\$7.16* + 3.83	\$9.20* + 4.91	\$15.78* + 6.55	\$23.96* + 7.63	\$24.96* + 8.74	\$27.46* + 9.81
01/01/2026	\$7.16* + 3.98	\$9.20* + 5.12	\$15.78* + 7.95	\$24.96* + 7.95	\$24.96* + 9.10	\$27.96* + 11.37

*This portion of benefits subject to same premium rate as shown for overtime wages.

9-7/3

Mason - Building

02/01/2026

JOB DESCRIPTION Mason - Building

DISTRICT 9

ENTIRE COUNTIES

Bronx, Kings, Nassau, New York, Queens, Richmond, Suffolk, Westchester

WAGES

Per hour:	07/01/2025	07/07/2025	01/05/2026
Building-Marble Restoration: Marble, Stone & Terrazzo Polisher	\$ 47.93	\$ 48.20	\$ 48.36

SUPPLEMENTAL BENEFITS

Per Hour:

Journeyworker:

Building-Marble Restoration: Marble, Stone & Polisher	\$ 31.86	\$ 32.16	\$ 32.57

OVERTIME PAY

See (B, *E, Q, V) on OVERTIME PAGE

* On Saturdays, 8th hour and successive hours paid at double hourly rate.

HOLIDAY

Paid: See (1) on HOLIDAY PAGE
Overtime: See (5, 6, 8, 11, 15, 25) on HOLIDAY PAGE

REGISTERED APPRENTICES

WAGES per hour:

900 hour term at the following wage:

	1st 1- 900	2nd 901- 1800	3rd 1801- 2700	4th 2701
07/01/2025	33.54	38.34	43.13	47.93
07/07/2025	33.73	38.56	43.37	48.20
01/05/2026	33.84	38.68	43.51	48.36

Supplemental Benefits Per Hour:

07/01/2025	29.59	30.34	31.11	31.86
07/07/2025	30.19	30.84	31.51	32.16
01/05/2026	31.14	31.61	32.10	32.57

9-7/24-MP

Mason - Building **02/01/2026**

JOB DESCRIPTION Mason - Building

DISTRICT 9

ENTIRE COUNTIES

Bronx, Dutchess, Kings, Nassau, New York, Orange, Putnam, Queens, Richmond, Rockland, Suffolk, Sullivan, Ulster, Westchester

WAGES

Per Hour:

	07/01/2025	07/07/2025	01/05/2026
Marble Cutters & Setters	\$ 64.21	\$ 64.66	\$ 65.21

SUPPLEMENTAL BENEFITS

Per Hour:

Journeyworker	\$ 40.51	\$ 40.82	\$ 41.02

OVERTIME PAY

See (B, E, Q, V) on OVERTIME PAGE

HOLIDAY

Paid: See (1) on HOLIDAY PAGE
Overtime: See (5, 6, 8, 11, 15, 16, 25) on HOLIDAY PAGE

REGISTERED APPRENTICES

Wage Per Hour:

750 hour terms at the following wage

	1st	2nd	3rd	4th	5th	6th	7th	8th
	0- 3000	3001- 3750	3751- 4500	4501- 5250	5251- 6000	6001- 6750	6751- 7500	7500+
07/01/2025	\$27.24	\$40.84	\$44.25	\$47.63	\$51.05	\$54.58	\$60.99	\$64.21
07/07/2025	\$27.60	\$41.50	\$44.98	\$48.45	\$51.94	\$54.81	\$64.66	\$64.66
01/05/2026	\$27.39	\$41.07	\$44.49	\$47.91	\$51.33	\$53.73	\$65.21	\$65.21

Supplemental Benefits per hour:

	1st	2nd	3rd	4th	5th	6th	7th	8th
07/01/2025	\$26.88	\$30.14	\$30.95	\$31.78	\$32.59	\$38.07	\$39.71	\$40.51

07/07/2025

\$26.95	\$30.02	\$30.78	\$31.55	\$32.32	\$38.53	\$40.82	\$40.82
01/05/2026							
\$28.60	\$31.67	\$32.43	\$33.20	\$33.97	\$40.73	\$41.02	\$41.02

9-7/4

Mason - Building	02/01/2026

JOB DESCRIPTION Mason - Building **DISTRICT** 9

ENTIRE COUNTIES
Nassau, Rockland, Suffolk, Westchester

WAGES

Per hour: 07/01/2025 12/01/2025 06/01/2026

Tile Finisher \$ 50.11 \$ 50.44 Additional 1.05*

*To be allocated at a later date.

SUPPLEMENTAL BENEFITS

Per Hour: \$ 26.11* \$ 26.61*
+ 8.35 + 8.36

*This portion of benefits is subjected to same premium rate as shown for overtime wages

OVERTIME PAY

See (B, E, Q, *V) on OVERTIME PAGE

*Work beyond 10 hours on a Saturday shall be paid at double the hourly wage rate.

HOLIDAY

Paid: See (1) on HOLIDAY PAGE
Overtime: See (5, 6, 11, 15, 16, 25) on HOLIDAY PAGE

9-7/88A-tf

Mason - Building	02/01/2026

JOB DESCRIPTION Mason - Building **DISTRICT** 9

ENTIRE COUNTIES
Bronx, Kings, Nassau, New York, Queens, Richmond, Suffolk, Westchester

WAGES

Per hour: 07/01/2025 07/07/2025 01/05/2026

Marble, Stone, Maintenance Finishers: \$ 27.99 \$ 28.15 \$ 28.30

Note 1: An additional \$2.00 per hour for time spent grinding floor using "60 grit" and below.

Note 2: Flaming equipment operator shall be paid an additional \$25.00 per day.

SUPPLEMENTAL BENEFITS

Per Hour:

Marble, Stone Maintenance Finishers: \$ 15.88 \$ 16.13 \$ 16.39

OVERTIME PAY

See (B, *E, Q, V) on OVERTIME PAGE

*Double hourly rate after 8 hours on Saturday

HOLIDAY

Paid: See (5, 6, 8, 11, 15, 25) on HOLIDAY PAGE
Overtime: See (5, 6, 8, 11, 15, 25) on HOLIDAY PAGE

1st term apprentice gets paid for all observed holidays.

REGISTERED APPRENTICES

WAGES per hour: 07/01/2025 07/07/2025 01/05/2025

0-750 \$ 22.91 \$ 23.39 \$ 23.56

751-1500	23.59	24.02	24.20
1501-2250	24.26	24.67	24.83
2251-3000	24.95	25.29	25.46
3001-3750	25.96	26.25	26.41
3751-4500	27.32	27.52	27.68
4501+	27.99	28.15	28.30

Supplemental Benefits:
Per hour:

0-750	\$ 12.43	\$ 12.31	\$ 12.50
751-1500	12.89	12.82	13.01
1501-2250	13.35	13.32	13.51
2251-3000	13.80	13.84	14.05
3001-3750	14.50	14.60	14.83
3751-4500	15.41	15.62	15.86
4501+	15.88	16.13	16.39

9-7/24M-MF

Mason - Building / Heavy&Highway

02/01/2026

JOB DESCRIPTION Mason - Building / Heavy&Highway

DISTRICT 9

ENTIRE COUNTIES

Bronx, Kings, Nassau, New York, Queens, Richmond, Suffolk, Westchester

WAGES

Per hour:	07/01/2025	07/07/2025	01/05/2026 Additional
Marble-Finisher	\$ 50.22	\$ 50.44	\$ 0.53

SUPPLEMENTAL BENEFITS

Journeyworker:
Per hour

Marble- Finisher	\$ 37.69	\$ 38.00

OVERTIME PAY

See (B, E, Q, V) on OVERTIME PAGE

Work beyond 8 hours on a Saturday shall be paid at double the rate.

HOLIDAY

Overtime: See (5, 6, 8, 11, 15, 16, 25) on HOLIDAY PAGE
When an observed holiday falls on a Sunday, it will be observed the next day.

9-7/20-MF

Mason - Building / Heavy&Highway

02/01/2026

JOB DESCRIPTION Mason - Building / Heavy&Highway

DISTRICT 4

ENTIRE COUNTIES

Bronx, Kings, Nassau, New York, Queens, Richmond, Suffolk

WAGES

Per Hour:	07/01/2025

Cement Mason	\$ 59.87

SUPPLEMENTAL BENEFITS

Per Hour:

Cement Mason	\$ 34.81
1.5x OVERTIME	\$ 63.30
2X OVERTIME	\$ 69.62

OVERTIME PAY

See (B1, Q) on OVERTIME PAGE

HOLIDAY

Paid: See (1) on HOLIDAY PAGE
Overtime: See (5, 6, 8, 11, 13, 25) on HOLIDAY PAGE

REGISTERED APPRENTICES

(1) year terms at the following wage:

1st	2nd	3rd
\$ 23.77	\$ 28.74	\$ 34.27

Supplement Benefits per hour paid:

	1st	2nd	3rd
Straight Time	\$ 14.86	\$ 15.16	\$ 15.27
1.5x OVERTIME	14.89	15.34	15.50
2X OVERTIME	14.91	15.51	15.73

4-780

Mason - Building / Heavy&Highway

02/01/2026

JOB DESCRIPTION Mason - Building / Heavy&Highway

DISTRICT 4

ENTIRE COUNTIES

Bronx, Kings, Nassau, New York, Queens, Richmond, Suffolk

WAGES

NOTE: Shall include but not limited to Precast concrete slabs (London Walks) Marble and Granite pavers 2'x 2' or larger.

Per Hour:

07/01/2025

Stone Setter	\$ 71.77
"Base Wage"	55.87*

* For OVERTIME/PREMIUM CALCULATIONS purposes only.

SUPPLEMENTAL BENEFITS

Per Hour:

Stone Setter	\$ 44.10

OVERTIME PAY

See (*C, **E, Q) on OVERTIME PAGE

* OVERTIME/PREMIUMS are calculated on Stone Setter "Base Wage" then adding: \$15.90 per hour worked.

**On weekdays the eighth (8th) and ninth (9th) hours are time and one-half and all work thereafter is paid at double the hourly rate. On Saturday, the first nine (9) hours are paid at time and one-half and all work thereafter is paid at double the hourly rate.

HOLIDAY

Paid: See (*18) on HOLIDAY PAGE
Overtime: See (5, 6, 8, 10) on HOLIDAY PAGE

Paid: * Must work first 1/2 of day.

REGISTERED APPRENTICES

Per Hour:

Terms at the following Percentage of Stone Setter "Base Wage" then adding:

\$ 4.06 per hour worked for 1st Term

\$ 7.32 per hour worked for all other terms

1st	2nd	3rd	4th	5th	6th
40%	50%	60%	70%	80%	90%

Supplemental Benefits:

1st Term	\$20.76
All Other Terms	26.76

4-1Stn

Mason - Heavy&Highway

02/01/2026

JOB DESCRIPTION Mason - Heavy&Highway

DISTRICT 4

ENTIRE COUNTIES

Bronx, Kings, Nassau, New York, Queens, Richmond, Suffolk

WAGES

Per Hour: 07/01/2025

Pointer, Caulkers &	\$ 65.59

Class "AA"	\$96.15	Additional 3%
Cranes:	Boom length over 100 feet add \$ 1.00 per hour	per hour to
	Boom length over 150 feet add \$ 1.50 per hour	be allocated
	Boom length over 250 feet add \$ 2.50 per hour	(All Classes)
	Boom length over 350 feet add \$ 3.00 per hour	

Class "A" 80.43
Add \$3.50 for Hazardous Waste Work

Class "B" 76.44
Add \$2.50 for Hazardous Waste Work

Class "C" 73.78
Add \$1.50 for Hazardous Waste Work

Class "D" 56.54
Add \$1.00 for Hazardous Waste Work

Class "E" 54.21

SUPPLEMENTAL BENEFITS

Per Hour:

All Classes \$ 42.40
Overtime Rate \$ 38.10

OVERTIME PAY

See (D, O) on OVERTIME PAGE

HOLIDAY

Paid: See (5, 6, 8, 15, 16, 25) on HOLIDAY PAGE
Overtime: See (5, 6, 8, 15, 16, 25) on HOLIDAY PAGE

REGISTERED APPRENTICES

One(1) Year Terms at the following Rate:

1st	2nd	3rd
\$29.40	\$30.43	\$31.46

Supplemental Benefits per hour:

All Apprentices \$ 15.64
Overtime Rate \$ 5.60

4-138

Operating Engineer - Building / Heavy&Highway

02/01/2026

JOB DESCRIPTION Operating Engineer - Building / Heavy&Highway

DISTRICT 4

ENTIRE COUNTIES

Bronx, Kings, Nassau, New York, Queens, Richmond, Suffolk

WAGES

Per Hour: 07/01/2025 08/01/2025

Well Driller \$ 43.11 \$ 44.37

Well Driller Helper 37.35 38.44

Hazardous Waste Differential
Added to Hourly Wage:

Level A	\$ 3.00
Level B	\$ 2.00
Level C	\$ 1.00

Monitoring Well Work
Add to Hourly Wage:

Level A \$ 3.00
Level B \$ 2.00

SUPPLEMENTAL BENEFITS

Per Hour:

Well Driller 10% of Total Wage at
& Helper Straight time rate plus \$ 13.50*

*Additional \$ 4.25/Hr. for Premium Time Hours Worked

OVERTIME PAY

See (B2, P, S) on OVERTIME PAGE

HOLIDAY

Paid: See (5, 6, 16, 23) on HOLIDAY PAGE
Overtime: See (5, 6, 16, 23) on HOLIDAY PAGE

REGISTERED APPRENTICES

Apprentices at 12 Month Terms

Wages Per Hour:

	1st	2nd	3rd
07/01/2025	\$ 28.00	\$ 29.00	\$ 30.00
08/01/2025	\$ 29.40	\$ 30.43	\$ 31.46

SUPPLEMENTAL BENEFITS

Per Hour:

All Terms 10% of Total Straight time wage plus \$ 13.50*

*Additional \$ 4.25/Hr. for Premium Time Hours Worked

4-138well

Operating Engineer - Heavy&Highway

02/01/2026

JOB DESCRIPTION Operating Engineer - Heavy&Highway

DISTRICT 4

ENTIRE COUNTIES

Nassau, Suffolk

WAGES

HEAVY and HIGHWAY CATEGORIES:

CLASS "AA "CRANES:

ABI Machine (150,000lbs and over or 149,999lbs and under when driving steel sheet piles), All Cranes/Cherry pickers, Derrick, Dragline, Dredge, Tower Crane, Pile Driver, Vertical Drill Rig

CLASS "A":

ABI Machine (149,999 and under used for augering and drilling), Asphalt Spreader, Backhoe Crawler(360 swing), Barrier Machine, CAP (ice machine), CMI or Maxim Spreader, Concrete Pump, Directional Boring, GradAll, Grader, Hoist (3drum or multi platform), Laser Screed, Loading Machine (Bucket/CAP 10YDS or more), Milling Machine (Large), Pipeline Welder, Plant Engineer, Power Winch (Stone setting/Structural steel), Powerhouse, Scoop Carry-All Scraper (in tandem), Side boom Tractor (includes tank work), Track Alignment Machine, Stone Spreader (Self Propelled), Striping Machine (Long line/Truck mounted), Tree Grapple, Zamboni.

CLASS "B":

Backhoe (other than 360), Belt Screte, Bulldozer, Boom Truck, Boring Machine/Auger, Conveyor-Multi, Curb Machine (asphalt or concrete), Dinky Locomotive, Drill Rig (dowels), Fork Lift, Hoist (2 Drum), Loading Machine & Front End Loader, Mechanical Compactors (Machine Drawn), Mulch Machine (Machine Fed), Post Hole/Auger, Power Winch (Other than Class "A"), Asphalt Roller, Hydraulic Pump with Boring Machine, Scoop, Carryall/Scraper, Skid Loader/Skid Steer/Bobcat, Trenching Machine, Vermeer Cutter, Work Boat, Inspection/Safety Boat.

CLASS "C":

Concrete Finish/Saw/Spreader, Dirt Roller, Hoist (1 drum, Clam Shell), Interior Hoist, Milling Machine (small), Oiler Truck Crane (pile work), Power Broom, Vactor Truck, Vac-All.

CLASS "D":

Boiler (thermoplastic), Concrete Breaker, Cnveryor, Curing Machine, Fork Lift or Walk Behind (power operated), Generator, Hydra Hammer, Compactors (mechanical or hand operated), Maintenance Engineer (small equipment/well point/welding & burning), Mechanic (field man), Micro-Trap with Compressor, Oiler (Truck Crane Boom 100ft or more) Power Winch Truck Mounted (Stone Setter/Struct. Steel), Pin Puller, Portable Heaters, Power Buggies, Pump (double action diaphragm), Pump (4 inch or over), Pump (hydraulic/submersible) Jet Pump, Pulvi-Mixer, Ridge Cutter, Shot Blaster.

CLASS "E":

Batching Plant, Compressor (structural steel/2 or more battery), Generator (small), Grinder, Ground Heater, Power Grinder, Mixer with Skip, Mulching Machine (hand fed), Oiler, Pipeline Welder Helper, Power Washer, Pumps (up to 3 inch/single action 1 to 3 inches), Pump (gypsum), Root Cutter, Stump Chipper, Track Tamper, Tractor (caterpillar or wheel), Trenching Machine (hand), Welding Machine (pile work/structural steel), Deckhand on Work/Inspection/Safety Boat.

07/01/2025

06/01/2026

Class "AA" \$ 95.30
Cranes: Boom Length over 100 feet add \$ 1.00 per hour
Boom Length over 150 feet add \$ 1.50 per hour
Boom Length over 250 feet add \$ 2.00 per hour
Boom Length over 350 feet add \$ 3.00 per hour

Additional 3%
Per hour to
be Allocated
(All Classes)

Class "A" 84.70
Add \$3.50 for Hazardous Waste Work.

Class "B" 79.33
Add \$2.50 for Hazardous Waste Work.

Class "C" 76.61
Add \$1.50 for Hazardous Waste Work

Class "D" 58.93
Add \$1.00 for Hazardous Waste Work

Class "E" 56.55

SHIFT WORK

ADD 30% to straight time hourly wage for NEW YORK STATE D.O.T. and other GOVERNMENTAL MANDATED off-shift work.

SUPPLEMENTAL BENEFITS

Per Hour:

ALL CLASSES \$ 42.65

Note: OVERTIME AMOUNT 38.10

OVERTIME PAY

See (D, O) on OVERTIME PAGE

HOLIDAY

Paid: See (5, 8, 15, 20, 22, 25, 26) on HOLIDAY PAGE
Overtime: See (5, 8, 15, 20, 22, 25, 26) on HOLIDAY PAGE

REGISTERED APPRENTICES

Wage per hour:

REGISTERED APPRENTICES

One(1) Year Terms at the following Rate:

1st	2nd	3rd
\$ 29.40	\$30.43	\$31.46

SUPPLEMENTAL BENEFITS:

All Apprentices \$ 15.64
Overtime Rate 5.60

4-138

Operating Engineer - Heavy&Highway

02/01/2026

JOB DESCRIPTION Operating Engineer - Heavy&Highway

DISTRICT 4

ENTIRE COUNTIES

Nassau, Suffolk

WAGES

Party Chief - One who directs a survey party
Instrument Man - One who runs the instrument and assists Party Chief
Rodman - One who holds the rod and in general, assists the survey party
Categories cover GPS & Under Ground Surveying

Per Hour: 07/01/2025
Heavy Highway/Building

Party Chief \$ 76.55
Instrument Man 56.73
Rodman 47.65

SUPPLEMENTAL BENEFITS

Per Hour:

Heavy Highway/Building \$ 45.75

Premium*:
Heavy Highway/Building 49.35

Premium**:
Heavy Highway/Building 60.59

* Applies to instances where 1-1/2 regular rate are paid

**Applies to instances where 2 times the rate are paid.

OVERTIME PAY

See (B, B2, *E, E5, Q, V) on OVERTIME PAGE

* Double-time paid on the 9th hour on Saturday.

HOLIDAY

Paid: See (5, 6, 10, 11, 15, 16, 26) on HOLIDAY PAGE

Overtime: See (5, 6, 10, 11, 15, 16, 26) on HOLIDAY PAGE

4-15D-N/S co.

Operating Engineer - Marine Dredging

02/01/2026

JOB DESCRIPTION Operating Engineer - Marine Dredging

DISTRICT 4

ENTIRE COUNTIES

Albany, Bronx, Cayuga, Clinton, Columbia, Dutchess, Essex, Franklin, Greene, Jefferson, Kings, Monroe, Nassau, New York, Orange, Oswego, Putnam, Queens, Rensselaer, Richmond, Rockland, St. Lawrence, Suffolk, Ulster, Washington, Wayne, Westchester

WAGES

These wage rates do not apply to Operating Engineers on land-based construction projects. For those projects, refer to the Operating Engineers Heavy/Highway rates. The wage rates listed below apply specifically to all equipment and operators involved in marine dredging work within navigable waters located in the counties listed above.

Per Hour: 07/01/2025 10/01/2025

CLASS A1 \$ 47.07 \$ 48.48
Deck Captain, Leverman,
Mechanical Dredge Operator,
Licensed Tug Operator with MOTV

CLASS A2 41.94 43.20
Crane Operator (360 swing)

CLASS B To conform to Operating Engineer
Dozer, Front Loader Prevailing Wage in locality where work
Operator (On Land) is being performed including benefits.

CLASS B1 40.71 41.93
Derrick Operator (180 swing),
Spider/Spill Barge Operator I/II,
Fill Placer, Engineer, Chief Mate,
Electrician, Chief Welder, Maintenance Engineer,
Licensed Boat, Crew Boat Operator

CLASS B2 38.31 39.46
Certified Welder

CLASS C1 37.26 38.38
Drag Barge Operator,
Steward, Mate,
Assistant Fill Placer

CLASS C2 Boat Operator	36.07	37.15

CLASS D Shoreman, Deckhand, Oiler, Rodman, Scowman, Cook, Messman, Porter/Janitor	29.96	30.86

SUPPLEMENTAL BENEFITS

Per Hour:

THE FOLLOWING SUPPLEMENTAL BENEFITS APPLY TO ALL CATEGORIES

All Classes: 7% of Hourly Straight time wage + \$12.00.

Additional \$0.63 per hour for Overtime hours

OVERTIME PAY

See (B2, F, R) on OVERTIME PAGE

HOLIDAY

Paid: See (1) on HOLIDAY PAGE

Overtime: See (5, 6, 8, 15, 26) on HOLIDAY PAGE

4-25a-MarDredge

Operating Engineer - Survey Crew - Consulting Engineer

02/01/2026

JOB DESCRIPTION Operating Engineer - Survey Crew - Consulting Engineer

DISTRICT 9

ENTIRE COUNTIES

Bronx, Kings, Nassau, New York, Putnam, Queens, Richmond, Suffolk, Westchester

PARTIAL COUNTIES

Dutchess: That part in Dutchess County lying South of the North City line of Poughkeepsie.

WAGES

Feasibility and preliminary design surveying, any line and grade surveying for inspection or supervision of construction.

Per hour: 07/01/2025

Survey Classifications

Party Chief	\$ 51.16

Instrument Man	42.44

Rodman	36.92

SUPPLEMENTAL BENEFITS

Per Hour:

All Crew Members: \$ 24.53

OVERTIME PAY

OVERTIME:.... See (B, E*, Q, V) ON OVERTIME PAGE.

*Double-time paid on the 9th hour on Saturday.

HOLIDAY

Paid: See (5, 6, 7, 11, 16) on HOLIDAY PAGE

Overtime: See (5, 6, 7, 11, 16) on HOLIDAY PAGE

9-15dconsult

Operating Engineer - Trenchless Pipe Rehab

02/01/2026

JOB DESCRIPTION Operating Engineer - Trenchless Pipe Rehab

DISTRICT 4

ENTIRE COUNTIES

Nassau, Suffolk

WAGES

IMPORTANT NOTE: This Category & Classifications are now located within
Operating Engineers/Heavy Highway & Laborers/ Heavy Highway.

Per Hour:

07/01/2025

(SEE)

Robotic Unit Operator	Operator(class D)
Technician/Boiler, Generator	Operator(class D)
AM Liner/Hydra Seal	Laborer(Grp#3)
Hobas Pipe, Polyethylene Pipe or Pull and Inflate Liner	Laborer(Grp#3)

OVERTIME PAY

-

HOLIDAY

-

4-138TrchPReh

Painter	02/01/2026

JOB DESCRIPTION Painter

DISTRICT 8

ENTIRE COUNTIES

Bronx, Kings, Nassau, New York, Putnam, Queens, Richmond, Suffolk, Westchester

WAGES

Per hour:	07/01/2025	05/01/2026
Brush	\$ 54.56	Additional \$2.69*
Abatement/Removal of lead based or lead containing paint on materials to be repainted.	54.56	
Spray & Scaffold	\$ 57.56	
Fire Escape	57.56	
Decorator	57.56	
Paperhanger/Wall Coverer	55.62	

*To be allocated at a later date.

SHIFT WORK

Counties of Bronx, Kings, Nassau, New York, Putnam, Queens, Richmond, Suffolk, and Westchester; Agency/Government mandated off-shift work to be paid at time and one-half the hourly wage.

SUPPLEMENTAL BENEFITS

Per hour:

Paperhanger	\$ 38.82
All others	35.23
Premium	39.36**

**Applies only to "All others" category, not paperhanger journeyworker.

OVERTIME PAY

See (A, E, R) on OVERTIME PAGE

HOLIDAY

Paid: See (1) on HOLIDAY PAGE
Overtime: See (5, 6, 16, 25) on HOLIDAY PAGE

REGISTERED APPRENTICES

One (1) year terms at the following wage rate.

Per hour:	07/01/2025
Appr 1st term...	\$ 20.76
Appr 2nd term...	26.72
Appr 3rd term...	32.51
Appr 4th term...	43.64

Supplemental benefits:

Per Hour:	
Appr 1st term...	\$ 17.40
Appr 2nd term...	21.47

Appr 3rd term...	24.77
Appr 4th term...	31.43

8-NYDC9-B/S

Painter	02/01/2026

JOB DESCRIPTION Painter

DISTRICT 8

ENTIRE COUNTIES

Putnam, Suffolk, Westchester

PARTIAL COUNTIES

Nassau: All of Nassau except the areas described below: Atlantic Beach, Ceadhurst, East Rockaway, Gibson, Hewlett, Hewlett Bay, Hewlett Neck, Hewlett Park, Inwood, Lawrence, Lido Beach, Long Beach, parts of Lynbrook, parts of Oceanside, parts of Valley Stream, and Woodmere. Starting on the South side of Sunrise Hwy in Valley Stream running east to Windsor and Rockaway Ave., Rockville Centre is the boundary line up to Lawson Blvd. turn right going west all the above territory. Starting at Union Turnpike and Lakeville Rd. going north to Northern Blvd. the west side of Lakeville road to Northern Blvd. At Northern Blvd. going east the district north of Northern Blvd. to Port Washington Blvd. West of Port Washington Blvd. to St. Francis Hospital then north of first traffic light to Port Washington and Sands Point, Manor Haven, Harbour Acres.

WAGES

Per hour:	07/01/2025	05/01/2026
Drywall Taper:	\$ 54.56	Additional
Scaffold:	\$ 57.56	\$ 2.69*

* To be allocated a later date.

SHIFT WORK

Agency/Government mandated off-shift work to be paid at time and one-half hourly wage

SUPPLEMENTAL BENEFITS

Per hour:	
Journeyman	\$ 35.23

OVERTIME PAY

See (A, E, R) on OVERTIME PAGE

HOLIDAY

Paid:	See (1) on HOLIDAY PAGE
Overtime:	See (5, 6, 16, 25) on HOLIDAY PAGE

REGISTERED APPRENTICES

Wages - Per Hour:

1500 hour terms at the following wage rate:

1st term	\$ 20.76
2nd term	26.72
3rd term	32.51
4th term	43.64

Supplemental Benefits - Per hour:

One year term (1500 hours) at the following dollar amount.

1st year	\$ 17.40
2nd year	21.47
3rd year	24.77
4th year	31.43

8-NYDCT9-DWT

Painter - Bridge & Structural Steel	02/01/2026

JOB DESCRIPTION Painter - Bridge & Structural Steel

DISTRICT 8

ENTIRE COUNTIES

Albany, Bronx, Clinton, Columbia, Dutchess, Essex, Franklin, Fulton, Greene, Hamilton, Kings, Montgomery, Nassau, New York, Orange, Putnam, Queens, Rensselaer, Richmond, Rockland, Saratoga, Schenectady, Schoharie, Suffolk, Sullivan, Ulster, Warren, Washington, Westchester

WAGES

Per Hour:		
STEEL:		
Bridge Painting:	07/01/2025	10/01/2025
	\$ 56.25	\$ 57.00
	+ 11.10*	+ 12.10*

ADDITIONAL \$7.00 per hour for POWER TOOL/SPRAY, whether straight time or overtime.

NOTE: All premium wages are to be calculated on base rate per hour only.

* For the period of May 1st to November 15th, this amount is payable up to 40 hours. For the period of Nov 16th to April 30th, this amount is payable up to 50 hours. EXCEPTION: First and last week of employment, and for the weeks of Memorial Day, Independence Day and Labor Day, where the amount is paid for the actual number of hours worked (50 hour cap).

** To be allocated a later date

NOTE: Generally, for Bridge Painting Contracts, ALL WORKERS on and off the bridge (including Flagmen) are to be paid Painter's Rate; the contract must be ONLY for Bridge Painting.

SHIFT WORK

When directly specified in public agency or authority contract documents for an employer to work a second shift and works the second shift with employees other than from the first shift, all employees who work the second shift will be paid 10% of the base wage shift differential in lieu of overtime for the first eight (8) hours worked after which the employees shall be paid at time and one half of the regular wage rate. When a single irregular work shift is mandated in the job specifications or by the contracting agency, wages shall be paid at time and one half for single shifts between the hours of 3pm-11pm or 11pm-7am.

SUPPLEMENTAL BENEFITS

Per Hour:

Journeyworker:

\$ 13.33	\$ 13.49
+ 30.76*	+ 31.27*

* For the period of May 1st to November 15th, this amount is payable up to 40 hours. For the period of Nov 16th to April 30th, this amount is payable up to 50 hours. EXCEPTION: First and last week of employment, and for the weeks of Memorial Day, Independence Day and Labor Day, where the amount is paid for the actual number of hours worked (50 hour cap).

OVERTIME PAY

See (B, F, R) on OVERTIME PAGE

HOLIDAY

Paid: See (1) on HOLIDAY PAGE
Overtime: See (4, 6) on HOLIDAY PAGE

REGISTERED APPRENTICES

Wage - Per hour:

Apprentices: (1) year terms.

	07/01/2025	10/01/2025
1st year	\$ 22.50 + 4.44	\$ 22.80 + 4.54*
2nd year	\$ 33.75 + 6.63	\$ 34.20 + 7.26*
3rd year	\$ 45.00 + 8.88	\$ 45.60 + 10.60*
Supplemental Benefits - Per hour:		
1st year	\$ 1.52 + 12.51	\$ 18.63*
2nd year	\$ 8.00 + 18.47	\$ 8.09 + 19.04*
3rd year	\$ 10.66 + 24.62	\$ 10.79 + 25.39*

NOTE: All premium wages are to be calculated on base rate per hour only.

8-DC-9/806/155-BrSS

Painter - Line Striping

02/01/2026

JOB DESCRIPTION Painter - Line Striping

DISTRICT 8

ENTIRE COUNTIES

Albany, Clinton, Columbia, Dutchess, Essex, Franklin, Fulton, Greene, Hamilton, Montgomery, Nassau, Orange, Putnam, Rensselaer, Rockland, Saratoga, Schenectady, Schoharie, Suffolk, Sullivan, Ulster, Warren, Washington, Westchester

WAGES

Per hour:

Painter (Striping-Highway):	07/01/2025	04/01/2026
Striping-Machine Operator*	\$ 35.49	\$ 36.93
Linerman Thermoplastic	42.74	44.44

Note: * Includes but is not limited to: Positioning of cones and directing of traffic using hand held devices. Excludes the Driver/Operator of equipment used in the maintenance and protection of traffic safety.

SHIFT WORK

When directly specified in public agency or authority contract documents there shall be a 30% night shift premium pay differential for all work performed after 9:00pm and before 5:00am.

SUPPLEMENTAL BENEFITS

Per hour paid:

Journeyworker:

Striping Machine Operator:	\$24.30	\$ 24.95
Linerman Thermoplastic:	24.30	24.95

OVERTIME PAY

See (B, B2, E2, F, S) on OVERTIME PAGE

HOLIDAY

Paid:	See (5, 20) on HOLIDAY PAGE
Overtime:	See (5, 20) on HOLIDAY PAGE

REGISTERED APPRENTICES

One (1) year terms at the following wage rates:

	07/01/2025	01/01/2026	04/01/2026
1st Term:	\$ 16.50	\$ 17.00	\$ 17.00
2nd Term:	21.29	20.47	22.16
3rd Term:	28.39	27.30	29.54

Supplemental Benefits per hour:

All terms:	\$ 24.30	\$ 24.30	\$ 24.95

8-1456-LS

Painter - Metal Polisher

02/01/2026

JOB DESCRIPTION Painter - Metal Polisher

DISTRICT 8

ENTIRE COUNTIES

Albany, Allegany, Bronx, Broome, Cattaraugus, Cayuga, Chautauqua, Chemung, Chenango, Clinton, Columbia, Cortland, Delaware, Dutchess, Erie, Essex, Franklin, Fulton, Genesee, Greene, Hamilton, Herkimer, Jefferson, Kings, Lewis, Livingston, Madison, Monroe, Montgomery, Nassau, New York, Niagara, Oneida, Onondaga, Ontario, Orange, Orleans, Oswego, Otsego, Putnam, Queens, Rensselaer, Richmond, Rockland, Saratoga, Schenectady, Schoharie, Schuyler, Seneca, St. Lawrence, Steuben, Suffolk, Sullivan, Tioga, Tompkins, Ulster, Warren, Washington, Wayne, Westchester, Wyoming, Yates

WAGES

	07/01/2025
Metal Polisher	\$ 40.33
Metal Polisher*	41.43
Metal Polisher**	44.33

*Note: Applies on New Construction & complete renovation

** Note: Applies when working on scaffolds over 34 feet.

SUPPLEMENTAL BENEFITS

Per Hour:	07/01/2025

Journeyworker:

All classification	\$ 13.44

OVERTIME PAY

See (B, E, P, T) on OVERTIME PAGE

HOLIDAY

Paid:	See (5, 6, 11, 15, 16, 25, 26) on HOLIDAY PAGE
Overtime:	See (5, 6, 11, 15, 16, 25, 26) on HOLIDAY PAGE

REGISTERED APPRENTICES

Wages per hour:

One (1) year term at the following wage rates:

07/01/2025

1st year	\$ 20.17
2nd year	22.18
3rd year	24.20

1st year*	\$ 20.56
2nd year*	22.62
3rd year*	24.74

1st year**	\$ 22.67
2nd year**	24.68
3rd year**	26.70

*Note: Applies on New Construction & complete renovation

** Note: Applies when working on scaffolds over 34 feet.

Supplemental benefits:

Per hour:

1st year	\$ 8.94
2nd year	8.94
3rd year	8.94

8-8A/28A-MP

Plasterer

02/01/2026

JOB DESCRIPTION Plasterer

DISTRICT 9

ENTIRE COUNTIES

Bronx, Kings, Nassau, New York, Queens, Richmond, Suffolk

WAGES

Per hour:

	07/01/2025	08/01/2025
Building:		
Plasterer/Traditional &	\$ 47.99	\$ 49.18
Spraying Fireproofing	+ \$5.62*	+ \$6.00*

*This portion is not subjected to OT premiums.

SUPPLEMENTAL BENEFITS

Per hour:

Journeyworker	\$ 26.10	\$ 26.73

OVERTIME PAY

See (B, E, Q) on OVERTIME PAGE

HOLIDAY

Paid: See (1) on HOLIDAY PAGE

Overtime: See (5, 6, 25) on HOLIDAY PAGE

REGISTERED APPRENTICES

Wages:	07/01/2025
(Per hour)	
800 hours term:	

1st term	\$ 19.44 + 0.68*
2nd term	22.69 + 0.81*
3rd term	25.98 + 0.95*

*This portion is not subjected to OT premiums.

Supplemental Benefits:

(Per hour):

(800) hours term:

1st term	\$ 11.95
2nd term	12.44

3rd term 13.08

9-262

Plumber

02/01/2026

JOB DESCRIPTION Plumber

DISTRICT 4

ENTIRE COUNTIES

Nassau, Suffolk

WAGES

Per Hour:	07/01/2025	05/01/2026
Plumber/ PUMP & TANK	\$ 48.24	\$ 48.74

SUPPLEMENTAL BENEFITS

Per Hour:

Plumber	\$ 40.84	\$ 42.84

OVERTIME PAY

See (B, B2, E2, Q, *V) on OVERTIME PAGE

*For Sundays & Holidays if Worked Only

HOLIDAY

Paid:	See (1) on HOLIDAY PAGE
Overtime:	See (5, 6, 16, 25) on HOLIDAY PAGE

REGISTERED APPRENTICES

One(1) Year Terms at the Following wages :

1st Term	\$17.23	\$ 17.38
2nd Term	20.80	21.00
3rd Term	25.38	25.63
4th Term	29.94	30.24
5th Term	34.52	34.87

Supplemental Benefits Per Hour:

1st Term	\$ 28.08	\$ 30.08
2nd Term	28.82	30.82
3rd Term	29.74	31.74
4th Term	30.21	32.21
5th Term	33.59	35.59

4-200 Pump & Tank

Plumber

02/01/2026

JOB DESCRIPTION Plumber

DISTRICT 4

ENTIRE COUNTIES

Nassau, Suffolk

WAGES

Per Hour:	07/01/2025	11/01/2025

Plumber	\$ 60.73	\$ 61.48

SUPPLEMENTAL BENEFITS

Per Hour:

Plumber	\$ 51.95	\$ 52.70

OVERTIME PAY

See (A, E, Q, *V) on OVERTIME PAGE

CODE "V" is only for SUNDAYS and HOLIDAYS THAT ARE WORKED

HOLIDAY

Paid:	See (1) on HOLIDAY PAGE
Overtime:	See (5, 6, 15, 16, 25) on HOLIDAY PAGE

REGISTERED APPRENTICES

One(1) Year Terms at the following percentage of Plumbers Rate per hour:

1st	2nd	3rd	4th	5th

	30%	40%	50%	60%	70%
Supplemental Benefits per hour:					
	1st	2nd	3rd	4th	5th
07/01/2025	\$ 37.27	\$ 39.76	\$ 41.28	\$ 42.93	\$ 44.66
11/01/2025	\$ 38.02	\$ 40.51	\$ 42.03	\$ 43.68	\$ 45.41

4-200

Plumber	02/01/2026

JOB DESCRIPTION Plumber

DISTRICT 4

ENTIRE COUNTIES

Nassau, Suffolk

WAGES

Per Hour:

	07/01/2025	11/01/2025	05/01/2026
Plumber			
MAINTENANCE ONLY	\$36.05	\$ 37.05	\$ 37.05

Maintenance: Correction of problem(s) with the existing fixture or group of fixtures, preventive repairs or servicing of said fixtures.

SUPPLEMENTAL BENEFITS

Per Hour:

Plumber			
MAINTENANCE ONLY	\$ 23.53	\$ 23.53	\$ 24.53

OVERTIME PAY

See (B, B2, J) on OVERTIME PAGE

HOLIDAY

Paid: See (1) on HOLIDAY PAGE
Overtime: See (5, 6, 15, 16) on HOLIDAY PAGE

4-200 Maintance

Roofer	02/01/2026

JOB DESCRIPTION Roofer

DISTRICT 4

ENTIRE COUNTIES

Nassau, Suffolk

WAGES

Per Hour

	07/01/2025	05/01/2026
Roofer/Waterproofer:	\$ 58.75	Additional \$ 3.00*
"Base" Wage	51.25**	

* To be allocated at a later date

SUPPLEMENTAL BENEFITS

Per Hour:

ROOFER/Waterproofer	\$ 39.86

OVERTIME PAY

Per Hour:

NEW ROOF SEE (B,E,Q)

RE-ROOF SEE (B,E,E2,Q)

** Premium/Overtime Pay to be calculated on "Base Wage" ONLY. Then adding the difference between "Total Wage Paid" and "Base Wage" per hour.

HOLIDAY

Paid: See (1) on HOLIDAY PAGE
Overtime: See (5, 6, 13, *16, **25) on HOLIDAY PAGE

* and ** Overtime to be paid at time and one half the hourly base rate + \$7.50 if worked.

REGISTERED APPRENTICES

(1) Year terms at the following Percentage of Roofers/Waterproofers Base Wage.

1st	2nd	3rd	4th
40%	50%	70%	80% + \$ 6.00/Hr.

Supplemental Benefits per hour:

1st	2nd	3rd	4th
\$ 10.94	\$ 13.51	\$ 28.10	\$ 32.02

4-154

Sheetmetal Worker**02/01/2026**

JOB DESCRIPTION Sheetmetal Worker

DISTRICT 4

ENTIRE COUNTIES

Bronx, Kings, Nassau, New York, Queens, Richmond, Rockland, Suffolk, Westchester

WAGES

Per Hour:

07/01/2025

Sign Erector

\$ 60.00

NOTE: For Structurally Supported Overhead Highway Signs (See STRUCTURAL IRON WORKER CLASSIFICATION)

SUPPLEMENTAL BENEFITS

Per Hour:

07/01/2025

Sign Erector

\$ 58.31

OVERTIME PAY

See (B, F, S) on OVERTIME PAGE

HOLIDAY

Paid: See (5, 6, 10, 11, 12, 16, 25) on HOLIDAY PAGE

Overtime: See (5, 6, 10, 11, 12, 16, 25) on HOLIDAY PAGE

REGISTERED APPRENTICES

Per Hour:

6 month Terms at the following percentage of Sign Erectors wage rate:

1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th
35%	40%	45%	50%	55%	60%	65%	70%	75%	80%

SUPPLEMENTAL BENEFITS Per Hour:

1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th
\$ 18.65	\$ 21.16	\$ 23.69	\$ 26.22	\$35.39	\$ 38.52	\$ 42.55	\$ 45.75	\$ 48.96	\$ 52.15

4-137-SE

Sheetmetal Worker**02/01/2026**

JOB DESCRIPTION Sheetmetal Worker

DISTRICT 4

ENTIRE COUNTIES

Bronx, Kings, Nassau, New York, Queens, Richmond, Suffolk

WAGES

Per Hour:

07/01/2025

Sheetmetal Worker

\$ 62.34

Maintenance of Fans
Temporary Operation

\$ 51.42

SUPPLEMENTAL BENEFITS

Per Hour:

All Classifications:

\$ 55.00

Premium*: \$ 80.81

Premium**: \$ 106.62

* Applies to instances where 1-1/2 regular rate are paid

**Applies to instances where 2 times the rate are paid.

OVERTIME PAY

See (B, *E, E2, Q) on OVERTIME PAGE

* Double the hourly rate on Saturday after 10 Hours

Maintenance of Fans

Temporary Operation: B,E, & Q

HOLIDAY

Paid: See (1) on HOLIDAY PAGE

Overtime: See (5, 6, 11, 15, 16, 25, 26) on HOLIDAY PAGE

REGISTERED APPRENTICES

Six(6) Month Terms As Follows:

Wages per hour:

1st & 2nd Term	3rd & 4th Term	5th & 6th Term	7th & 8th Term	9th Term
\$ 21.70	\$ 27.95	\$ 34.21	\$ 43.63	\$ 49.85

Supplemental Benefits Per Hour:

1st & 2nd Term	3rd & 4th Term	5th & 6th Term	7th & 8th Term	9th Term
Straight Time: \$ 20.27	\$ 27.52	\$ 32.53	\$ 40.00	\$ 45.02

Premium*: \$ 29.77 \$ 40.45 \$ 47.87 \$ 58.78 \$ 66.15

Premium**: \$ 39.26 \$ 53.38 \$ 63.08 \$ 77.56 \$ 87.28

* Applies to instances where 1-1/2 regular rate are paid

**Applies to instances where 2 times the rate are paid.

4-28

Steamfitter

02/01/2026

JOB DESCRIPTION Steamfitter

DISTRICT 4

ENTIRE COUNTIES

Bronx, Kings, Nassau, New York, Queens, Richmond, Suffolk

WAGES

Per Hour:

07/01/2025

AC Service/Heat Service \$ 46.60
& Refrigeration

Includes installation, service, maintenance, repair and replacement, of refrigeration, A/C, Oil Burner and Stoker.

NOTE: Refrigeration Compressor installation. (Not to exceed 5 Hp combined on any one project).

NOTE: Air / Heating Compressor installation.(Not to exceed 15 tons combined on any one project).

SUPPLEMENTAL BENEFITS

Per Hour Worked:

AC Service/Heat Service \$ 22.71
& Refrigeration

Per hour Paid: \$ 19.65

OVERTIME PAY

See (B, E, Q) on OVERTIME PAGE

HOLIDAY

Paid: See (5, 6, 11, 15, 25, 26) on HOLIDAY PAGE

Overtime: See (5, 6, 11, 15, 25, 26) on HOLIDAY PAGE

REGISTERED APPRENTICES

1 year terms at the following wages per hour:

1st	2nd	3rd	4th
\$ 22.55	\$ 27.23	\$ 31.72	\$ 38.31

Supplemental Benefits per hour worked:

1st	2nd	3rd	4th
\$ 14.93	\$ 16.43	\$ 17.99	\$ 20.10

Supplemental Benefits for hours paid:

1st	2nd	3rd	4th
\$ 11.87	\$ 13.37	\$ 14.93	\$ 17.04

4-638B-StmFtrRef

Steamfitter

02/01/2026

JOB DESCRIPTION Steamfitter

DISTRICT 4

ENTIRE COUNTIES

Bronx, Kings, Nassau, New York, Queens, Richmond, Suffolk

WAGES

Per Hour:

	07/01/2025	10/01/2025	04/01/2026
Sprinkler/Steam AC & Heat Fitter	\$ 70.36	\$ 70.36	Additional \$ 1.50*
Temporary Heat & AC Fitter	53.49	53.49	

* To be allocated at a later date.

SHIFT WORK

Add 15% to Hourly Wage and Hourly Supplemental Benefit for "Contracting Agency" Mandated Off Shift Work.

SUPPLEMENTAL BENEFITS

Per Hour:

Sprinkler/Steam Fitter	\$ 54.24	\$ 54.99
Temporary Heat & AC Fitter	44.43	45.00

OVERTIME PAY

Note: The posted overtime rates are applicable after 8 hours plus Saturday, Sunday and Holidays:

Per Hour:

Wages	07/01/2025	10/01/2025
Sprinkler/Steam	\$ 140.66	\$ 140.66
Temp Heat/AC	106.92	106.92

Supplemental Benefits per hour:

Sprinkler/Steam	\$ 107.64	\$ 109.14
Temp Heat/AC	88.02	89.16

HOLIDAY

Paid: See (1) on HOLIDAY PAGE

Overtime: See (5, 6, 11, 16, 25) on HOLIDAY PAGE

REGISTERED APPRENTICES

1 year terms at the following wages Per hour:

	1st	2nd	3rd	4th	5th
07/01/2025	\$ 28.18	\$ 35.21	\$ 42.24	\$ 49.27	\$ 56.30
10/1/2025	28.18	35.21	42.24	49.27	56.30

PREMIUM TIME Wages per hour:

	1st	2nd	3rd	4th	5th
07/01/2025	\$ 56.30	\$ 70.36	\$ 84.42	\$ 98.48	\$ 112.54
10/01/2025	56.30	70.26	84.42	98.48	112.54

Supplemental Benefits per hour:

	1st	2nd	3rd	4th	5th
07/01/2025	\$ 22.20	\$ 27.55	\$ 32.88	\$ 38.23	\$ 43.56
10/01/2025	22.50	27.92	33.33	38.75	44.16

PREMIUM TIME Supplemental Benefits per hour:

	1st	2nd	3rd	4th	5th
07/01/2025	\$ 43.56	\$ 54.26	\$ 64.92	\$ 75.62	\$ 86.28
10/01/2025	44.16	55.00	65.82	76.66	87.48

4-638A-StmSpFtr

Teamster - Asphalt Delivery

02/01/2026

JOB DESCRIPTION Teamster - Asphalt Delivery

DISTRICT 4

ENTIRE COUNTIES

Bronx, Kings, Nassau, New York, Putnam, Queens, Richmond, Suffolk, Westchester

WAGES

Per Hour:

07/01/2025

Truck Driver	
Heavy Construction	\$ 45.645
Asphalt Delivery	

Heavy Construction Work:

Shall include the supply of Asphalt for construction, improvement and modification of all or any part of Streets, Highways, Bridges, Tunnels, Railroads, Canals, Dams, Airports, Schools, Power Generation Plants, where distance between project and asphalt plant is not more than 50 miles.

Truck Driver	
Light Construction	\$ 44.90
Asphalt Delivery	

Light Construction Work:

Shall include the supply of Asphalt for construction of Single & Multi Family Homes, Town Houses, Apartment Buildings, including Driveways, Streets and Curbs within those projects. Parking Lots, Office Buildings, where distance between project and asphalt plant is not more than 50 miles.

SHIFT WORK

PREMIUM PAY of 25% on straight time hours for New York State D.O.T. and or other GOVERNMENTAL MANDATED off shift work.

SUPPLEMENTAL BENEFITS

Per Hour:

Truck Driver	
Heavy Construction	\$ 56.2025
Asphalt Delivery	

Truck Driver	
Light Construction	\$ 13.25
Asphalt Delivery	

OVERTIME PAY

See (B, B2, E, I, P, R, T, U) on OVERTIME PAGE

Note: (B,E,P,T,&U) Apply to Heavy Construction Driver.

Note: (B2,I,T,&U) Apply to Light Construction Driver.
Note: (U) Only applies after 8 hours worked on holiday.

HOLIDAY

Paid: See (1) on HOLIDAY PAGE
Overtime: See (5, 6, *16, **25) on HOLIDAY PAGE

*Paid at Double if Worked
**Paid at Double if Worked.

4-282

Teamster - Building

02/01/2026

JOB DESCRIPTION Teamster - Building

DISTRICT 4

ENTIRE COUNTIES

Nassau, Suffolk

WAGES

Per Hour:

Truck Driver (Building Demolition & Debris, Cesspool & Leachate Pumping)

07/01/2025

Straight Jobs \$ 41.04
Trailers \$ 41.34

SHIFT WORK

PREMIUM PAY of 17.3% on straight time hours for GOVERNMENTAL MANDATED off shift work.

SUPPLEMENTAL BENEFITS

Per Hour:

All Classes: \$ 42.94

OVERTIME PAY

See (B, E, S1) on OVERTIME PAGE

HOLIDAY

Paid: See (1) on HOLIDAY PAGE
Overtime: See (5, 6, 8, 11, 12, 15, 25, 26) on HOLIDAY PAGE

4-282

Teamster - Delivery of Concrete

02/01/2026

JOB DESCRIPTION Teamster - Delivery of Concrete

DISTRICT 4

ENTIRE COUNTIES

Nassau, Suffolk

WAGES

Per Hour:

07/01/2025

Heavy Construction
Truck Driver \$ 44.005
Concrete Delivery

Heavy Construction Work:

Shall Include the supply of Ready-Mix Concrete for construction, improvement and modification of all or any part of Streets, Highways, Bridges, Tunnels, Railroads, Canals, Dams, Airports, Schools & Power Generation Plants, where distance between project and asphalt plant is not more than 50 miles.

Light Construction
Truck Driver \$ 40.005
Concrete Delivery

Light Construction Work:

Shall include the supply of Ready-Mix Concrete for construction of Single & Multi Family Homes, Town Houses, Apartment Buildings, including Driveways, Streets and Curbs within those projects. Parking Lots and Office Buildings, where distance between project and asphalt plant is not more than 50 miles.

SUPPLEMENTAL BENEFITS

Per Hour:

Heavy Construction Work
Concrete Delivery \$ 52.075

Light Construction Work
Concrete Delivery \$ 20.635

OVERTIME PAY

See (B, B2, E, I, P) on OVERTIME PAGE

NOTE: Heavy Construction:B2,I

Light Construction:B,E,P

HOLIDAY

Paid: See (1) on HOLIDAY PAGE

Overtime: See (5, 6, *16, **25) on HOLIDAY PAGE

*Paid at Double if Worked.

**Paid at Double if Worked.

4-282ns

Teamster - Heavy&Highway

02/01/2026

JOB DESCRIPTION Teamster - Heavy&Highway

DISTRICT 4

ENTIRE COUNTIES

Nassau, Suffolk

WAGES

Per Hour:

07/01/2025

Heavy Construction
Site Excavating \$ 45.645
(Chauffeurs)

Heavy Construction Work:

Shall include the construction, improvement or modification of all or any part of Streets, Highways, Bridges, Tunnels, Railroads, Canals, Dams, Airports, Schools, Power Generation Plants.

Light Construction
Site Excavating \$ 44.90
(Chauffeurs)

Light Construction Work:

Shall include the construction, improvement and modification of Single & Multi Family Homes, Town Houses, Apartment Buildings, including Driveways, Streets and Curbs within those projects. Parking Lots and Office Buildings.

SHIFT WORK

PREMIUM PAY of 25% on straight time hours for NEW YORK STATE D.O.T. and or other GOVERNMENTAL MANDATED off shift work.

SUPPLEMENTAL BENEFITS

Per Hour:

Heavy Construction Work
Chauffeurs \$ 56.2025

Light Construction Work
Chauffeurs \$ 13.25

OVERTIME PAY

See (B, B2, E, I, P, R, U) on OVERTIME PAGE

Note: (B,E,P,T & U) Apply to Heavy Construction.

Note: (B2,I,T & U) Apply to Light Construction.

Note: (U) Only applies after 8 hours work on holiday

HOLIDAY

Paid: See (1) on HOLIDAY PAGE

Overtime: See (5, 6, *16, **25) on HOLIDAY PAGE

*Paid at Double if Worked.

**Paid at Double if Worked.

Welder

02/01/2026

JOB DESCRIPTION Welder

DISTRICT 1

ENTIRE COUNTIES

Albany, Allegany, Bronx, Broome, Cattaraugus, Cayuga, Chautauqua, Chemung, Chenango, Clinton, Columbia, Cortland, Delaware, Dutchess, Erie, Essex, Franklin, Fulton, Genesee, Greene, Hamilton, Herkimer, Jefferson, Kings, Lewis, Livingston, Madison, Monroe, Montgomery, Nassau, New York, Niagara, Oneida, Onondaga, Ontario, Orange, Orleans, Oswego, Otsego, Putnam, Queens, Rensselaer, Richmond, Rockland, Saratoga, Schenectady, Schoharie, Schuyler, Seneca, St. Lawrence, Steuben, Suffolk, Sullivan, Tioga, Tompkins, Ulster, Warren, Washington, Wayne, Westchester, Wyoming, Yates

WAGES

Per hour 07/01/2025

Welder: To be paid the same rate of the mechanic performing the work.*

*EXCEPTION: If a specific welder certification is required, then the 'Certified Welder' rate in that trade tag will be paid.

OVERTIME PAY

HOLIDAY

1-As Per Trade

Overtime Codes

Following is an explanation of the code(s) listed in the OVERTIME section of each classification contained in the attached schedule. Additional requirements may also be listed in the HOLIDAY section.

NOTE: Supplemental Benefits are 'Per hour worked' (for each hour worked) unless otherwise noted

- (AA) Time and one half of the hourly rate after 7 and one half hours per day
- (A) Time and one half of the hourly rate after 7 hours per day
- (B) Time and one half of the hourly rate after 8 hours per day
- (B1) Time and one half of the hourly rate for the 9th & 10th hours week days and the 1st 8 hours on Saturday.
Double the hourly rate for all additional hours
- (B2) Time and one half of the hourly rate after 40 hours per week
- (B3) Time and one half of the hourly rate after 40 straight hours per week
- (C) Double the hourly rate after 7 hours per day
- (C1) Double the hourly rate after 7 and one half hours per day
- (D) Double the hourly rate after 8 hours per day
- (D1) Double the hourly rate after 9 hours per day
- (E) Time and one half of the hourly rate on Saturday
- (E1) Time and one half 1st 4 hours on Saturday; Double the hourly rate all additional Saturday hours
- (E2) Saturday may be used as a make-up day at straight time when a day is lost during that week due to inclement weather
- (E3) Between November 1st and March 3rd Saturday may be used as a make-up day at straight time when a day is lost during that week due to inclement weather, provided a given employee has worked between 16 and 32 hours that week
- (E4) Sunday may be used as a make-up day at straight time when a day is lost during that week due to inclement weather
- (E5) Double time after 8 hours on Saturdays
- (F) Time and one half of the hourly rate on Saturday and Sunday
- (G) Time and one half of the hourly rate on Saturday and Holidays
- (H) Time and one half of the hourly rate on Saturday, Sunday, and Holidays
- (I) Time and one half of the hourly rate on Sunday
- (J) Time and one half of the hourly rate on Sunday and Holidays
- (K) Time and one half of the hourly rate on Holidays
- (L) Double the hourly rate on Saturday
- (M) Double the hourly rate on Saturday and Sunday
- (N) Double the hourly rate on Saturday and Holidays
- (O) Double the hourly rate on Saturday, Sunday, and Holidays
- (P) Double the hourly rate on Sunday
- (Q) Double the hourly rate on Sunday and Holidays
- (R) Double the hourly rate on Holidays

- (S) Two and one half times the hourly rate for Holidays
- (S1) Two and one half times the hourly rate the first 8 hours on Sunday or Holidays One and one half times the hourly rate all additional hours.
- (T) Triple the hourly rate for Holidays
- (U) Four times the hourly rate for Holidays
- (V) Including benefits at SAME PREMIUM as shown for overtime
- (W) Time and one half for benefits on all overtime hours.
- (X) Benefits payable on Paid Holiday at straight time. If worked, additional benefit amount will be required for worked hours. (Refer to other codes listed.)

Holiday Codes

PAID Holidays:

Paid Holidays are days for which an eligible employee receives a regular day's pay, but is not required to perform work. If an employee works on a day listed as a paid holiday, this remuneration is in addition to payment of the required prevailing rate for the work actually performed.

OVERTIME Holiday Pay:

Overtime holiday pay is the premium pay that is required for work performed on specified holidays. It is only required where the employee actually performs work on such holidays. The applicable holidays are listed under HOLIDAYS: OVERTIME. The required rate of pay for these covered holidays can be found in the OVERTIME PAY section listings for each classification.

Following is an explanation of the code(s) listed in the HOLIDAY section of each classification contained in the attached schedule. The Holidays as listed below are to be paid at the wage rates at which the employee is normally classified.

- (1) None
- (2) Labor Day
- (3) Memorial Day and Labor Day
- (4) Memorial Day and July 4th
- (5) Memorial Day, July 4th, and Labor Day
- (6) New Year's, Thanksgiving, and Christmas
- (7) Lincoln's Birthday, Washington's Birthday, and Veterans Day
- (8) Good Friday
- (9) Lincoln's Birthday
- (10) Washington's Birthday
- (11) Columbus Day
- (12) Election Day
- (13) Presidential Election Day
- (14) 1/2 Day on Presidential Election Day
- (15) Veterans Day
- (16) Day after Thanksgiving
- (17) July 4th
- (18) 1/2 Day before Christmas
- (19) 1/2 Day before New Years
- (20) Thanksgiving
- (21) New Year's Day
- (22) Christmas
- (23) Day before Christmas
- (24) Day before New Year's
- (25) Presidents' Day
- (26) Martin Luther King, Jr. Day
- (27) Memorial Day
- (28) Easter Sunday

(29) Juneteenth

New York State Department of Labor - Bureau of Public Work
State Office Building Campus
Building 12 - Room 130
Albany, New York 12226

REQUEST FOR WAGE AND SUPPLEMENT INFORMATION

As Required by Articles 8 and 9 of the NYS Labor Law

Fax (518) 485-1870 or mail this form for new schedules or for determination for additional occupations.

This Form Must Be Typed

Submitted By:

(Check Only One) ☐ Contracting Agency ☐ Architect or Engineering Firm ☐ Public Work District Office Date:

A. Public Work Contract to be let by: (Enter Data Pertaining to Contracting/Public Agency)

1. Name and complete address ☐ (Check if new or change) Telephone _____ Fax _____ E-Mail: _____	2. NY State Units (see Item 5). <table style="width: 100%;"><tr><td>☐ 01 DOT</td><td>☐ 07 City</td></tr><tr><td>☐ 02 OGS</td><td>☐ 08 Local School District</td></tr><tr><td>☐ 03 Dormitory Authority</td><td>☐ 09 Special Local District, i.e., Fire, Sewer, Water District</td></tr><tr><td>☐ 04 State University Construction Fund</td><td>☐ 10 Village</td></tr><tr><td>☐ 05 Mental Hygiene Facilities Corp.</td><td>☐ 11 Town</td></tr><tr><td>☐ 06 OTHER N.Y. STATE UNIT</td><td>☐ 12 County</td></tr><tr><td></td><td>☐ 13 Other Non-N.Y. State (Describe)</td></tr></table>	☐ 01 DOT	☐ 07 City	☐ 02 OGS	☐ 08 Local School District	☐ 03 Dormitory Authority	☐ 09 Special Local District, i.e., Fire, Sewer, Water District	☐ 04 State University Construction Fund	☐ 10 Village	☐ 05 Mental Hygiene Facilities Corp.	☐ 11 Town	☐ 06 OTHER N.Y. STATE UNIT	☐ 12 County		☐ 13 Other Non-N.Y. State (Describe)
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☐ 05 Mental Hygiene Facilities Corp.	☐ 11 Town														
☐ 06 OTHER N.Y. STATE UNIT	☐ 12 County														
	☐ 13 Other Non-N.Y. State (Describe)														
3. SEND REPLY TO ☐ (check if new or change) Name and complete address: Telephone _____ Fax _____ E-Mail: _____	4. SERVICE REQUIRED. Check appropriate box and provide project information. ☐ New Schedule of Wages and Supplements. APPROXIMATE BID DATE : _____ ☐ Additional Occupation and/or Redetermination <table border="1" style="width: 100%; border-collapse: collapse;"><tr><td style="width: 50%; padding: 5px;">PRC NUMBER ISSUED PREVIOUSLY FOR THIS PROJECT : _____</td><td style="width: 50%; padding: 5px;">OFFICE USE ONLY</td></tr></table>	PRC NUMBER ISSUED PREVIOUSLY FOR THIS PROJECT : _____	OFFICE USE ONLY												
PRC NUMBER ISSUED PREVIOUSLY FOR THIS PROJECT : _____	OFFICE USE ONLY														

B. PROJECT PARTICULARS

5. <u>Project Title</u> _____ <u>Description of Work</u> _____ _____ <u>Contract Identification Number</u> _____ <u>Note: For NYS units, the OSC Contract No.</u> _____	6. Location of Project: <u>Location on Site</u> _____ <u>Route No/Street Address</u> _____ <u>Village or City</u> _____ <u>Town</u> _____ <u>County</u> _____																						
7. Nature of Project - Check One: <table style="width: 100%;"><tr><td>☐ 1. New Building</td></tr><tr><td>☐ 2. Addition to Existing Structure</td></tr><tr><td>☐ 3. Heavy and Highway Construction (New and Repair)</td></tr><tr><td>☐ 4. New Sewer or Waterline</td></tr><tr><td>☐ 5. Other New Construction (Explain)</td></tr><tr><td>☐ 6. Other Reconstruction, Maintenance, Repair or Alteration</td></tr><tr><td>☐ 7. Demolition</td></tr><tr><td>☐ 8. Building Service Contract</td></tr></table>	☐ 1. New Building	☐ 2. Addition to Existing Structure	☐ 3. Heavy and Highway Construction (New and Repair)	☐ 4. New Sewer or Waterline	☐ 5. Other New Construction (Explain)	☐ 6. Other Reconstruction, Maintenance, Repair or Alteration	☐ 7. Demolition	☐ 8. Building Service Contract	8. OCCUPATION FOR PROJECT : <table style="width: 100%;"><tr><td>☐ Construction (Building, Heavy Highway/Sewer/Water)</td><td>☐ Fuel Delivery</td></tr><tr><td>☐ Tunnel</td><td>☐ Guards, Watchmen</td></tr><tr><td>☐ Residential</td><td>☐ Janitors, Porters, Cleaners, Elevator Operators</td></tr><tr><td>☐ Landscape Maintenance</td><td>☐ Moving furniture and equipment</td></tr><tr><td>☐ Elevator maintenance</td><td>☐ Trash and refuse removal</td></tr><tr><td>☐ Exterminators, Fumigators</td><td>☐ Window cleaners</td></tr><tr><td>☐ Fire Safety Director, NYC Only</td><td>☐ Other (Describe)</td></tr></table>	☐ Construction (Building, Heavy Highway/Sewer/Water)	☐ Fuel Delivery	☐ Tunnel	☐ Guards, Watchmen	☐ Residential	☐ Janitors, Porters, Cleaners, Elevator Operators	☐ Landscape Maintenance	☐ Moving furniture and equipment	☐ Elevator maintenance	☐ Trash and refuse removal	☐ Exterminators, Fumigators	☐ Window cleaners	☐ Fire Safety Director, NYC Only	☐ Other (Describe)
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9. Does this project comply with the Wicks Law involving separate bidding? YES ☐ NO ☐

10. Name and Title of Requester

Signature



NEW YORK STATE DEPARTMENT OF LABOR
Bureau of Public Work - Debarment List

**LIST OF EMPLOYERS INELIGIBLE TO BID ON OR BE
AWARDED ANY PUBLIC WORK CONTRACT**

Under Article 8 and Article 9 of the NYS Labor Law, a contractor, sub-contractor and/or its successor shall be debarred and ineligible to submit a bid on or be awarded any public work or public building service contract/sub-contract with the state, any municipal corporation or public body for a period of five (5) years from the date of debarment when:

- Two (2) final determinations have been rendered within any consecutive six-year (6) period determining that such contractor, sub-contractor and/or its successor has WILLFULLY failed to pay the prevailing wage and/or supplements;
- One (1) final determination involves falsification of payroll records or the kickback of wages and/or supplements.

The agency issuing the determination and providing the information, is denoted under the heading 'Fiscal Officer'. DOL = New York State Department of Labor; NYC = New York City Comptroller's Office; AG = New York State Attorney General's Office; DA = County District Attorney's Office.

Debarment Database: To search for contractors, sub-contractors and/or their successors debarred from bidding or being awarded any public work contract or subcontract under NYS Labor Law Articles 8 and 9, or under NYS Workers' Compensation Law Section 141-b, access the database at this link: <https://apps.labor.ny.gov/EDList/searchPage.do>

For inquiries please call 518-457-5589.

NYSDOL Bureau of Public Work Debarment List 02/17/2026

Article 8

AGENCY	Fiscal Officer	FEIN	EMPLOYER NAME	EMPLOYER DBA NAME	ADDRESS	DEBARMENT START DATE	DEBARMENT END DATE
DOL	DOL	*****5754	0369 CONTRACTORS, LLC		515 WEST AVE UNIT PH 13NORWALK CT 06850	05/12/2021	05/12/2026
DOL	DOL	*****5784	A.J.M. TRUCKING, INC.		PO BOX 2064 MONROE NY 10950	02/12/2024	02/12/2029
DOL	DOL		AKHLAQ OULAKH		4307 28TH AVE ASTORIA NY 11103	10/11/2024	10/11/2029
DOL	DOL		ALEXANDER DELISA		411 THEODORE FREMND SUITE 206RYE NY 10580	09/03/2025	09/03/2030
DOL	NYC		ALL COUNTY SEWER & DRAIN, INC.		7 GREENFIELD DR WARWICK NY 10990	03/25/2022	03/25/2027
DOL	DOL	*****8387	AMERICAN PAVING & MASONRY, CORP.		8 FOREST AVE GLEN COVE NY 11542	05/24/2024	05/24/2029
DOL	DOL	*****8654	AMERICAN PAVING, INC.		8 FORREST AVE. GLEN COVE NY 11542	05/24/2024	05/24/2029
DOL	DOL		ANGELO GARCIA		515 WEST AVE UNIT PH 13NORWALK CT 06850	05/12/2021	05/12/2026
DOL	DOL		ANGELO STANCO		8 FOREST AVE. GLEN COVE NY 11542	05/24/2024	05/24/2029
DOL	DOL		ANGELO TONDO		449 WEST MOMBSHA ROAD MONROE NY 10950	06/06/2022	06/06/2027
DOL	DOL	*****4231	ANKER'S ELECTRIC SERVICE, INC.		10 SOUTH 5TH ST LOCUST VALLEY NY 11560	09/26/2022	09/26/2027
DOL	DOL		ANTHONY CASALE		20 HEATHER RIDGE ROAD TROY NY 12180	05/20/2025	05/20/2030
DOL	DOL		ANTHONY MONGELLI		PO BOX 2064 MONROE NY 10950	02/12/2024	02/12/2029
DOL	DOL	*****8421	B & B DRYWALL, INC		206 WARREN AVE APT 1WHITE PLAINS NY 10603	12/14/2021	12/14/2026
DOL	DA	*****2404	BJA RENOVATION, CORP		33 DOLLARD DR NORTH BABYLON NY 11703	03/19/2025	03/19/2030
DOL	DOL	*****5078	BLACK RIVER TREE REMOVAL, LLC		29807 ANDREWS ROAD BLACK RIVER NY 13032	10/17/2023	10/17/2028
DOL	DOL		C.M.C CONTRACTORS, INC.		500 WEST PUTNAM AVE SUITE 400GREENWICH CT 06830	09/03/2025	09/03/2030
DOL	DOL	*****5161	CALADRI DEVELOPMENT CORP.		1223 PARK ST. PEEKSKILL NY 10566	05/17/2021	05/17/2026
DOL	DOL	*****3391	CALI ENTERPRISES, INC.		1223 PARK STREET PEEKSKILL NY 10566	05/17/2021	05/17/2026
DOL	DOL		CARLOS F. ESCOBAR		411 THEODORE FREMND AVE SUITE 206RYE NY 10580	09/03/2025	09/03/2030
DOL	DOL		CARLOS FIGUEROA		411 THEODORE FREMND AVE SUITE 206RYE NY 10580	09/03/2025	09/03/2030
DOL	DOL	*****4155	CASA BUILDERS, INC.	FRIEDLANDER CONSTRUCTI ON	64 N PUTT CONNERS ROAD NEW PALTZ NY 12561	05/10/2023	05/10/2028
DOL	AG	*****7247	CENTURY CONCRETE CORP		2375 RAYNOR ST RONKONKOMA NY 11779	08/04/2021	08/04/2026
DOL	DOL		CESAREO TULA		120 SEARS AVE ELMSFORD NY 10523	09/26/2025	09/26/2030
DOL	DOL	*****2292	CHAMPION MAINTENANCE CONTRACTORS, INC.		211 SOUTH RIDGE STREET RYE BROOK NY 10573	09/03/2025	09/03/2030
DOL	NYC	*****2117	CHARAN ELECTRICAL ENTERPRISES		9-11 40TH AVENUE LONG ISLAND CITY NY 11101	09/26/2023	09/26/2028
DOL	DOL		CHARLES CASALE		55 MAIN AVENUE WYNANTSKILL NY 12198	05/20/2025	05/20/2030
DOL	DOL		CHARLES CASALE		55 MAIN AVENUE WYNANTSKILL NY 12198	05/20/2025	05/20/2030
DOL	DOL		CHRISTOPHER GRECO		26 NORTH MYRTLE AVENUE SPRING VALLEY NY 10956	02/18/2021	02/18/2026
DOL	DOL		CHRISTOPHER PEROSI		5507 NESCONSET HIGHWAY MT. SINAI NY 11766	07/17/2025	07/17/2030
DOL	DOL	*****2281	CORRAO TRUCKING, INC.		PO BOX 393 NANUET NY 10954	09/17/2024	09/17/2029
DOL	DOL		CRAIG JOHANSEN		10 SOUTH 5TH ST LOCUST VALLEY NY 11560	09/26/2022	09/26/2027
DOL	DOL	*****3228	CROSS-COUNTY LANDSCAPING AND TREE SERVICE, INC.	ROCKLAND TREE SERVICE	26 NORTH MYRTLE AVENUE SPRING VALLEY NY 10956	02/18/2021	02/18/2026
DOL	DOL	*****7619	DANCO CONSTRUCTION UNLIMITED INC.		485 RAFT AVENUE HOLBROOK NY 11741	10/19/2021	10/19/2026

NYSDOL Bureau of Public Work Debarment List 02/17/2026

Article 8

DOL	DOL		DANIEL DELISA		211 SOUTH RIDGE STREET RYE BROOK NY 10573	09/03/2025	09/03/2030
DOL	DOL		DANIEL ROBERT MCNALLY		7 GREENFIELD DRIVE WARWICK NY 10990	03/25/2022	03/25/2027
DOL	DOL		DARWIN PEGUESE		6400 BALTIMORE NATIONAL SUITE 602CANTONSVILLE NY 21228	10/24/2024	10/24/2029
DOL	DOL		DAVID FRIEDLANDER		64 NORTH PUTT CORNERS RD NEW PALTZ NY 12561	05/10/2023	05/10/2028
DOL	DOL		DENISE NAGLE		36 OAKWOOD TRAIL S AL MONROE NY 10950	10/29/2025	10/29/2030
DOL	DOL		DINA TAYLOR		64 N PUTT CONNERS RD NEW PALTZ NY 12561	05/10/2023	05/10/2028
DOL	AG		EDWIN HUTZLER		23 NORTH HOWELLS RD BELLPORT NY 11713	08/04/2021	08/04/2026
DOL	DA		EDWIN HUTZLER		2375 RAYNOR STREET RONKONKOMA NY 11779	08/04/2021	08/04/2026
DOL	DOL	*****2337	EGL DRAINAGE SOLUTION & REPAIRS LLC		5507 NESCONSET HIGHWAY MT. SINAI NY 11766	07/17/2025	07/17/2030
DOL	DOL	*****0780	EMES HEATING & PLUMBING CONTR		5 EMES LANE MONSEY NY 10952	01/20/2002	01/20/3002
DOL	DOL		EMIL KISZKO		84 DIAMOND ST BROOKLYN NY 11222	07/18/2024	07/18/2029
DOL	DOL	*****3298	EMJACK CONSTRUCTION CORP.		84 DIAMOND ST BROOKLYN NY 11222	07/18/2024	07/18/2029
DOL	DOL	*****3298	EMJACK CONSTRUCTION LLC		4192 SIR ANDREW CIRCLE DOYLESTOWN PA 18902	07/18/2024	07/18/2029
DOL	DOL		EUGENIUSZ "GINO" KUCHAR		195 KINGSLAND AVE BROOKLYN NY 11222	12/22/2023	12/22/2028
DOL	DA		FREDERICK HUTZLER		2375 RAYNOR STREET RONKONKOMA NY 11779	08/04/2021	08/04/2026
DOL	DOL	*****2998	G.E.M. AMERICAN CONSTRUCTION CORP.		195 KINGSLAND AVE BROOKLYN NY 11222	12/22/2023	12/22/2028
DOL	DA		GEORGE LUCEY		150 KINGS STREET BROOKLYN NY 11231	01/19/1998	01/19/2998
DOL	DA		GIOVANNA TRAVALJA		3735 9TH ST LONG ISLAND CITY NY 11101	01/05/2023	01/05/2028
DOL	DA		GIOVANNI NAPOLITANO		2501 BAYVIEW AVENUE WANTAGH NY 11793	02/21/2024	02/21/2029
DOL	DA	*****0213	GORILLA CONTRACTING GROUP, LLC		505 MANHATTAN AVE WEST BABYLON NY 11704	10/05/2023	10/05/2028
DOL	DA	*****4760	GTX CONSTRUCTION ASSOCIATES, CORP		2501 BAYVIEW AVE WANTAGH NY 11793	02/21/2024	02/21/2029
DOL	DOL		HENRY WICKE A/K/A HENRY WICKE, JR.		36 OAKWOOD TRAIL S AL MONROE NY 10950	10/29/2025	10/29/2030
DOL	DOL		HERBERT CLEMEN		42 FOWLER AVENUE CORTLAND MANOR NY 10567	01/24/2023	01/24/2028
DOL	DOL		HERBERT CLEMEN		42 FOWLER AVENUE CORTLAND MANOR NY 10567	10/25/2022	10/25/2027
DOL	DOL	*****6961	HUNTER ELEVATOR COMPANY, INC.		36 OAKWOOD TRAIL S AL MONROE NY 10950	10/29/2025	10/29/2030
DOL	DOL	*****2397	ISLAND BREEZE MARINE, INC.		6400 BALTIMORE NATIONAL CANTONSVILLE MD 21228	10/24/2024	10/24/2029
DOL	DOL	*****5010	J. LINDSLEY ENTERPRISE, LLC		1002 STATE ROUTE 176 FULTON NY 13069	07/30/2025	07/30/2030
DOL	DOL	*****0241	J. LINDSLEY ROOFING, LLC		211 NORTH 2ND STREET FULTON NY 13069	07/30/2025	07/30/2030
DOL	DOL	*****9211	J. WASE CONSTRUCTION CORP.		8545 RT 9W ATHENS NY 12015	03/09/2021	03/09/2026
DOL	DOL		J.M.J CONSTRUCTION		151 OSTRANDER AVENUE SYRACUSE NY 13205	11/21/2022	11/21/2027
DOL	DOL		J.R. NELSON CONSTRUCTION		531 THIRD STREET ALBANY NY 12206	11/07/2023	11/07/2028
DOL	DOL		J.R. NELSON CONSTRUCTION		531 THIRD STREET ALBANY NY 12206	12/22/2022	12/22/2027
DOL	DOL		J.R. NELSON CONSTRUCTION		531 THIRD STREET ALBANY NY 12206	10/25/2022	10/25/2027
DOL	DOL		J.R. NELSON, LLC		531 THIRD STREET ALBANY NY 12206	12/22/2022	12/22/2027
DOL	DOL		J.R. NELSON, LLC		531 THIRD STREET ALBANY NY 12206	11/07/2023	11/07/2028
DOL	DOL		J.R. NELSON, LLC		531 THIRD STREET ALBANY NY 12206	10/25/2022	10/25/2027
DOL	DOL		J.R.N COMPANIES, LLC		531 THIRD STREET ALBANY NY 12206	12/12/2022	12/12/2027

NYSDOL Bureau of Public Work Debarment List 02/17/2026

Article 8

DOL	DOL		J.R.N COMPANIES, LLC		531 THIRD STREET ALBANY NY 12206	11/07/2023	11/07/2028
DOL	DOL		J.R.N COMPANIES, LLC		531 THIRD STREET ALBANY NY 12206	10/25/2022	10/25/2027
DOL	DOL	*****1147	J.R.N. CONSTRUCTION, LLC		531 THIRD ST ALBANY NY 12206	11/07/2023	11/07/2028
DOL	DOL	*****1147	J.R.N. CONSTRUCTION, LLC		531 THIRD ST ALBANY NY 12206	12/22/2022	12/22/2027
DOL	DOL	*****1147	J.R.N. CONSTRUCTION, LLC		531 THIRD ST ALBANY NY 12206	10/25/2022	10/25/2027
DOL	DOL		JAMES J. BAKER		7901 GEE ROAD CANASTOTA NY 13032	08/17/2021	08/17/2026
DOL	DOL		JAMES LINDSLEY		211 NORTH 2ND STREET FULTON NY 13069	07/30/2025	07/30/2030
DOL	DOL		JASON P. RACE		3469 STATE RT. 69 PERISH NY 13131	09/29/2021	09/29/2026
DOL	DOL		JASON P. RACE		3469 STATE RT. 69 PERISH NY 13131	02/09/2022	02/09/2027
DOL	DOL		JASON P. RACE		3469 STATE RT. 69 PERISH NY 13131	11/15/2022	11/15/2027
DOL	DOL		JASON P. RACE		3469 STATE RT. 69 PERISH NY 13131	03/01/2022	03/01/2027
DOL	DOL	*****7993	JBS DIRT, INC.		7901 GEE ROAD CANASTOTA NY 13032	08/17/2021	08/17/2026
DOL	DOL	*****2435	JEFFEL D. JOHNSON	JMJ7 AND SON	5553 CAIRNSTRAIL CLAY NY 13041	11/21/2022	11/21/2027
DOL	DOL		JEFFEL JOHNSON ELITE CARPENTER REMODEL AND CONSTRUCTION		C2 EVERGREEN CIRCLE LIVERPOOL NY 13090	11/21/2022	11/21/2027
DOL	DOL	*****2435	JEFFREY M. JOHNSON	JMJ7 AND SON	5553 CAIRNS TRAIL CLAY NY 13041	11/21/2022	11/21/2027
DOL	DOL		JENNIFER LINDSLEY		211 NORTH 2ND STREET FULTON NY 13069	07/30/2025	07/30/2030
DOL	DOL		JERRY DASTON		36 OAKWOOD TRAIL S AL MONROE NY 10950	10/29/2025	10/29/2030
DOL	DOL		JIM PLAUGHER		17613 SANTE FE LINE ROAD WAYNEFIELD OH 45896	07/16/2021	07/16/2026
DOL	DOL		JMJ7 & SON CONSTRUCTION, LLC		5553 CAIRNS TRAIL LIVERPOOL NY 13041	11/21/2022	11/21/2027
DOL	DOL		JMJ7 AND SONS CONTRACTORS		5553 CAIRNS TRAIL CLAY NY 13041	11/21/2022	11/21/2027
DOL	DOL		JMJ7 CONTRACTORS		7014 13TH AVENUE BROOKLYN NY 11228	11/21/2022	11/21/2027
DOL	DOL		JMJ7 CONTRACTORS AND SONS		5553 CAIRNS TRAIL CLAY NY 13041	11/21/2022	11/21/2027
DOL	DOL		JMJ7 CONTRACTORS, LLC		5553 CAIRNS TRAIL CLAY NY 13041	11/21/2022	11/21/2027
DOL	DOL		JOHN MARKOVIC		47 MANDON TERRACE HAWTHORN NJ 07506	03/29/2021	03/29/2026
DOL	DOL		JOHN NAGLE A/K/A JOHN NAGLE, JR.		36 OAKWOOD TRAIL S AL MONROE NY 10950	10/29/2025	10/29/2030
DOL	DOL		JOHN WASE		8545 RT 9W ATHENS NY 12015	03/09/2021	03/09/2026
DOL	DOL		JONATHAN DELISA		411 THEODORE FREMND AVE SUITE 206RYE NY 10580	09/03/2025	09/03/2030
DOL	DOL		JORGE FIGUEROA		411 THEODORE FRMND AVE SUITE 206RYE NY 10580	09/03/2025	09/03/2030
DOL	DOL		JORGE RAMOS		8970 MIKE GARCIA DR MANASSAS VA 20109	07/16/2021	07/16/2026
DOL	DA		JOSEPH DEMASCO		33 DOLLARD DRIVE NORTH BABYLON NY 11703	01/30/2026	01/30/2031
DOL	DA		JOSEPH DEMASCO		33 DOLLARD DRIVE NORTH BABYLON NY 11703	03/19/2025	03/19/2030
DOL	DOL		JOSEPH HALL		937 US ROUTE 11 CENTRAL SQUARE NY 13036	10/21/2024	10/21/2029
DOL	DOL	*****2271	JOSEPH HALL COMPANIES LLC		937 US ROUTE 11 CENTRAL SQUARE NY 13036	10/21/2024	10/21/2029
DOL	DOL		JOSEPH K. SALERNO		1010 TILDEN AVE UTICA NY 13501	07/24/2023	07/24/2028
DOL	DOL		JOSEPH K. SALERNO II		1010 TILDEN AVE UTICA NY 13501	07/24/2023	07/24/2028
DOL	DOL	*****5116	JP RACE PAINTING, INC. T/A RACE PAINTING		3469 STATE RT. 69 PERISH NY 13131	02/09/2022	02/09/2027
DOL	DOL	*****5116	JP RACE PAINTING, INC. T/A RACE PAINTING		3469 STATE RT. 69 PERISH NY 13131	11/15/2022	11/15/2027

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DOL	DOL	****5116	JP RACE PAINTING, INC. T/A RACE PAINTING		3469 STATE RT. 69 PERISH NY 13131	09/29/2021	09/29/2026
DOL	DOL	****5116	JP RACE PAINTING, INC. T/A RACE PAINTING		3469 STATE RT. 69 PERISH NY 13131	03/01/2022	03/01/2027
DOL	DOL	****5116	JP RACE PAINTING, INC. T/A RACE PAINTING		3469 STATE RT. 69 PERISH NY 13131	03/01/2022	03/01/2027
DOL	DOL		JRN CONSTRUCTION CO, LLC		1024 BROADWAY ALBANY NY 12204	11/07/2023	11/07/2028
DOL	DOL	****1147	JRN CONSTRUCTION, LLC		531 THIRD STREET ALBANY NY 12206	10/25/2022	10/25/2027
DOL	DOL	****1147	JRN CONSTRUCTION, LLC		531 THIRD STREET ALBANY NY 12206	12/22/2022	12/22/2027
DOL	DOL	****1147	JRN CONSTRUCTION, LLC		531 THIRD STREET ALBANY NY 12206	11/07/2023	11/07/2028
DOL	DOL		JRN PAVING, LLC		531 THIRD STREET ALBANY NY 12206	10/25/2022	10/25/2027
DOL	DOL		JRN PAVING, LLC		531 THIRD STREET ALBANY NY 12206	12/22/2022	12/22/2027
DOL	DOL		JRN PAVING, LLC		531 THIRD STREET ALBANY NY 12206	11/07/2023	11/07/2028
DOL	DOL		JULIUS AND GITA BEHREND		5 EMES LANE MONSEY NY 10952	11/20/2002	11/20/3002
DOL	DOL		KATE E. CONNOR		7088 INTERSTATE ISLAND RD SYRACUSE NY 13209	03/31/2021	03/31/2026
DOL	DOL		KEAN INDUSTRIES, LLC		2345 RT. 52 SUITE 2NHOPEWELL JUNCTION NY 12533	12/18/2023	12/18/2028
DOL	DOL	****2959	KELC DEVELOPMENT, INC		7088 INTERSTATE ISLAND RD SYRACUSE NY 13209	03/31/2021	03/31/2026
DOL	DOL		KEVIN FUNEZ URBINA A/K/A KEVIN FUNEZ		1009 LYNDALE AVE TRENTON NJ 08629	12/16/2024	12/16/2029
DOL	DOL		KIMBERLY F. BAKER		7901 GEE ROAD CANASTOTA NY 13032	08/17/2021	08/17/2026
DOL	DOL	****8760	KJ&J CONSTRUCTION, LLC		1009 LYNDALE AVE TRENTON NJ 08629	12/16/2024	12/16/2029
DOL	DOL		KMA GROUP II, INC.		29-10 38TH AVENUE LONG ISLAND CITY NY 11101	10/11/2023	10/11/2028
DOL	DOL	****1833	KMA GROUP INC.		29-10 38TH AVENUE LONG ISLAND CITY NY 11101	10/11/2023	10/11/2028
DOL	DOL		KMA INSULATION, INC.		29-10 38TH AVENUE LONG ISLAND CITY NY 11101	10/11/2023	10/11/2028
DOL	DOL		KRIN HEINEMANN		2345 ROUTE 52, SUITE 2N HOPEWELL JUNCTION NY 12533	12/18/2023	12/18/2028
DOL	NYC		KULWANT S. DEOL		9-11 40TH AVENUE LONG ISLAND CITY NY 11101	09/26/2023	09/26/2028
DOL	DA	****8816	LAKE CONSTRUCTION AND DEVELOPMENT CORPORATION		150 KINGS STREET BROOKLYN NY 11231	08/19/1998	08/19/2998
DOL	DOL		LEROY E. NELSON JR		531 THIRD ST ALBANY NY 12206	10/25/2022	10/25/2027
DOL	DOL		LEROY E. NELSON JR		531 THIRD ST ALBANY NY 12206	12/22/2022	12/22/2027
DOL	DOL		LEROY E. NELSON JR		531 THIRD ST ALBANY NY 12206	11/07/2023	11/07/2028
DOL	DOL	****3716	LIGHTNIN ELECTRIC INC.		3418 NORTHERN BLVD SUITE 5-27LONG ISLAND CITY NY 11101	12/13/2024	12/13/2029
DOL	AG	****3291	LINTECH ELECTRIC, INC.		3006 TILDEN AVE BROOKLYN NY 11226	02/16/2022	02/16/2027
DOL	DOL		LIZETTE PONCE		411 THEODORE FREMND AVE SUITE 206RYE NY 10580	09/03/2025	09/03/2030
DOL	DOL		LOUIS A. CALICCHIA		1223 PARK ST. PEEKSKILL NY 10566	05/17/2021	05/17/2026
DOL	DA		MANUEL P TOBIO		150 KINGS STREET BROOKLYN NY 14444	08/19/1998	08/19/2998
DOL	DA		MANUEL TOBIO		150 KINGS STREET BROOKLYN NY 11231	08/19/1998	08/19/2998
DOL	DOL	****1320	MJC MASON CONTRACTING, INC.		42 FOWLER AVENUE CORTLAND MANOR NY 10567	10/25/2022	10/25/2027
DOL	DOL	****1320	MJC MASON CONTRACTING, INC.		42 FOWLER AVENUE CORTLAND MANOR NY 10567	01/24/2023	01/24/2028
DOL	DOL		MOHAMMAD MIAN		8269 21ST ST BELLEROSE NY 11426	12/22/2022	12/22/2027

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DOL	NYC		NASEER CHAUDHRY		2349 BRAGG STREET BROOKLYN NY 11229	04/22/2025	04/22/2030
DOL	DOL	*****7790	NATIONAL BUILDING & RESTORATION CORP		1010 TILDEN AVE UTICA NY 13501	07/24/2023	07/24/2028
DOL	DOL	*****1797	NATIONAL CONSTRUCTION SERVICES, INC		1010 TILDEN AVE UTICA NY 13501	07/24/2023	07/24/2028
DOL	NYC		NAVIT SINGH		402 JERICHO TURNPIKE NEW HYDE PARK NY 11040	08/10/2022	08/10/2027
DOL	DOL		NELCO CONTRACTING, LLC		1024 BROADWAY ALBANY NY 12204	11/07/2023	11/07/2028
DOL	DA		NICHOLAS BARNETT		33 DOLLARD DR BABYLON NY 11703	03/04/2025	03/04/2030
DOL	DOL		NICHOLAS RAO		411 THEODORE FREMND AVE SUITE 206 RYE NY 10580	09/03/2025	09/03/2030
DOL	DA		NICHOLAS T. ANALITIS		505 MANHATTAN AVE WEST BABYLON NY 11704	10/05/2023	10/05/2028
DOL	DOL		NICHOLE E. FRASER A/K/A NICHOLE RACE		3469 STATE RT. 69 PERISH NY 13131	03/01/2022	03/01/2027
DOL	DOL		NICHOLE E. FRASER A/K/A NICHOLE RACE		3469 STATE RT. 69 PERISH NY 13131	11/15/2022	11/15/2027
DOL	DOL		NICHOLE E. FRASER A/K/A NICHOLE RACE		3469 STATE RT. 69 PERISH NY 13131	09/29/2021	09/29/2026
DOL	DOL		NICHOLE E. FRASER A/K/A NICHOLE RACE		3469 STATE RT. 69 PERISH NY 13131	02/09/2022	02/09/2027
DOL	DOL		NIKOLA NTONI		3418 NORTHERN BLVD SUITE 5-27 LONG ISLAND CITY NY 11101	12/13/2024	12/13/2029
DOL	NYC	*****6971	NN CONSTRUCTION, INC.		2349 BRAGG STREET BROOKLYN NY 11229	04/22/2025	04/22/2030
DOL	NYC	*****5643	NYC LINE CONTRACTORS, INC.		402 JERICHO TURNPIKE NEW HYDE PARK NY 11040	08/10/2022	08/10/2027
DOL	DOL		PATRICK PENNACCHIO		2345 RT. 52 SUITE 2NHOPEWELL JUNCTION NY 12533	12/18/2023	12/18/2028
DOL	DOL		PATRICK PENNACCHIO		2345 RT. 52 SUITE 2NHOPEWELL JUNCTION NY 12533	12/18/2023	12/18/2028
DOL	DOL		PAULINE CHAHALES		935 S LAKE BLVD MAHOPAC NY 10541	03/02/2021	03/02/2026
DOL	DOL	*****4168	PHANTOM CONSTRUCTION CORP.		95-27 116TH STREET QUEENS NY 11419	07/12/2024	07/12/2029
DOL	DOL	*****4168	PHANTOM CONSTRUCTION CORP.		95-27 116TH STREET QUEENS NY 11419	05/28/2024	05/28/2029
DOL	DOL	*****4772	R.W. LOBDELL CONSTRUCTION LLC		635 WEST DRYDEN ROAD FREEVILLE NY 13068	01/31/2025	01/31/2030
DOL	DOL	*****2633	RAW POWER ELECTRIC CORP.		3 PARK CIRCLE MIDDLETOWN NY 10940	07/11/2022	07/11/2027
DOL	DOL		ROBBYE BISSEsar		89-51 SPRINGFIELD BLVD QUEENS VILLAGE NY 11427	01/11/2003	01/11/3003
DOL	DOL		ROMEO WARREN		161 ROBYN RD MONROE NY 10950	07/11/2022	07/11/2027
DOL	DOL		ROSA GARCIA		411 THEODORE FRMND AVE SUITE 206 RYE NY 10580	09/03/2025	09/03/2030
DOL	DOL	*****7172	RZ & AL INC.		198 RIDGE AVENUE VALLEY STREAM NY 11581	06/06/2022	06/06/2027
DOL	DOL		SAL FRESINA MASONRY CONTRACTORS, INC.		1935 TEALL AVENUE SYRACUSE NY 13206	07/16/2021	07/16/2026
DOL	DOL		SAL MASONRY CONTRACTORS, INC.		(SEE COMMENTS) SYRACUSE NY 13202	07/16/2021	07/16/2026
DOL	DOL	*****9874	SALFREE ENTERPRISES INC		P.O BOX 14 2821 GARDNER RD POMPEI NY 13138	07/16/2021	07/16/2026
DOL	DOL		SALVATORE A FRESINA A/K/A SAM FRESINA		107 FACTORY AVE P.O BOX 11070 SYRACUSE NY 13218	07/16/2021	07/16/2026
DOL	DOL		SAM FRESINA		107 FACTORY AVE P.O BOX 11070 SYRACUSE NY 13218	07/16/2021	07/16/2026
DOL	DA	*****0476	SAMCO ELECTRIC CORP.		3735 9TH ST LONG ISLAND CITY NY 11101	01/05/2023	01/05/2028
DOL	DA		SILVANO TRAVAJA		3735 9TH ST LONG ISLAND CITY NY 11101	01/05/2023	01/05/2028
DOL	DOL	*****0440	SOLAR GUYS INC.		8970 MIKE GARCIA DR MANASSAS VA 20109	07/16/2021	07/16/2026
DOL	NYC	*****3661	SPANIER BUILDING MAINTENANCE CORP		200 OAK DRIVE SYOSSET NY 11791	03/14/2022	03/14/2027

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DOL	DOL		STANADOS KALOGELAS		485 RAFT AVENUE HOLBROOK NY 11741	10/19/2021	10/19/2026
DOL	DOL	****3496	STAR INTERNATIONAL INC		89-51 SPRINGFIELD BLVD QUEENS VILLAGE NY 11427	08/11/2003	08/11/3003
DOL	DOL	****9528	STEEL-IT, LLC.		17613 SANTE FE LINE ROAD WAYNESFIELD OH 45896	07/16/2021	07/16/2026
DOL	DOL		STEVEN DELISA		411 THEODORE FREMND AVE SUITE 206RYE NY 10580	09/03/2025	09/03/2030
DOL	DOL	****3800	SUBURBAN RESTORATION CO. INC.		5-10 BANTA PLACE FAIR LAWN PLACE NJ 07410	03/29/2021	03/29/2026
DOL	DOL	****9150	SURGE INC.		8269 21ST STREET BELLEROSE NY 11426	12/22/2022	12/22/2027
DOL	DOL		SYED MUHAMMAD S. JAFRI A/K/A SHARRUKH JAFRI		4307 28TH AVE ASTORIA NY 11103	10/11/2024	10/11/2029
DOL	DOL		SYED RAZA		198 RIDGE AVENUE NY 11581	06/06/2022	06/06/2027
DOL	DOL		TARLOK SINGH		95-27 116TH STREET QUEENS NY 11419	05/28/2024	05/28/2029
DOL	DOL		TARLOK SINGH		95-27 116TH STREET QUEENS NY 11419	07/12/2024	07/12/2029
DOL	DOL	****4855	TECH INDUSTRIES LLC		20 HEATHER RIDGE ROAD TROY NY 12180	05/20/2025	05/20/2030
DOL	DOL	****9733	TERSAL CONSTRUCTION SERVICES INC		107 FACTORY AVE P.O BOX 11070SYRACUSE NY 13208	07/16/2021	07/16/2026
DOL	DOL		TERSAL CONTRACTORS, INC.		221 GARDNER RD P.O BOX 14POMPEI NY 13138	07/16/2021	07/16/2026
DOL	DOL		TERSAL DEVELOPMENT CORP.		1935 TEALL AVENUE SYRACUSE NY 13206	07/16/2021	07/16/2026
DOL	DOL	****2426	THE MATRUKH GROUP, INC.		4307 28TH AVE PO BOX 9082ASTORIA NY 11103	10/11/2024	10/11/2029
DOL	DOL		THOMAS LOBDELL		635 WEST DRYDEN ROAD FREEVILLE NY 13068	01/31/2025	01/31/2030
DOL	DOL		TIMOTHY PERCY		29807 ANDREWS ROAD BLACK RIVER NY 13612	10/17/2023	10/17/2028
DOL	DA	****1050	TRI STATE CONSTRUCTION OF NY CORP.		50-39 175TH PLACE FRESH MEADOWS NY 11365	03/28/2022	03/28/2027
DOL	DA	****4106	TRIPLE H CONCRETE CORP		2375 RAYNOR STREET RONKONKOMA NY 11779	08/04/2021	08/04/2026
DOL	DOL	****8485	TULA PLUMBING AND HEATING LLC		120 SEARS AVE ELMSFORD NY 10523	09/26/2025	09/26/2030
DOL	DOL	****8210	UPSTATE CONCRETE & MASONRY CONTRACTING CO INC		449 WEST MOMBSHA ROAD MONROE NY 10950	06/06/2022	06/06/2027
DOL	DOL		VINCENT CORRAO		PO BOX 393 NANUET NY 10954	09/17/2024	09/17/2029
DOL	DOL	****8266	WILLIAM CHRIS MCCLENDON	MCCLENDON ASPHALT PAVING	1646 FALLS STREET NIAGARA FALLS NY 14303	05/01/2023	05/01/2028
DOL	DOL		WILLIAM CHRIS MCCLENDON		1646 FALLS STREET NIAGARA FALLS NY 14303	05/01/2023	05/01/2028
DOL	DOL		WILLIAM SCRIVENS		4192 SIR ANDREW CIRCLE DOYELSTOWN PA 18902	07/18/2024	07/18/2029
DOL	DOL	****9494	WND CONSTRUCTION LLC		411 THEODORE FREMD AVENUE SUITE 206RYE NY 10580	09/03/2025	09/03/2030
DOL	DOL		XENOFON EFTHIMIADIS		29-10 38TH AVENUE LONG ISLAND CITY NY 11101	10/11/2023	10/11/2028

APPENDIX B
DAVIS BACON PREVAILING WAGE RATE
SCHEDULE

"General Decision Number: NY20260012 01/30/2026

Superseded General Decision Number: NY20250012

State: New York

Construction Types: Building, Heavy, Highway and Residential

Counties: Nassau and Suffolk Counties in New York.

BUILDING CONSTRUCTION PROJECTS, RESIDENTIAL CONSTRUCTION PROJECTS (including single family homes and apartments up to and including 4 stories), HEAVY CONSTRUCTION PROJECTS, HIGHWAY CONSTRUCTION PROJECTS

Modification Number	Publication Date
0	01/02/2026
1	01/30/2026

ASBE0012-001 06/01/2025

	Rates	Fringes
Asbestos Workers/Insulator Includes application of all insulating materials, protective coverings, coatings and finishes to all types of mechanical systems.....	\$ 71.76	36.81
HAZARDOUS MATERIAL HANDLER.....	\$ 47.75	13.70

BOIL0005-001 01/01/2025

	Rates	Fringes
BOILERMAKER.....	\$ 68.88	49.83+a

FOOTNOTE:

a. PAID HOLIDAYS: New Year's Day, Thanksgiving Day, Memorial Day, Independence Day, Labor Day and Good Friday, Friday after Thanksgiving, Christmas Eve Day and New Year's Eve

BRNY0001-001 07/01/2024

	Rates	Fringes
BRICKLAYER.....	\$ 67.39	35.90
MASON - STONE.....	\$ 69.91	44.02

CARP0290-001 07/01/2025

	Rates	Fringes
Carpenters: Building Nassau County (Portion of county that lies west of Seaford Creek and south of the Southern State		

Parkway).....	\$ 52.50	46.28
Nassau County (Remainder of County) and Suffolk County.....	\$ 53.56	34.28
Heavy & Highway.....	\$ 53.56	34.28
Residential.....	\$ 34.14	23.15

CARP0740-001 07/01/2025

	Rates	Fringes

MILLWRIGHT.....	\$ 60.83	58.03

CARP1556-008 07/01/2024

	Rates	Fringes

Carpenters:

DIVERS TENDERS.....	\$ 55.00	55.84
DIVERS.....	\$ 75.46	55.84
DOCKBUILDERS.....	\$ 60.59	55.84
PILEDRIVERMAN.....	\$ 60.59	55.84

CARP1556-011 07/01/2024

	Rates	Fringes

Carpenters:

TIMBERMEN.....	\$ 55.59	55.41

CARP2287-003 07/01/2025

	Rates	Fringes

CARPENTER

Soft Floor Layers.....	\$ 59.05	48.08

ELEC0025-001 04/26/2025

	Rates	Fringes

ELECTRICIAN.....	\$ 64.55	18%+35.78

ELEC0025-002 04/26/2025

	Rates	Fringes

Electricians:

Maintenance Unit.....	\$ 49.79	14%+25.30
Telephone Unit.....	\$ 42.93	18%+24.70
Wiring for single or multiple family dwellings and apartments up to and including 3 stories.....	\$ 37.25	13%+18.92

ELEC1049-002 03/30/2025

	Rates	Fringes

Line Construction:

Substation and Switching
structures pipe type cable
installation and
maintenance jobs or
projects; Railroad

electrical distribution/
transmission systems
maintenance (when work is
not performed by railroad
employees) Overhead and
Underground
transmission/distribution
line work. Fiber optic,
telephone cable and
equipment;

Groundman.....	\$ 42.34	30.05
Heavy Equipment Operator....	\$ 56.46	34.63
Lineman & Cable Splicer....	\$ 70.57	39.19
Material Man.....	\$ 61.40	36.24

ELEV0001-002 03/17/2022

	Rates	Fringes

ELEVATOR MECHANIC

Elevator Constructor.....	\$ 75.14	47.446+a+b
Modernization and Repair....	\$ 59.09	45.564+a+b

FOOTNOTE:

a. PAID HOLIDAYS: New Year's Day, Good Friday, President's Day, Memorial Day, Independence Day, Labor Day, Columbus Day, Veteran's Day, Thanksgiving Day, Friday after Thanksgiving, and Christmas Day.

b. PAID VACATION: An employee who has worked less than 5 years shall receive vacation pay credit on the basis of 4% of his hourly rate for all hours worked; an employee who has worked 5 to 15 years shall receive vacation pay credit on the basis of 6% of his hourly rate for all hours worked; an employee who has worked 15 or more years shall receive vacation pay credit on the basis of 8% of his hourly rate for all hours worked.

ENGI0138-001 06/01/2025

BUILDING CONSTRUCTION

	Rates	Fringes

Power equipment operators:

GROUP 1.....	\$ 80.43	39.99
GROUP 2.....	\$ 76.44	39.99
GROUP 3.....	\$ 73.78	39.99
GROUP 4.....	\$ 56.54	39.99
GROUP 5.....	\$ 54.21	39.99

NOTES:

Hazmat premiums:

Level A	3.50
Level B	2.50
Level C	1.50
Level D	1.00

Oiler on truck cranes with boom length of 100 ft. or more
.25

FOOTNOTE:

a. Paid Holidays: New Year's Day, Lincoln's Birthday, Washington's Birthday or President's Day (in lieu of Lincoln's or Washington's Birthday), Good Friday, Memorial Day, Independence Day, Labor Day, Veteran's Day, Thanksgiving Day, Christmas Day or days celebrated as such. Any holiday that falls on a Saturday will be celebrated on Friday.

POWER EQUIPMENT OPERATOR CASSIFICATIONS

GROUP 1: Asphalt spreader, backhoe crawler capacity over cater- pillar 225 and lomatsu 300, Boiler (thermoplastic), Cherry picker, over 50 tons, CMI or maxim spreader, concrete pump (with oiler), crane (crawler truck), crane (on barge), crane (stone setting), crane (structural steel), crane (with clam shell), derrick, dragline, dredge, gradall, grader, hoist (3 drum), loading machine (bucket) cap of 10 yds or over micro-trap, with compressor (negative air machine), milling machine, large pile driver, power winch, Stone setting/structural steel, power winch (truck mounted/stone steel) powerhouse, road paver scoop, carry-all, scraper in tandem shovel, sideboom tractor, sideboom tractor (used in tank work), stone spreader (self propelled tank work), zamboni (ice machine)

GROUP 2: Backhoe, boom truck, bulldozer, cherypicker, conveyor (multi), dinky locomotive, forklift, hoist, 2 drum, loading machine, loading machine (front end) mechanical compactors, (machine drawn), mulch machine (machine-fed), mechanic, power winch, other than stone/structural steel, power winch (truck mounted other than stone steel) pump (hydraulic, with boring machine), roller, (asphalt), scoop (carry-all scraper), tower crane (maintenance man), trenching machine

GROUP 3: Comrpessor (structural steel), Compressor (2 or more in battery), concrete finishing mchine, concrete spreader, conveyor, curb machine (asphalt or concrete), curing machine, fireman, hoist (1 drum), micro-trap, (self contained, negative air machine), pump (4 inches or over), pump (hydraulic), pump (jet), pump (sumbersible), pump (well point), pulvi-mixer, ridge cutter, roller (dirt), striping machine, vac-all, welding and burning, welding machine (pile work), welding machine (structural steel)

GROUP 4: Compressor, compressor (on crane), compressor (pile work), compressor (stone setting), concrete breaker, concrete saw or cutter, forklift (walk behind, power operated), generator-pile work, generator, hydra hammer, mechanical compactors (hand operated), oiler (truck crane), pin puller, portable heaters, powerbroom, power buggies, pump (double action diaphgrgm), pump (gypsum), trench machine (hand), welding machine

GROUP 5: Batching plant (on site of job), generator (small), mixer (with skip), mixer (2 small with or without skip), mixer (2 bag or over, with or without skip), mulch machine, oiler, pump (centrifugal, up to 3 inches), root cutter, stump chipper, tower crane (oiler), tractor (caterpillar or wheel vibrator)

ENGI0138-002 06/01/2025

HEAVY & HIGHWAY

	Rates	Fringes
Power equipment operators:		
GROUP 1.....	\$ 84.70	40.15+a
GROUP 2.....	\$ 79.33	40.15+a
GROUP 3.....	\$ 76.61	40.15+a
GROUP 4.....	\$ 58.93	40.15+a
GROUP 5.....	\$ 56.55	40.15+a
GROUP 6.....	\$ 44.37	12.95+a

NOTES:

Hazmat premiums:

Level A	3.50
Level B	2.50
Level C	1.50
Level D	1.00

Truck and Crawler Cranes long boom premiums:

boom lengths (including jib) 100-149 ft	1.00
boom lengths (including jib) 150-249 ft	1.50
boom lengths (including jib) 250-349 ft	2.00
boom lengths (including jib) 350 ft	3.00

Cranes using clamshell buckets	.25
Front end loader 10 yds and above	.25
Oiler on truck cranes with boom length of 100 ft. or more	.25

FOOTNOTE:

a. Paid Holidays: New Years Day, Lincoln's Birthday, Washington's Birthday or Presidents Day (in lieu of Lincoln's or Washington's Birthday, Good Friday, Memorial Day, Independence Day, Labor Day, Columbus Day, Veteran's Day, Thanksgiving Day, Christmas Day or days celebrated as such. Any holiday that falls on Saturday will be celebrated on Friday.

POWER EQUIPMENT OPERATOR CLASSIFICATIONS

GROUP 1: Asphalt spreader, backhoe crawler (capacity over caterpillar 225 and komatsu 300), boiler (thermoplastic), boring machine (post hole), cgherry picker (over 50 ton), CMI or maxim spreader, concrete pump, with oiler, crane (crawler truck), crane (on barge), crane (stone setting) crane (structural steel), crane (with clam shell), derrick, dragline, dredge, gradall, grader, hoist (3 drums), loading machine (bucket) capacity of 10 yards or over, micro-trap (with compressor-negative air machine), milling machine (large), piledriver, power winch (stone setting structural steel), power winch (truck mounted/stone steel), power-house, road paver, scoop, carry all (scraper in tandem), shovel, sideboom tractor, sideboom tractor (used in tank work), stone spreader (self-propelled), tank work, tower crane

GROUP 2: Bulldozer, Backhoe, Boom Truck, Boring machine/augur, Cherrypicker, Conveyor (multi), Dinky Locomotive, Forklift, Hoist (2 drum), Loading Machine, Loading Machine (front end), Mechanical Compactor (machine drawn), Mechanic, Mulch Machine (machine- fed), Power Winch (other than stone/structural steel), Power Winch (truck mounted/other than stone steel), Pump Hydraulic (with

boring machine), Roller (asphalt), Scoop (carry-all, scraper), Tower Crane (maintenance man), Trenching Machine, Vermeer Cutter, Work Boat

GROUP 3: Curb Machine (asphalt or concrete), Maintenance Engineer (small equipment), Maintenance engineer (well-point) Mechanic (fieldman), Micro-Trap (self contained, negative air machine), Milling Machine (small), Pulvi-mixer, Pump (4 inches or over), Pump Hydraulic, Pump Jet, Pump Submersible, Pump (well point), Roller Dirt, Vac-All, Welding and burning, Compressor (structural steel), Compressor (2 or more battery), Concrete Finishing Machine, Concrete Spreader, Conveyor, Curing Machine, Fireman, Hoist (one drum), Ridge Cutter, Striping Machine, Welding Machine (pile work), Welding Machine (structural Steel).

GROUP 4: Compressor, Compressor on crane, Compressor (pile work), Compressor (stone setting), Concrete Breaker, Concrete Saw or Cutter, Fork Lift (walk behind, power operated), Generator- Pile Work, Generator, Hydra Hammer, Mechanical Compoactors (hand operated), Oiler (truck crane), Pin Puller, Portable Heaters, Powerbroom, Power buggies, Power Grinders, Pump (double action diaphragm), Pump gypsum, Pump (single action 1 to 3 inches), Trench Machine hand, Welding Machine

GROUP 5: Batching Plant (on site of job), Generator (small), Grinder, Mixer (with skip), Mixer (2 small with or without skip), Mixer (2 bag or over, with or without skip), Mulch Machine, Oiler, Pump (centrifugal, up to 3 inches), Root Cutter, Stump Chipper, Tower Crane (oiler), Track Tamper (2 engineers, each), Tractor (caterpillar or wheel), Vibrator, Work boat (deckhand),

GROUP 6: Well drillers

IRON0046-003 07/01/2025

	Rates	Fringes

IRONWORKER

METALLIC LATHERS AND REINFORCING IRONWORKERS.....	\$ 57.00	32.96

IRON0197-001 07/01/2024

	Rates	Fringes

IRONWORKER

STONE DERRICKMAN.....	\$ 60.40	60.14

IRON0361-001 07/01/2025

	Rates	Fringes

IRONWORKER (STRUCTURAL).....	\$ 58.95	92.02

IRON0580-001 07/01/2025

	Rates	Fringes

IRONWORKER, ORNAMENTAL.....	\$ 48.15	67.62

LAB00066-001 07/01/2025

BUILDING

	Rates	Fringes
Laborers:		
Laborers.....	\$ 42.55	34.79
Plasterers Tenders.....	\$ 42.55	34.79

LAB00078-001 01/06/2025

	Rates	Fringes
LABORERS		
BUILDING CONSTRUCTION		
ASBESTOS (Removal,		
Abatement, Encapsulation		
or Decontamination of		
asbestos); LEAD; &		
HAZARDOUS WASTE LABORERS		
(Hazardous Waste,		
Hazardous Materials,		
Biochemical and Mold		
Remediation, HVAC, Duct		
Cleaning, Re-spray		
Fireproofing, etc).....	\$ 41.15	20.90

LAB01298-001 06/01/2023

HEAVY & HIGHWAY

	Rates	Fringes
Laborers:		
Asphalt Rakers; Formsetters.	\$ 51.43	35.98+a
Asphalt Shovelers, Roller		
Boys & Tampers.....	\$ 49.96	35.98+a
Regular Laborers.....	\$ 45.49	35.98+a

A. FOOTNOTES:

Laborers working in a hazardous material hot zone shall receive an additional 20% premium.

Where the contract provides for night work outside the regular hours of work, the employees shall be paid at straight time plus a 30% night work premium for the 8 hours worked during the night.

Firewatch work performed after regular hours shall be paid an additional 10% premium. Second and Third Shift work will be paid at a 30% premium.

Contractor requesting laborers certified for hazardous material work and/or employed on hazardous material shall be required to pay an additional 10% premium.

PAIN0009-002 05/01/2025

	Rates	Fringes
PAINTER		
GLAZIERS.....	\$ 49.20	57.20

Painters, Drywall Finishers..\$ 44.75	44.11
Spray, Scaffold,	
Sandblasting.....\$ 47.75	44.11

PAIN0806-010 10/01/2024

Rates	Fringes

Painters:

Stuctural Steel and Bridge..\$ 56.25	55.14

PAIN1974-002 06/28/2025

Rates	Fringes

Painters:

DRYWALL TAPERS/POINTERS.....\$ 48.47	35.91

PLAS0262-003 08/01/2025

Rates	Fringes

PLASTERER.....\$ 48.51	32.78

PLAS0780-001 07/01/2025

Rates	Fringes

CEMENT MASON/CONCRETE FINISHER...\$ 59.87	41.81

PLUM0200-001 05/01/2025

Rates	Fringes

PLUMBER

BUILDING CONSTRUCTION:.....\$ 60.73	45.75
RESIDENTIAL CONSTRUCTION:...\$ 36.05	19.63

* PLUM0638-001 01/01/2026

Rates	Fringes

PLUMBER

SERVICE FITTERS.....\$ 47.85	23.96
SPRINKLER FITTERS,	
STEAMFITTERS.....\$ 70.36	54.24

Service Fitter work shall consist of all repair, service and maintenance work on domestic, commercial and industrial refrigeration, air conditioning and air cooling, stoker and oil burner apparatus and heating apparatus etc., including but not exclusively the charging, evacuation, leak testing and assembling for all machines for domestic, commercial and industrial refrigeration, air conditioning and heating apparatus. Also, work shall include adjusting, including capacity adjustments, checking and repairing or replacement of all controls and start up of all machines and repairing all defects that may develop on any system for domestic, commercial and industrial refrigeration and all air conditioning, air cooling, stoker and oil burner apparatus and heating apparatus regardless of size or type.

ROOF0154-001 05/01/2025

	Rates	Fringes
ROOFER.....	\$ 51.25	47.36

SHEE0028-002 11/02/2023

	Rates	Fringes
SHEET METAL WORKER		
BUILDING CONSTRUCTION.....	\$ 53.60	60.74
RESIDENTIAL CONSTRUCTION....	\$ 35.79	25.37

TEAM0282-002 07/01/2025

	Rates	Fringes
TRUCK DRIVER.....	\$ 45.645	56.2025+a

FOOTNOTES:

a. PAID HOLIDAYS: New Year's Day, Presidents' Day, Memorial Day, Independence Day, Labor Day, Columbus Day, Election Day, Veterans' Day (Armistice Day), Thanksgiving Day, Day after Thanksgiving and Christmas Day. Employees working two (2) days in the calendar week in which a holiday falls are to be paid for such holiday, provided that they shape each remaining workday during such calendar week.

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

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Note: Executive Order (EO) 13706, Establishing Paid Sick Leave for Federal Contractors applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2017. If this contract is covered by the EO, the contractor must provide employees with 1 hour of paid sick leave for every 30 hours they work, up to 56 hours of paid sick leave each year. Employees must be permitted to use paid sick leave for their own illness, injury or other health-related needs, including preventive care; to assist a family member (or person who is like family to the employee) who is ill, injured, or has other health-related needs, including preventive care; or for reasons resulting from, or to assist a family member (or person who is like family to the employee) who is a victim of, domestic violence, sexual assault, or stalking. Additional information on contractor requirements and worker protections under the EO is available at <https://www.dol.gov/agencies/whd/government-contracts>.

Note: Executive Order 13658 generally applies to contracts subject to the Davis-Bacon Act that were awarded on or between January 1, 2015 and January 29, 2022, and that have not been renewed or extended on or after January 30, 2022. Executive Order 13658 does not apply to contracts subject only to the Davis-Bacon Related Acts regardless of when they were awarded. If a contract is subject to Executive Order 13658, the contractor must pay all covered workers at least \$13.30 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on the contract in 2025. The applicable Executive Order

minimum wage rate will be adjusted annually. Additional information on contractor requirements and worker protections under Executive Order 13658 is available at www.dol.gov/whd/govcontracts.

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

The body of each wage determination lists the classifications and wage rates that have been found to be prevailing for the type(s) of construction and geographic area covered by the wage determination. The classifications are listed in alphabetical order under rate identifiers indicating whether the particular rate is a union rate (current union negotiated rate), a survey rate, a weighted union average rate, a state adopted rate, or a supplemental classification rate.

Union Rate Identifiers

A four-letter identifier beginning with characters other than ""SU"", ""UAVG"", ?SA?, or ?SC? denotes that a union rate was prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2024. PLUM is an identifier of the union whose collectively bargained rate prevailed in the survey for this classification, which in this example would be Plumbers. 0198 indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. The date, 07/01/2024 in the example, is the effective date of the most current negotiated rate.

Union prevailing wage rates are updated to reflect all changes over time that are reported to WHD in the rates in the collective bargaining agreement (CBA) governing the classification.

Union Average Rate Identifiers

The UAVG identifier indicates that no single rate prevailed for those classifications, but that 100% of the data reported for the classifications reflected union rates. EXAMPLE: UAVG-OH-0010 01/01/2024. UAVG indicates that the rate is a weighted union average rate. OH indicates the State of Ohio. The next number, 0010 in the example, is an internal number used in producing the wage determination. The date, 01/01/2024 in the example, indicates the date the wage determination was updated to reflect the most current union average rate.

A UAVG rate will be updated once a year, usually in January, to reflect a weighted average of the current rates in the collective bargaining agreements on which the rate is based.

Survey Rate Identifiers

The ""SU"" identifier indicates that either a single non-union rate prevailed (as defined in 29 CFR 1.2) for this classification in the survey or that the rate was derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As a weighted

average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SUFL2022-007 6/27/2024. SU indicates the rate is a single non-union prevailing rate or a weighted average of survey data for that classification. FL indicates the State of Florida. 2022 is the year of the survey on which these classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. The date, 6/27/2024 in the example, indicates the survey completion date for the classifications and rates under that identifier.

?SU? wage rates typically remain in effect until a new survey is conducted. However, the Wage and Hour Division (WHD) has the discretion to update such rates under 29 CFR 1.6(c)(1).

State Adopted Rate Identifiers

The ""SA"" identifier indicates that the classifications and prevailing wage rates set by a state (or local) government were adopted under 29 C.F.R 1.3(g)-(h). Example: SAME2023-007 01/03/2024. SA reflects that the rates are state adopted. ME refers to the State of Maine. 2023 is the year during which the state completed the survey on which the listed classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. The date, 01/03/2024 in the example, reflects the date on which the classifications and rates under the ?SA? identifier took effect under state law in the state from which the rates were adopted.

WAGE DETERMINATION APPEALS PROCESS

1) Has there been an initial decision in the matter? This can be:

- a) a survey underlying a wage determination
- b) an existing published wage determination
- c) an initial WHD letter setting forth a position on a wage determination matter
- d) an initial conformance (additional classification and rate) determination

On survey related matters, initial contact, including requests for summaries of surveys, should be directed to the WHD Branch of Wage Surveys. Requests can be submitted via email to davisbaconinfo@dol.gov or by mail to:

Branch of Wage Surveys
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

Regarding any other wage determination matter such as conformance decisions, requests for initial decisions should be directed to the WHD Branch of Construction Wage Determinations. Requests can be submitted via email to BCWD-Office@dol.gov or by mail to:

Branch of Construction Wage Determinations
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.

Washington, DC 20210

2) If an initial decision has been issued, then any interested party (those affected by the action) that disagrees with the decision can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Requests for review and reconsideration can be submitted via email to dba.reconsideration@dol.gov or by mail to:

Wage and Hour Administrator
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210.

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END OF GENERAL DECISION"

APPENDIX C

MANUFACTURE'S SPECIFICATIONS AND
DRAWINGS



1022 E. Devon Avenue | P.O. Box 8448 | Bartlett, IL 60103
T: 630-837-5640 | F: 630-837-5647 | E: sales@lakeside-equipment.com
www.lakeside-equipment.com

DATE: January 9, 2025

Proposal# 250220-7-21

TO: Whom it may concern

SUBJECT: Greenport, NY
Greenport WWTP

We are pleased to offer the following through our Representative, Mark Cavanagh of G.A. Fleet Associates, Inc., located at 6 International Drive, 2nd Floor, Suite 210, Rye Brook, NY 10573, phone # 914-835-4000:

OPEN SCREW PUMPS

For each of the two (2) 30" diameter open Screw Pumps, each rated at 1,300 gal/min at 16.00 feet lift, we propose to furnish the following:

- 1 - **30" diameter screw** fabricated of ASTM A36 steel, with three (3) 0.25" thick continuous ribbon flights, 16" diameter center support tube with 0.375" wall thickness, sealed ends and flanged steel stub shafts for mounting on both ends. Screw is set at a 38-degree inclination with operation at 55 rpm.
- 1 - **Lower cam type, adjustable bearing housing** for mounting lower stub shaft, bronze bearing sleeve, lip seals, and split bearing housing shield.
- 1 - **Automatic lubricating system** consisting of grease pump driven by 1/3 hp, 3 phase, 60 Hertz, 230/460 volt, TEFC gear motor with support plate and stainless-steel tubing to bearing. Grease pump located near drive assembly will have a 12 lb. reservoir. Grease system will be fitted with visual grease flow indicator downstream of the bearing and centrifugal switch for wiring to motor control circuit.
- 1 - **Upper bearing assembly** consisting of split ductile iron housing, separate thrust and radial bearings, spacer, lip seals and bearing mounting plate mounted on a concrete slab. Minimum L10 life of 100,000 hours.
- 1 - **Drive assembly** complete with shaft-mounted mounted, triple reduction, helical gear unit in cast iron case, with backstop not less than 1.5 service factor based on brake horsepower, torque arm, drive and driven sheaves, V-belts and aluminum belt guard.
- 1 - **10 hp**, 1,750 rpm, 3 phase, 60 Hertz, 230/460-Volt, normal starting torque, continuous duty, TEFC motor with gasketed conduit box and adjustable mounting plate for V-belt tightening.
- 1 - **Fabricated steel deflector plate.**

1 - Set of anchor bolts, stainless steel, for drive motor and reducer base plates, deflection plates, and the upper and lower bearing base plates. Existing anchorage shall be re-used where applicable.

Approximate shipping weight of each unit is 5,500 lbs.

EXCLUSIONS: The following are not included in this offering:

- Unloading, hauling or storage
- Concrete work or installation
- Removal of existing equipment
- Grouting materials or grouting operation
- FRP cover panels across trough
- Electrical controls (i.e. starters, disconnect switches, etc.)
- Electrical conduit, wiring, and supports
- Level sensor
- Lubricating oil or grease (or grease guns)
- Spare parts
- Tools

GROUTING SHEAVES AND BELTS: Lakeside Equipment will furnish to the contractor one (1) set of grouting sheave(s) and belts to operate the screw at a reduced speed for grouting the trough with the screw pump drive.

ERECTION DATA: The contractor will set the anchor bolts in the influent chamber and for the upper bearing and drive assembly. The screw and bearings must be carefully aligned. We estimate a total of sixty-four (64) man-hours for installation of the screw and alignment of the screw and bearings for each pump. This does not include the time and manpower required for grouting in the screw pump troughs.

SHOP PAINTING: All ferrous metal parts above and below the water level will be grit blasted and receive two shop coats of Tnemec N69 or N69F Hi-Build Epoxoline II. Aluminum, stainless steel and galvanized steel parts will not be shop painted. Motors and reducers will receive a shop coat of machinery enamel. Field touch-up paint or any other painting shall be by others.

SHOP DRAWINGS: We will furnish one (1) electronic copy of drawings for the equipment without charge. The reviewed drawings are to be returned to us with the notations or approval stamp of the Engineer. Drawings will require six-eight (6-8) weeks after receipt of an order and complete information, including plans and specifications, field dimensions or verification of field dimensions, which are to be provided at no cost to Lakeside.

SHIPMENT: Shipment can be made in twenty-four to twenty-eight (22-26) weeks after receipt of approved drawings by our home office. Foundation materials can be shipped within twenty (20) days after drawings are approved.

EXISTING STRUCTURE NOTE: The Contractor shall be solely responsible for measuring and providing Lakeside with accurate, as-built dimensions for all existing structures where Lakeside is furnishing equipment. The Contractor shall be solely responsible for providing size, projection, and quality of existing anchorage where Lakeside is furnishing equipment an anchorage is to be re-used. This information must be made

available to Lakeside in a timely manner to avoid delaying the equipment delivery schedules outlined in this proposal. In the event that dimensions are not provided or the provided dimensions are in error, which result in modifications to either the equipment or the adjacent structures, the Contractor shall be solely responsible for all labor, materials and costs to correct the associated issues.

INSTRUCTION BOOKS: One (1) electronic copy of the installation, operation, lubrication and maintenance book will be furnished before shipment of the equipment.

SERVICE: Inspection of the installed equipment can be made following notice by you that you are ready for such service. The cost of four (4) days of service in Three (3) trips is included in our proposal price. Additional service is available at the rate of \$1,350/day plus living and travel expenses.

PROPOSAL PRICE: Includes service as stated above and is F.O.B. our shop with freight allowed to job site.

Two (2) 30-inch diameter Open Screw Pumps\$203,011.00

PRICE FIRM: For Sixty (60) days from proposal date. Due to the existing environment of the price increases in steel and the volatility of those prices that exist today, the price shown above is based on the present day cost of materials. If an order is received after the 60 day time period, Lakeside reserves the right to adjust the pricing to match the cost of materials at the time the order is received.

PAYMENT TERMS: The terms of payment are 90% NET 30 days of the gross amount upon shipment or when ready for shipment and 10% of the gross amount upon start up or beneficial use of the equipment, whichever occurs first, but in no event later than ninety (90) days following shipment.

Your payment to us will not be dependent or contingent upon receipt of payment by you or any other parties. Overdue accounts will be charged 2.0% interest per month. All legal fees or other charges encountered to collect overdue accounts, including service charges, are to be paid for by the purchaser.

BOND: Lakeside will require with your Purchase Order a copy of your Payment Bond to the Owner.

CONDITIONS OF SALE (GIL 91-D):

ACCEPTANCE: This quotation is void at our option unless a purchase order is placed with us within sixty (60) days from date of bid opening or date of written proposal. The order will be subject to written acceptance by our company's executive office. Our quotation is limited to only those technical portions of the Engineer's Mechanical Specifications specifically referred to herein, and to the terms and conditions of sale as outlined in our quotation. We will not be bound by any Terms and Conditions of the prime Contract not specifically included herein.

TAXES & OTHER CHARGES: Unless otherwise indicated, no Sales, Use, Retailers' Occupation, Service Occupation, Service Use, or similar taxes or custom duties, import fees and similar charges, have been included in our prices. The amount of any such taxes or charges which are paid or assessed in connection with this order and which are not specifically stated as being included in the purchase price, shall be paid by you, either directly to the appropriate authorities (in which event you shall furnish us with satisfactory evidence of such payments) or to us if we have paid, or are required to pay, such taxes or charges. If you are tax exempt on this job, you will need to supply us with your exemption certificate. You agree to reimburse our company for taxes we must pay on your behalf. You are responsible for obtaining permits in connection with the sale or installation of our equipment.

WARRANTY: Lakeside Equipment Corporation ("Lakeside") warrants to Buyer that equipment sold hereunder, of its manufacture, is free from defect in material and workmanship, and is of the kind and quality designated or described herein. This warranty shall run to Buyer and, if applicable, such entity specifically identified in the Primary Contract only, but not to their employees, representatives, agents, customers, assignees, etc., and applies to those technical portions of the Engineer's Specifications only to the extent that they are referred to herein. **This warranty shall be in full force and effect at the time of shipment of such equipment for a period of one (1) year from the date of start-up but not to exceed 18 months after shipment, whichever comes first.** Lakeside will furnish without charge, but will not install, replacements for such parts as it finds to have been defective. The obligation of Lakeside to replace such defective parts shall be the exclusive remedy hereunder. Buyer must give Lakeside notice in writing of any alleged defect covered by this warranty within thirty (30) days of the discovery of such defect during the warranty period. No claim more than thirty (30) days after the warranty period shall be valid. The warranty extends to replaced parts of Lakeside's manufacture for ninety (90) days or the remainder of the original warranty period applicable to the parts being replaced.

This warranty shall not apply to:

- A. Any equipment which has been subjected to misuse, neglect, or accident;
- B. Any equipment which has been altered, tampered with, or upon which corrective work has been done thereon without Lakeside's specific written consent;
- C. Any equipment which has been operated or maintained in a manner which in any way deviates from the maintenance schedules, specifications, and parameters set forth in Lakeside's Operator's Manual for such equipment.
- D. Fuses, lights or other standard wear items.
- E. Electrical damage due to overvoltage conditions.
- F. Damage to machine or components due to lack of implementing the Recommendations on Short-term and Long-term Storage of Equipment guidelines.
- G. Damage to stainless steel surfaces due to the environment or nearby materials that may be abrasive or corrosive.

No allowances will be made for any such alterations or corrective work done without the specific written consent of Lakeside. Conditions caused by improper lubrication, deterioration by chemical action, and wear caused by the presence of abrasive materials, do not constitute defects. Equipment manufactured by others, and included in Lakeside's proposal, is not warranted in any way by Lakeside but carries only that manufacturer's warranty, if any. No representative of Lakeside's has any authority to waive, alter, vary, or add to the items hereof without prior written approval.

THE FOREGOING WARRANTY IS EXCLUSIVE AND IN LIEU OF ALL OTHER GUARANTEES AND WARRANTIES OF QUALITY, WRITTEN, ORAL OR IMPLIED; ALL OTHER WARRANTIES, INCLUDING ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR PURPOSE ARE HEREBY EXPRESSLY DISCLAIMED.

SECURITY INTEREST: Until all amounts due hereunder have been paid in full, Seller has a security interest in the equipment and has all rights of a secured party under the Uniform Commercial Code including, without limitation, the right to take possession of the equipment without legal process and the right to require Buyer to assemble the equipment and make it available to Seller at a place reasonably convenient to both parties. At Seller's request, Buyer shall execute any financing statement or statements submitted by Seller in order that Seller's security interest in the equipment may be perfected.

PROPERTY INSURANCE-RISK OF LOSS: You shall provide and maintain in responsible insurance companies, at your own expense, insurance against loss or damage to the equipment by fire or other casualty from and after the time of delivery to the carrier at point of shipment. Upon request you will provide certificates evidencing such coverage. Such coverage shall be for the amount of this contract, shall cover the equipment specified herein, and losses, if any, shall be payable to us as our interest may appear, under Union or Standard loss payable endorsements. Irrespective of such insurance coverage, you shall bear the risk of loss resulting from any and all damage or injury to the shipment from and after delivery to the carrier at point of shipment. If you should fail to provide such insurance, we may obtain the same and the cost of the premium therefore shall be added to the purchase price.

CHANGES & DELAYS: If you cause changes to be made, or delay or interrupt the progress of the work, you will reimburse us for any additional expense resulting from such cause. Any of such changes or delays which may adversely affect the operation of the equipment will nullify our warranty unless we consent in writing thereto.

Our proposal is based on present day cost of materials and furnishing our equipment in accordance to our schedule indicated above. If delays greater than 90-days are experienced for review/approval of shop drawings or if there is delay on release of equipment to go into fabrication, you will reimburse Lakeside for any additional expense that may result from such cause.

Shipment must be accepted when ready to avoid storage charges. If refused when ready, storage plus handling charges will be added to the above price. Partial shipments must be accepted when ready and paid for in accordance with terms shown above.

DELAYS: We shall not be liable for delay in delivery caused by any reason beyond our control, including but not limited to your delay in promptly submitting all information necessary for us to proceed with the work, your delay in approval of drawings, acts of God, casualty, civil disturbance, labor disputes, strikes, transportation, supply difficulties, any interruption of our facilities, or any of the governmental authorities. The time for delivery specified herein shall be extended during the continuance of such conditions and for a reasonable time thereafter.

PATENTS: We agree to indemnify you against any charge of infringement of any presently issued apparatus patent by reason of the use or resale of the equipment sold to you under this contract; provided however, that:

- A. Such charge relates exclusively to something which we designed or selected, and
- B. Such charge does not arise as a result of any modification of the equipment by you or the combination thereof of you with equipment furnished by others, and
- C. We are notified in writing immediately upon receipt of such charge, and
- D. We are given absolute control of the defense and the right to defend or settle such charge, and
- E. We are allowed to make such changes in the equipment as we deem necessary for the purpose of avoiding infringement.

CLAIMS: Claims for errors or shortages existing prior to our delivery of the equipment to the carrier will be considered only when made to us immediately after receipt of shipment. Claims shall be confirmed in writing. Buyer shall immediately inspect the equipment upon receipt thereof. Seller is not obligated to consider any claim for shortages or nonconformance unless notified thereof by Buyer within twenty (20) days after Buyer's receipt of equipment. Modifications to the equipment furnished by Lakeside to meet OSHA or local safety codes will be by others. Seller will supply only the safety devices, if any, described in the order. LAKESIDE EQUIPMENT CORPORATION assumes no responsibility for any costs, direct or indirect, resulting from disapproval of our tender by the owner.

TRANSPORTATION EXPENSE: Unless otherwise noted, the prices shown in this proposal include freight to the destination shown, at lowest available freight rates on a common carrier of our choice. If you require us to ship another way, you will bear any additional expense. In order for our company to insure delivery, it is agreed by you and our company that you will provide us with an access road to and from the job site, which road is capable of supporting our trucks. The responsibility for the protection of equipment will be yours after it is delivered to the job site. Damage to the equipment after delivery which is caused by vandalism, the elements or otherwise, will be your responsibility and not that of our company.

LIABILITY: It is expressly understood that our liability, including that for negligence, for our products is limited to the furnishing of such replacement parts, and that we will not be liable for any other expense, injury, loss or damage, whether direct or consequential, including but not limited to loss of profits, production, increased cost of operation, or spoilage of material, arising in connection with the resale or use of, or inability to use, our equipment or products for any purpose except as herein provided.

LIQUIDATED DAMAGES: If awarded this contract, we will diligently prosecute the engineering and fabrication of the proposed equipment; however, we are unable to accept any liquidated damages or penalty clauses for failure to complete shipment as designated in this proposal.

INSTALLATION REPRESENTATIVE: At your request, and subject to our option and availability of personnel at time of requirement, we will provide the services of a competent person to advise you concerning the installation of the equipment covered by this proposal. These services are not supervisory but are advisory only, and are offered subject to the express understanding that our function and responsibility is limited to interpretation of assembly drawings and identification of materials for their proper location in the equipment or system layout. These services are offered on a "no risk" basis by Lakeside Equipment Corporation.

In payment for such services, you will reimburse us at the current rate for each normal working day, or fraction thereof, that such person is absent from our plant on your business. The normal working day shall be eight (8) hours, between 8:00 AM and 4:30 PM, Monday through Friday, exclusive of holidays. All services performed by our representative at your request in addition to a normal working day, as herein defined, shall be classified as overtime work. If circumstances dictate that our representative shall work exclusively during hours other than those of the normal working day, arrangements can be made. The day rate is subject to change to the rate in effect at the time representative is furnished. You will also reimburse us for all transportation and living expenses incurred by our representative while absent from our plant on your business.

CANCELLATION: Cancellation or suspension of a contract will be accepted only upon terms that will indemnify Lakeside Equipment Corporation against loss. You agree to reimburse our company for our costs incurred in such cancellation, including overhead and administrative costs. Our company may cancel the order prior to or at the time of receiving the final approved drawings if our company deems itself insecure, or determines that it is commercially unreasonable for us to proceed.

CONTRACT: We both agree that this contract contains the complete and final agreement between us and may not be modified, supplemented, explained, or waived by oral evidence, your purchase order, course of dealing, or in any other way, except where made in writing and signed by you and our company's authorized officer.

ARBITRATION: Any controversy or claim arising out of or relating to this transaction shall be settled in Chicago by arbitration in accordance with the Rules of the American Arbitration Association, and judgement upon the award rendered by the Arbitrator may be entered in any court having jurisdiction hereof.

CONFIDENTIAL INFORMATION: All information and data herein furnished to Buyer hereunder, relating to price, size, type and design is submitted with the understanding that it is for the Buyer's own confidential use and is not to be shown or otherwise made known or available to any third party at any time without Seller's written consent.

Our Representative, Mark Cavanagh of G.A. Fleet Associates, Inc., will be available to discuss this offering with you, furnish pricing and assist you throughout this project.

Submitted by:

LAKESIDE EQUIPMENT CORPORATION



Keith Humphrey
Regional Sales Manager

QUOTATION ACCEPTED BY:

Sign as Agent for Purchaser

Print Name

Title

Company

Date

DOCUMENT TRANSMITTAL LIST

JOB: GREENPORT, NY.

SO #: **25-144**

EQUIPMENT: 30" DIA. SCREW PUMP

BY: JM

DATE: May 8, 2025

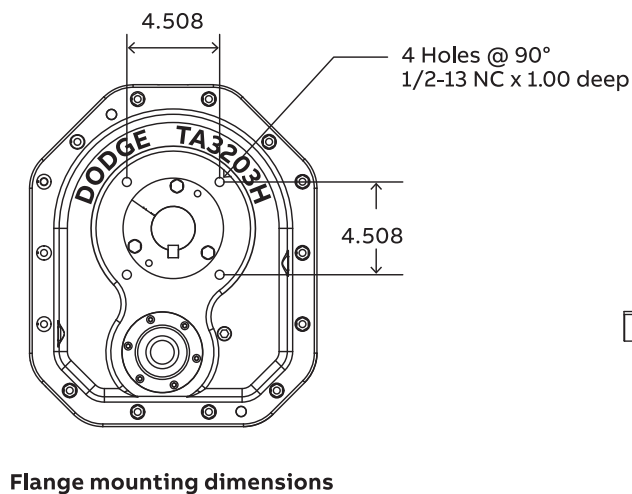
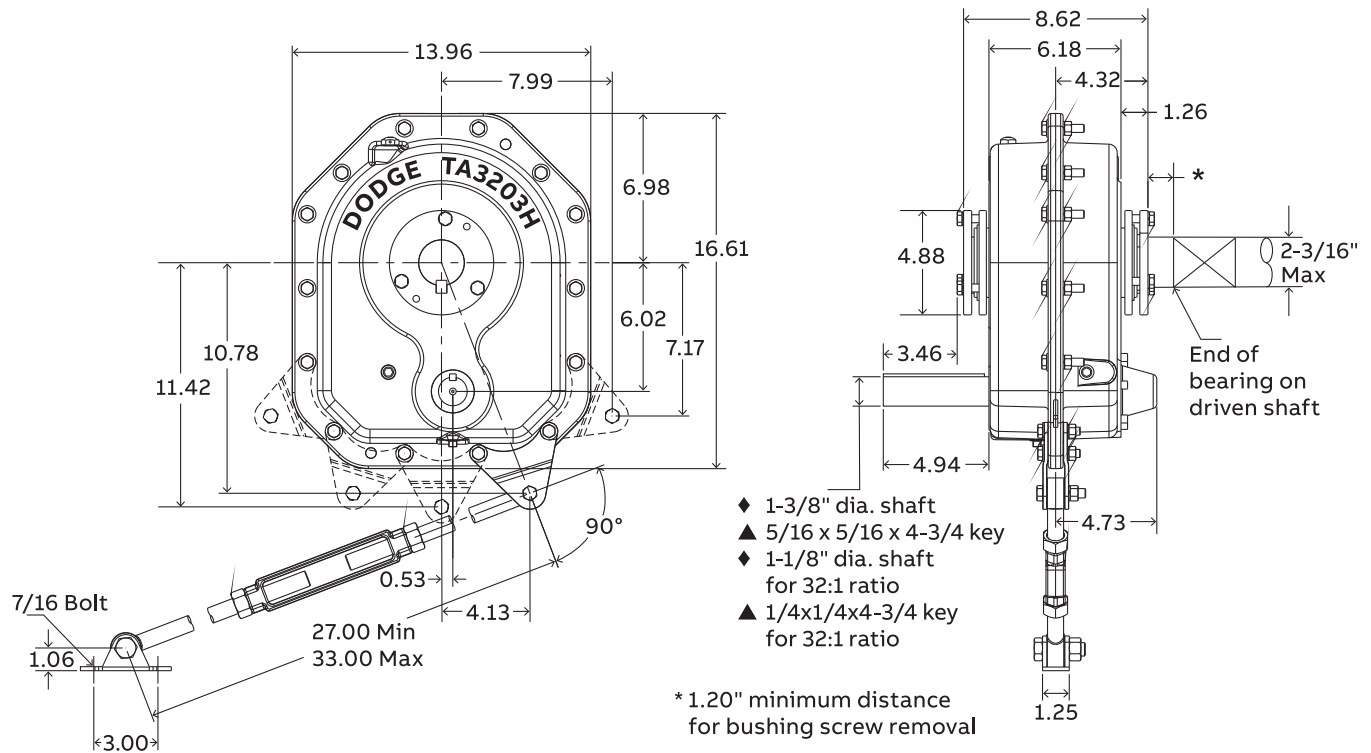
PURPOSE: ☒ Approval
☐ Resubmit /Approval
☐ Information

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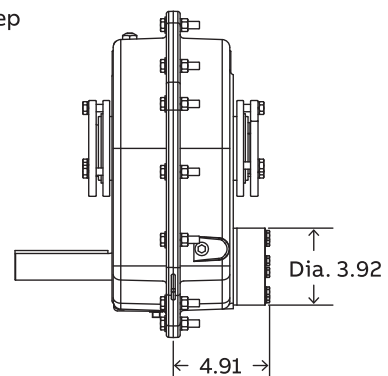
Selection and dimensions

Torque-Arm II shaft mount speed reducers

Taper bushed reducers – **TA3203H**, single and double reductions



Flange mounting dimensions



Reducer with backstop

Selection and dimensions

Torque-Arm II shaft mount speed reducers

Taper bushed reducers – TA3203H, single and double reductions

TA3203H taper bushed reducers ⁽¹⁾ ■

Reducer size	Part number	AGMA code	Actual ratio	Weight lbs.
TA3203H05	903004	203S05	4.91	107.9
TA3203H09	903003	203D09	9.23	112.0
TA3203H15	903002	203D15	15.07	111.8
TA3203H25	903001	203D25	24.95	111.4
TA3203H32	903000	203D32	32.45	110.3

(1) Reducers are supplied from stock ready for vertical mounting and for flange mounting. Rod assembly is not included with reducer, must order as a separate part number.

■ See page G2-121 for maximum bore straight bore TA II reducers

+ Rod assembly mounting locations are limited to positions shown in drawing.

TA3203H accessories

Description	Part number	Weight lbs.
TA3203RA Rod assembly ⁽¹⁾ +	903109	6.9
TA3203BS Backstop assembly ⁽²⁾	903102	4.7
TA3203MM Motor mount assembly (143-286T) ⁽³⁾	903090	86.7
TA3203BG Belt guard - Pos. B (143-286T)	903096	65.5
TA3203 Belt guard assembly – Pos. B, M2	903101	55.0
TA3203BG Belt guard - Pos. C (143-286T) ⁽⁴⁾	903097	67.9
TA3203BG Belt guard - Pos. D (143-286T)	903099	67.0
TA0-TA3 Hydra-Lock dessicant breather kit HLO	964372	2.0
XT Enclosed breather system, TA0-9	240050	2.0
TA0-TA3 Vertical breather kit	900112	2.0
TA3203H V-Ring kit	903249	0.2
TA3203H Lube kit	LUBEKITTA3203	10.4
ABB ability sensor	750000	0.5

(2) See page G2-127 for input shaft speed necessary for backstop sprag lift-off

(3) Motor Mount will fit NEMA and IEC frame motors; however, motor mount hardware are inch dimensions.

(4) Use Position-C belt guard for TA II reducer in screw conveyor drive applications

TA3203H tapered bushing kits ⁽⁵⁾ (6)

Bushing size	Part number	Weight lbs.	Shaft keyseat required
Standard shaft bushing kit	(7)		(9) (10)
TA3203TB x 2-3/8	903020	6.1	5/8 x 5/16 x 8.55
TA3203TB x 2-1/4	903021	6.2	1/2 x 1/4 x 8.55
TA3203TB x 2-3/16 ▲	903022	6.8	1/2 x 1/4 x 8.55
TA3203TB x 2-1/8	903023	7.0	1/2 x 1/4 x 8.55
TA3203TB x 2	903024	7.5	1/2 x 1/4 x 8.55
TA3203TB x 1-15/16	903025	7.8	1/2 x 1/4 x 8.55
TA3203TB x 1-7/8	903026	8.0	1/2 x 1/4 x 8.55
TA3203TB x 1-3/4	903027	8.0	3/8 x 3/16 x 8.55
TA3203TB x 1-11/16	903028	8.2	3/8 x 3/16 x 8.55
TA3203TB x 1-5/8	903029	8.4	3/8 x 3/16 x 8.55
TA3203TB x 1-1/2	903060	8.8	3/8 x 3/16 x 8.55
TA3203TB x 1-7/16	903061	8.8	3/8 x 3/16 x 8.55

▲ AGMA maximum bore size

(5) Bushing kit required to mount TA II reducer to driven shaft

(6) Bushing kit is not required to mount TA II reducer on screw conveyor drive shaft in a screw conveyor application

(7) Standard shaft bushing kit includes two standard bushings with back-up plates and snap rings; hardware, and key.

(8) Short shaft bushing kit includes one standard bushing, one long bushing with insertable wedge; two back-up plates with snap rings; hardware and key. This is an optional bushing for after market, short shaft mounting.

(9) Minimum keyseat and shaft length required to mount reducer with bushing kit

(10) Always check the driven shaft and key for strength

Bushing covers

Reducer size	Description	Part number	Weight
TA2115H	ABS Polymer closed ⁽¹²⁾	902142	0.6
TA2115H	ABS Polymer split ⁽¹²⁾	902143	0.5

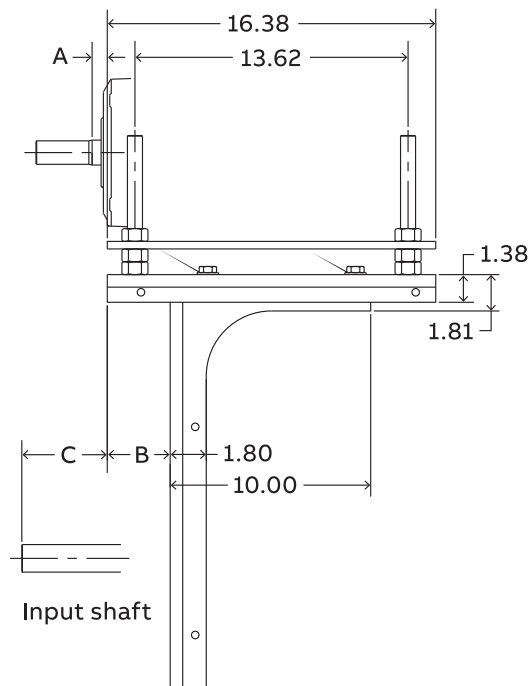
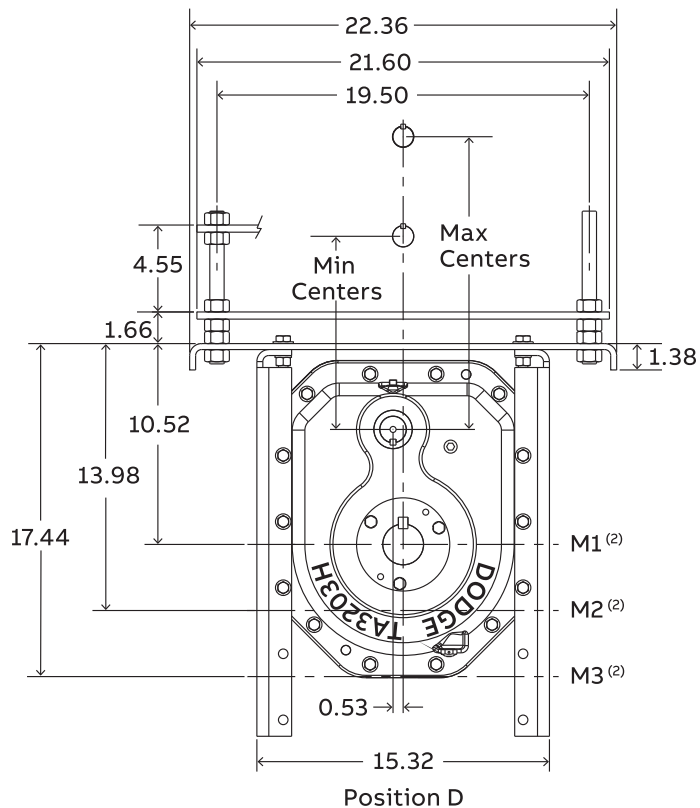
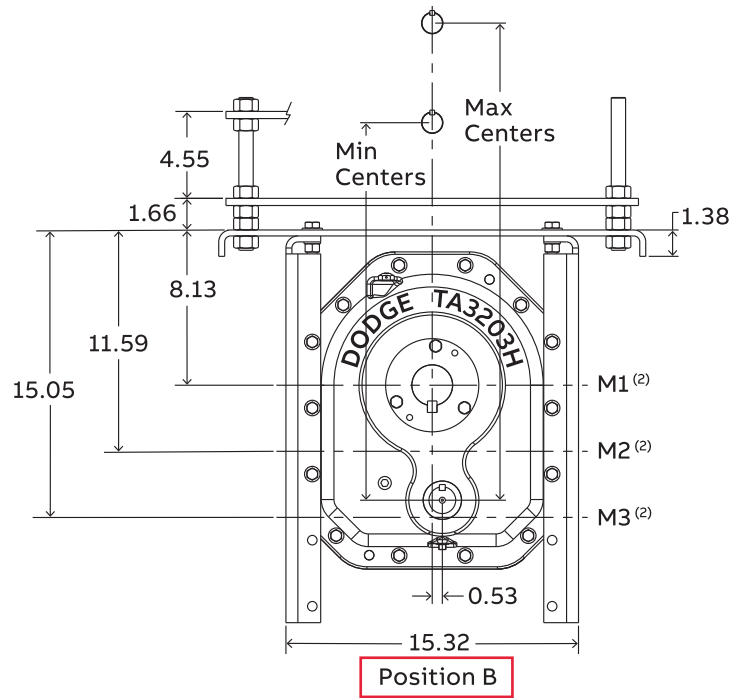
Closed bushing covers may not be compatible with belt guards or large sheave installations

Split bushing covers are designed for use on “driven machine” side of reducer with shaft through

(12) ABS Polymer covers are designed with bolts for tapped reducers, non tapped reducers will require self tapping screws and customer modification of reducer

Selection and dimensions

Torque-Arm II shaft mount speed reducers
Motor mount dimensions – TA3203H, position B & D



All dimensions are in inches.

Selection and dimensions

Torque-Arm II shaft mount speed reducers

Motor mount dimensions – TA3203H, position B & D ⁽¹⁾

Mounting	Lateral adjustment				Motor mount height (2)	Motor frame					
						143T & 145T				182T & 184T	
						Centers		Centers			
	B Min	B Max	C Min	C Max		A	Min	Max	A	Min	Max
Position B	0.04	5.34	2.06	7.36	M1	1.22	19.8	23.9	1.37	20.8	24.9
					M2		23.3	27.3		24.3	28.3
					M3		26.7	30.8		27.7	31.8
Position D	0.04	5.34	2.06	7.36	M1	1.22	10.2	14.2	1.37	11.2	15.2
					M2		13.6	17.7		14.6	18.7
					M3		17.1	21.1		18.1	22.1

Mounting	Motor mount height (2)	Motor frame			
		213T & 215T		254T & 256T	
		Centers		Centers	
		A	Min	A	Max
Position B	M1		21.6		27.4
	M2	1.55	25.0	1.56	30.8
	M3		28.5		34.3
Position D	M1		11.9		17.7
	M2	1.55	15.4	1.56	21.2
	M3		18.8		24.6

Notes:

Minimum centers contains 0.5" to allow for belt assembly

(1) Motor Mount will fit NEMA and IEC frame motors; however, motor mount hardware are inch dimensions.

(2) M1, M2, M3, M4 go through output shaft centerline

DATA SHEET

Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : W22 NEMA Premium Efficiency Three-Phase Product code : 11437961
Catalog # : 01018ET3E215T-W22

Frame	: 213/5T	Locked rotor time	: 30s (cold) 17s (hot)
Output	: 10 HP (7.5 kW)	Temperature rise	: 80 K
Poles	: 4	Duty cycle	: Cont.(S1)
Frequency	: 60 Hz	Ambient temperature	: -20°C to +40°C
Rated voltage	: 230/460 V	Altitude	: 1000 m.a.s.l.
Rated current	: 25.3/12.7 A	Protection degree	: IP55
L. R. Amperes	: 162/81.1 A	Cooling method	: IC411 - TEFC
LRC	: 6.4x(Code H)	Mounting	: F-1
No load current	: 11.6/5.80 A	Rotation ¹	: Both (CW and CCW)
Rated speed	: 1765 rpm	Noise level ²	: 58.0 dB(A)
Slip	: 1.94 %	Starting method	: Direct On Line
Rated torque	: 29.8 ft.lb	Approx. weight ³	: 176 lb
Locked rotor torque	: 240 %		
Breakdown torque	: 295 %		
Insulation class	: F		
Service factor	: 1.25		
Moment of inertia (J)	: 1.51 sq.ft.lb		
Design	: B		

Output	50%	75%	100%	Foundation loads	
Efficiency (%)	91.0	91.7	91.7	Max. traction	: 460 lb
Power Factor	0.65	0.76	0.81	Max. compression	: 636 lb

Losses at normative operating points (speed;torque), in percentage of rated output power

P1 (0,9;1,0)	P2 (0,5;1,0)	P3 (0,25;1,0)	P4 (0,9;0,5)	P5 (0,5;0,5)	P6 (0,5;0,25)	P7 (0,25;0,25)
8.8	7.3	7.1	4.6	3.2	2.2	1.5

	<u>Drive end</u>	<u>Non drive end</u>
Bearing type	: 6308 ZZ	: 6207 ZZ
Sealing	: V'Ring	: V'Ring
Lubrication interval	: -	: -
Lubricant amount	: -	: -
Lubricant type	: Mobil Polyrex EM	

Notes

USABLE @208V 27.4A SF 1.15 SFA 31.5A

This revision replaces and cancel the previous one, which must be eliminated.

- (1) Looking the motor from the shaft end.
- (2) Measured at 1m and with tolerance of +3dB(A).
- (3) Approximate weight subject to changes after manufacturing process.
- (4) At 100% of full load.

These are average values based on tests with sinusoidal power supply, subject to the tolerances stipulated in NEMA MG-1.

Rev.	Changes Summary	Performed	Checked	Date
Performed by				
Checked by				
Date	08/05/2025			
		Page		Revision
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TORQUE AND CURRENT VS SPEED CURVE

Three Phase Induction Motor - Squirrel Cage

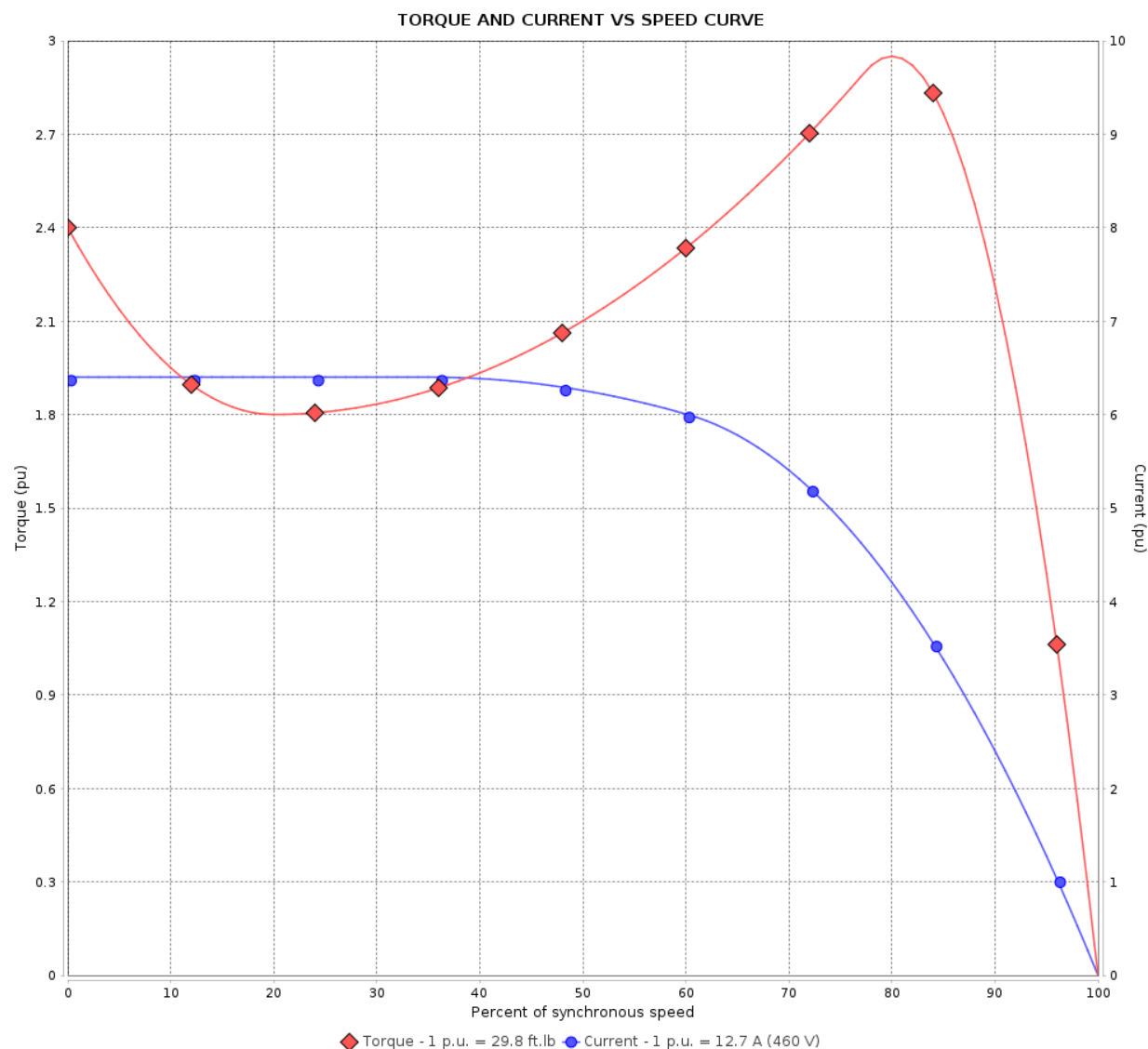


Customer :

Product line : W22 NEMA Premium Efficiency
Three-Phase

Product code : 11437961

Catalog # : 01018ET3E215T-W22



Performance : 230/460 V 60 Hz 4P

Rated current : 25.3/12.7 A
LRC : 6.4
Rated torque : 29.8 ft.lb
Locked rotor torque : 240 %
Breakdown torque : 295 %
Rated speed : 1765 rpm

Moment of inertia (J) : 1.51 sq.ft.lb
Duty cycle : Cont.(S1)
Insulation class : F
Service factor : 1.25
Temperature rise : 80 K
Design : B

Locked rotor time : 30s (cold) 17s (hot)

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Checked by				
Date	08/05/2025			

LOAD PERFORMANCE CURVE

Three Phase Induction Motor - Squirrel Cage

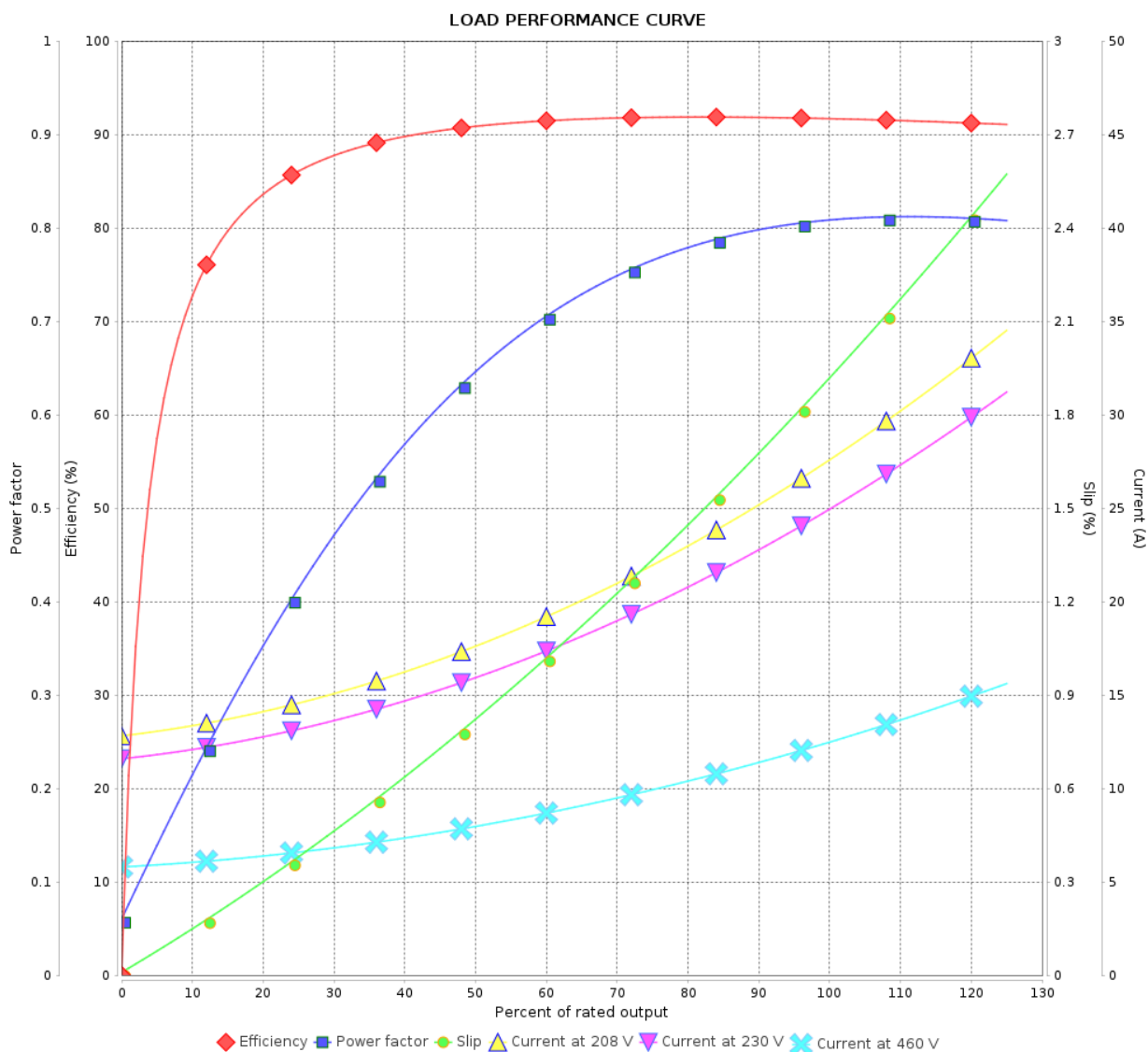


Customer :

Product line : W22 NEMA Premium Efficiency
Three-Phase

Product code : 11437961

Catalog # : 01018ET3E215T-W22



Performance : 230/460 V 60 Hz 4P

Rated current : 25.3/12.7 A
LRC : 6.4
Rated torque : 29.8 ft.lb
Locked rotor torque : 240 %
Breakdown torque : 295 %
Rated speed : 1765 rpm

Moment of inertia (J) : 1.51 sq.ft.lb
Duty cycle : Cont.(S1)
Insulation class : F
Service factor : 1.25
Temperature rise : 80 K
Design : B

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Checked by				
Date	08/05/2025			

THERMAL LIMIT CURVE

Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : W22 NEMA Premium Efficiency
Three-Phase

Product code : 11437961

Catalog # : 01018ET3E215T-W22

Performance : 230/460 V 60 Hz 4P

Rated current : 25.3/12.7 A
LRC : 6.4
Rated torque : 29.8 ft.lb
Locked rotor torque : 240 %
Breakdown torque : 295 %
Rated speed : 1765 rpm

Moment of inertia (J) : 1.51 sq.ft.lb
Duty cycle : Cont.(S1)
Insulation class : F
Service factor : 1.25
Temperature rise : 80 K
Design : B

Heating constant

Cooling constant

Rev.

Changes Summary

Performed

Checked

Date

Performed by

Checked by

Date

08/05/2025

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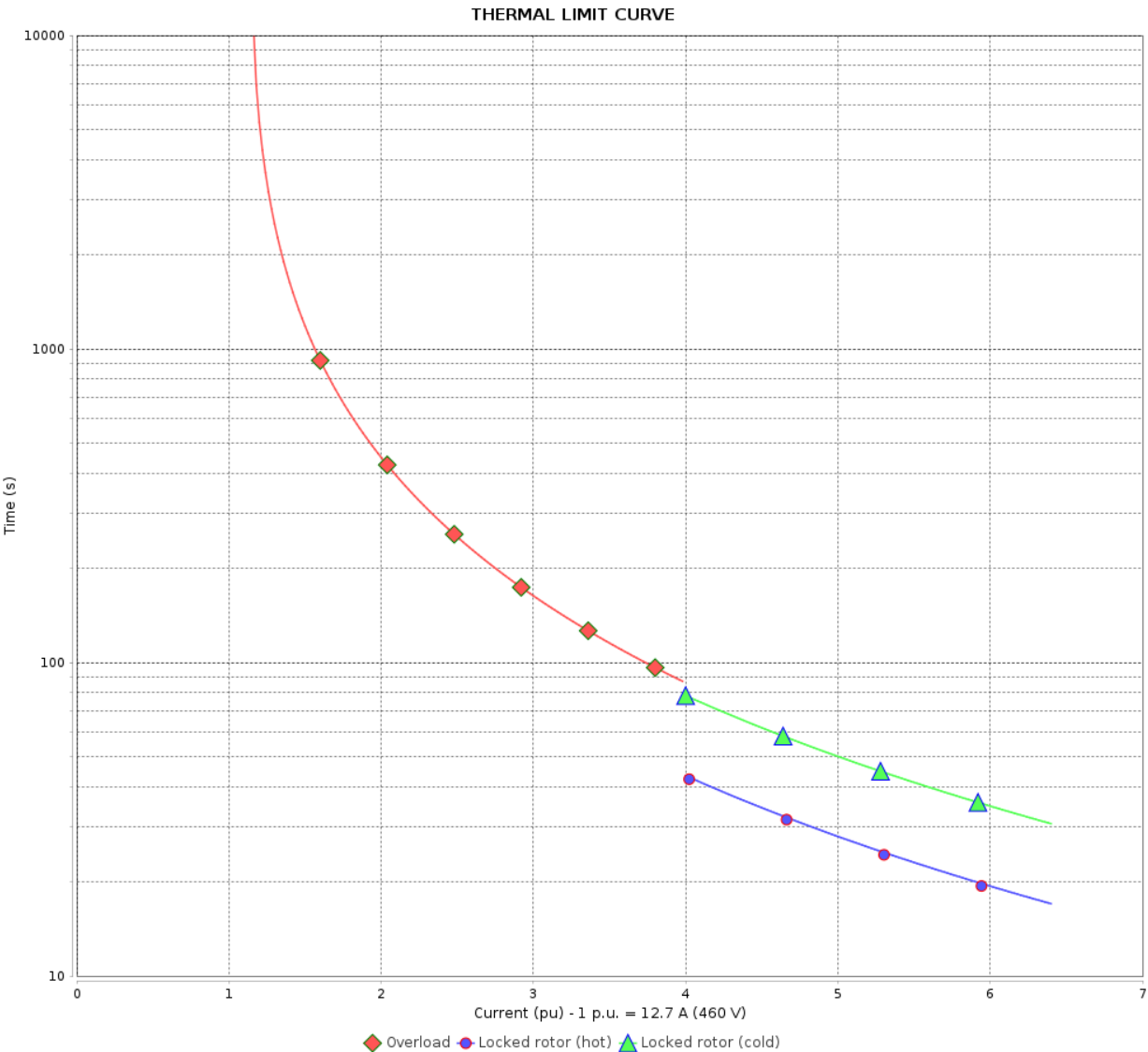
Revision

THERMAL LIMIT CURVE

Three Phase Induction Motor - Squirrel Cage



Customer : _____



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Checked by					
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VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage

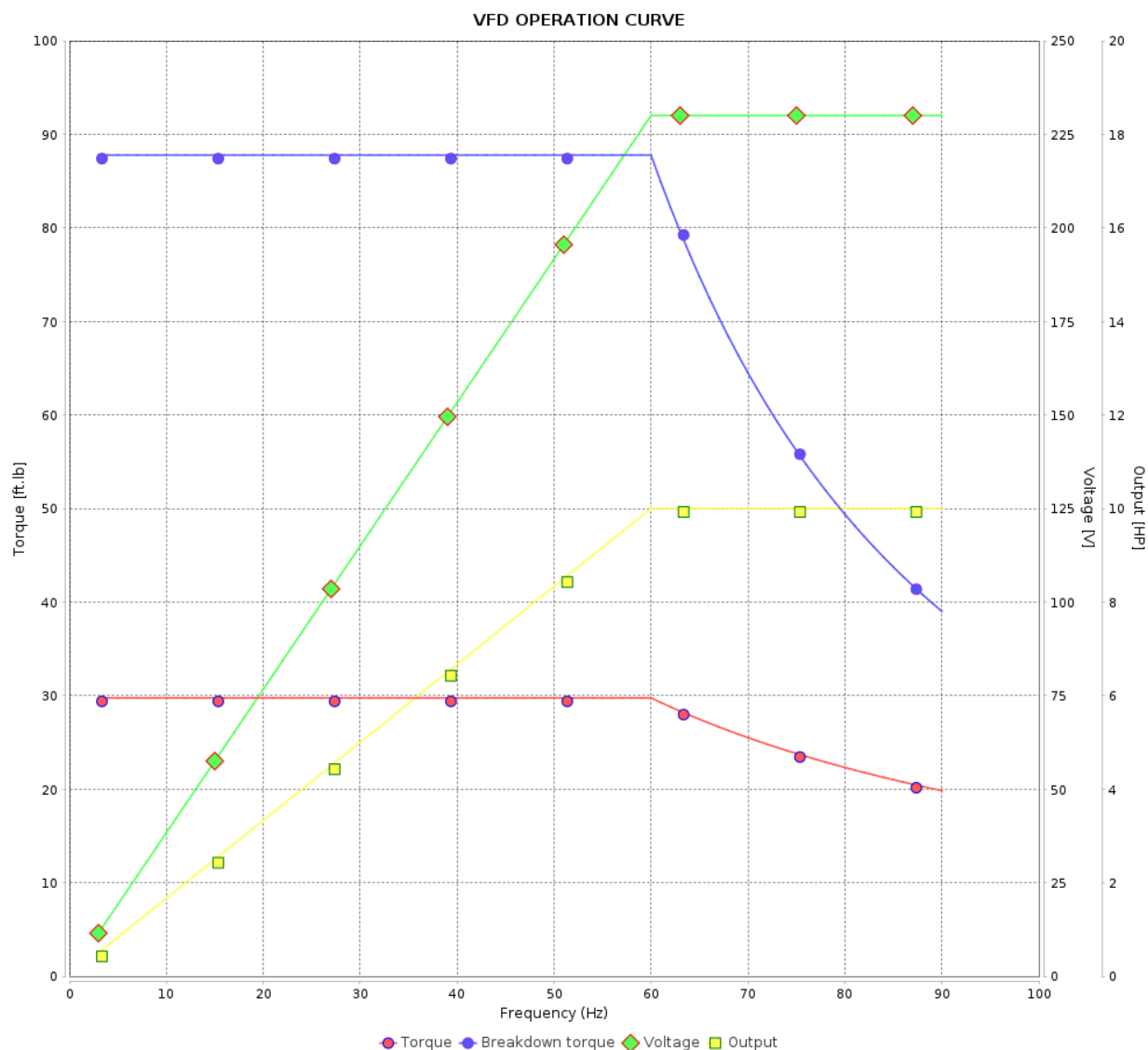


Customer :

Product line : W22 NEMA Premium Efficiency
Three-Phase

Product code : 11437961

Catalog # : 01018ET3E215T-W22

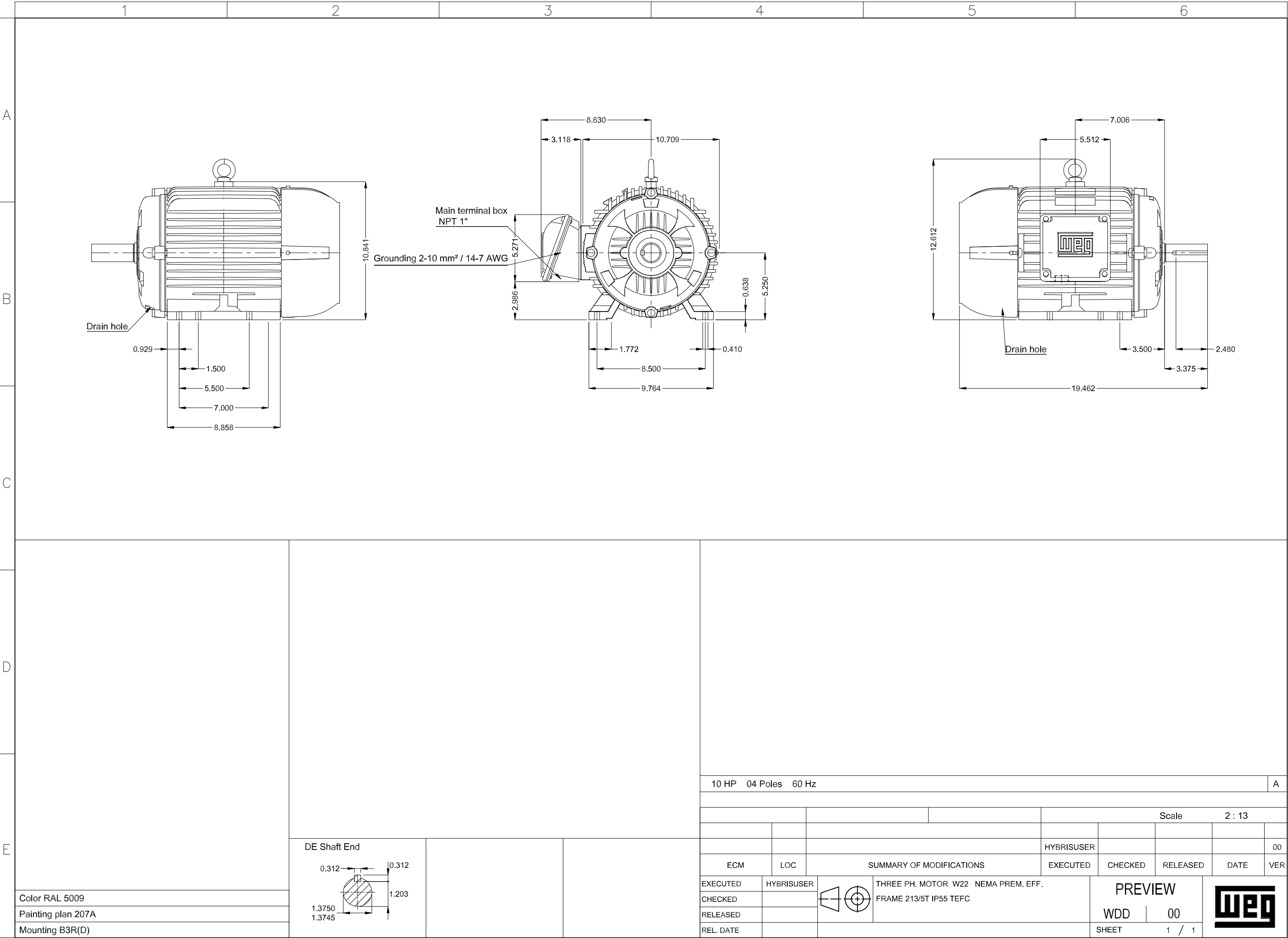


Performance : 230/460 V 60 Hz 4P

Rated current : 25.3/12.7 A
LRC : 6.4
Rated torque : 29.8 ft.lb
Locked rotor torque : 240 %
Breakdown torque : 295 %
Rated speed : 1765 rpm

Moment of inertia (J) : 1.51 sq.ft.lb
Duty cycle : Cont.(S1)
Insulation class : F
Service factor : 1.25
Temperature rise : 80 K
Design : B

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Performed by				Page	Revision
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Date					



MADE IN MEXICO
11437961



MODEL 01018ET3E215T-W22

Inverter Duty Motor
Severe Duty



Class I, Div 2, Gr A, B, C, D, 1.15SF - T3
Class II, Div 2, IIC, 1.15SF - T3
Class I, Div 2, Gr F, G - T4
60Hz: For use on PWM: Gr. A, B, C, D, F,
VT 1000:1, CT 20:1, 1.00SF - T3A



FOR SAFE AREA
Mod.TE1BFOXON
CC029A

PH3 60Hz Fr. 213/5T 1000m.a.s.l. IP55 TEFC 176lb

V 230/460

A 25.3/12.7

HP 10

kW 7.5

SF 1.25

SFA 31.6/15.9

RPM 1765

PF 0.81

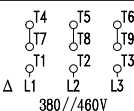
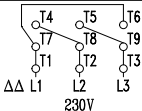
AMB 40°C

INS cl. F DT80K NEMA NOM EFF 91.7%

DUTY CONT.

DES B Code H

10HP 7.5kW 50Hz 380V 15.2A 1450RPM SF 1.15 SFA 17.5 EFF 88.5% (IE1)



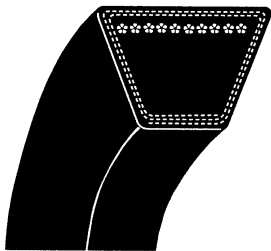
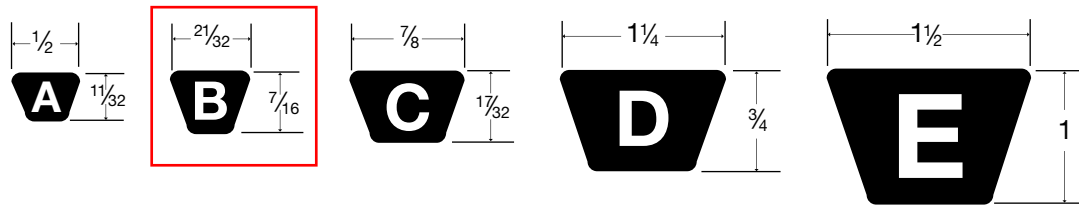
MOBIL POLYREX EM



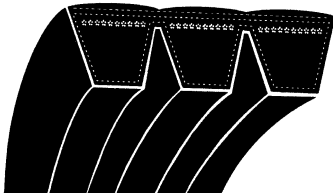
Classical (Conventional) V-Belt

Features

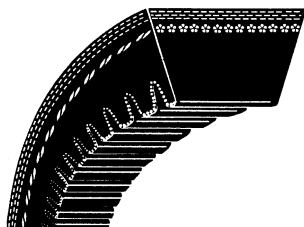
The Classical (also known as Conventional) V-belts include five cross sections . . . A, B, C, D, and E. These sections are a continuing development of the original V-belts of the 1930's. A, B, C, and D belts are available in wrapped or cog construction and all are static conducting, and oil and heat resistant. **Note: E section V-belts are available for replacement on existing drives, but are not recommended for new drive designs.**



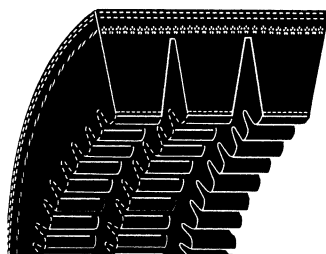
Classical V-belts . . . are the finest wrapped belts in industry and are designed to provide premium performance at standard prices. The belts have a specially constructed cover fabric for optimum flexibility and abrasion resistant characteristics. Belts perform their best when operating on sheave diameters no smaller than RMA/MPTA recommended: A = 3.0, B = 5.4, C = 9.0, D = 13.0, and E = 21.0.



Classical Banded V-belts . . . all the same features of the standard wrapped belt, but with the added benefit of multiple belts in a single belt. Should be considered for those problem drives where long center distance, vibration, pulsating or shock loads cause individual belts to whip, turn over, or jump out of sheave grooves. B and C belts available in 2 thru 5 ribs and D belts available in 3 thru 5 ribs.



Classical Cog V-belts . . . premium raw edge, cog construction. On average, 30% higher horsepower rating than standard wrapped belts. The molded cogs offer greater flexibility and better heat dissipation, especially on those punishing drives where bending stresses created by sub-minimum diameter sheaves dramatically reduce the life of standard belts.



Classical Cog Banded V-belts . . . same raw edge, cog construction as the individual belt. Can be used on those same problem applications as the standard, wrapped Classical belt. Available in BX and CX belts in 2 thru 5 ribs.

Warning: Do not mix raw edge cog and wrapped construction belts on the same drive.

Classical Cog V-Belts

Dimensions

AX Belts

Product No.	Datum Length	Weight Lbs.
AX21	22.3	.16
AX22	23.3	.16
AX23	24.3	.16
AX24	25.3	.18
*AX26	27.3	.18
AX27	28.3	.18
AX28	29.3	.18
AX29	30.3	.20
AX30	31.3	.20
*AX31	32.3	.20
AX32	33.3	.20
*AX33	34.3	.22
*AX34	35.3	.22
*AX35	36.3	.22
*AX36	37.3	.24
*AX37	38.3	.24
*AX38	39.3	.24
*AX39	40.3	.26
AX40	41.3	.26
AX41	42.3	.26
*AX42	43.3	.28
*AX43	44.3	.28
AX44	45.3	.28
AX45	46.3	.30
*AX46	47.3	.30
AX47	48.3	.30
*AX48	49.3	.30
AX49	50.3	.32
AX50	51.3	.32
*AX51	52.3	.32
AX52	53.3	.34
*AX53	54.3	.34
*AX54	55.3	.34
*AX55	56.3	.36
*AX56	57.3	.36
AX57	58.3	.36
AX58	59.3	.38
AX59	60.3	.38
*AX60	61.3	.38
AX61	62.3	.40
*AX62	63.3	.40
AX63	64.3	.40
*AX64	65.3	.40
AX65	66.3	.42
*AX66	67.3	.44

Product No.	Datum Length	Weight Lbs.
AX67	68.3	.45
*AX68	69.3	.45
AX69	70.3	.46
*AX70	71.3	.46
*AX71	72.3	.50
AX72	73.3	.50
AX73	74.3	.50
AX74	75.3	.50
*AX75	76.3	.50
AX76	77.3	.51
AX77	78.3	.52
*AX78	79.3	.52
AX79	80.3	.53
*AX80	81.3	.53
AX81	82.3	.53
AX82	83.3	.54
AX83	84.3	.55
AX84	85.3	.55
*AX85	86.3	.56
AX86	87.3	.57
AX87	88.3	.58
AX88	89.3	.58
AX89	90.3	.58
*AX90	91.3	.59
AX91	92.3	.59
AX92	93.3	.60
AX93	94.3	.61
AX94	95.3	.62
AX95	96.3	.63
*AX96	97.3	.63
AX97	98.3	.64
AX98	99.3	.65
AX100	101.3	.65
AX103	104.3	.68
*AX105	106.3	.69
*AX110	111.3	.73
*AX112	113.3	.74
*AX120	121.3	.79
*AX128	129.3	.83
*AX136	137.3	.90
AX144	145.3	.95
AX158	159.3	1.04
AX173	174.3	1.14
AX180	181.3	1.19

BX Belts

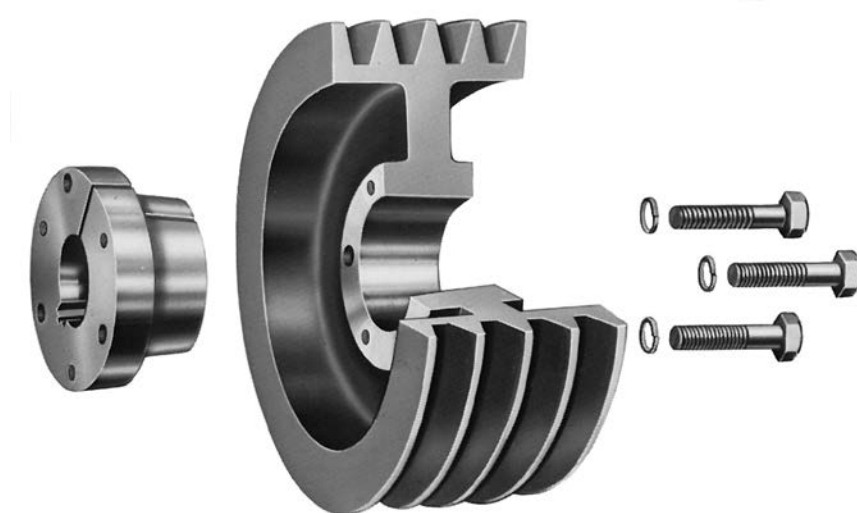
Product No.	Datum Length	Weight Lbs.
BX28	29.8	.28
BX32	33.8	.30
BX34	35.8	.32
*BX35	36.8	.34
BX36	37.8	.36
*BX38	39.8	.36
BX40	41.8	.38
BX41	42.8	.40
*BX42	43.8	.40
BX43	44.8	.42
BX44	45.8	.42
BX45	46.8	.44
*BX46	47.8	.44
BX47	48.8	.46
*BX48	49.8	.46
BX49	50.8	.48
*BX50	51.8	.48
*BX51	52.8	.48
*BX52	53.8	.50
*BX53	54.8	.50
*BX54	55.8	.52
*BX55	56.8	.52
*BX56	57.8	.54
BX57	58.8	.56
BX58	59.8	.56
*BX59	60.8	.56
*BX60	61.8	.56
*BX61	62.8	.58
*BX62	63.8	.58
*BX63	64.8	.59
*BX64	65.8	.60
*BX65	66.8	.61
*BX66	67.8	.62
*BX67	68.8	.63
*BX68	69.8	.64
BX69	70.8	.66
*BX70	71.8	.67
*BX71	72.8	.68
BX72	73.8	.68
BX73	74.8	.69
BX74	75.8	.70
*BX75	76.8	.70
BX76	77.8	.71
*BX77	78.8	.72
*BX78	79.8	.73

* Belt sizes utilized in computer selection program.
 Outside Length "AX" Belts equals Datum Length + 1".
 Outside Length "BX" Belts equals Datum Length + 1".

Sure-Grip® Classical Sheave

Features

Wood's sheaves are constructed of fine grain, high tensile cast iron, and have been carefully engineered to assure maximum performance over a long life span. Behind each sheave is one of the most extensive engineering design and testing programs in the industry.



With the advent of higher V-belt ratings, Wood's engineers instituted additional careful test programs to ensure that each Wood's sheave would be capable of safely and dependably delivering the increased performance which was required by the new ratings. Wood's engineers, using a special strain gage test stand, subject sheaves to tension and compression stresses far in excess of those encountered in actual operation.

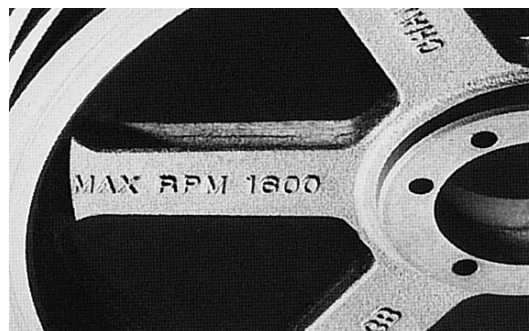
In another standard test procedure, Wood's sheaves are operated at extremely high speeds. Sheaves are selected from warehouse stocks and tested until they are burst by centrifugal force. Such destructive testing allows Wood's engineers to study the effects of construction and balance on sheave performance. The goal is to assure safe operation at normal speeds. Other continuing programs check product quality in the laboratory and on the manufacturing line.

For applications with special requirements, Wood's sheaves are also available on a made-to-order basis in either cast or ductile iron, and in Sure-Grip or bored-to-suit construction.

Wood's stock classical sheaves are available with the convenient Sure-Grip QD type bushing. Easy to install and remove, these split, tapered bushings grip the shaft with the equivalent of a shrink fit. This tight holding power eliminates freezing and fretting

corrosion between the shaft and the bore and assures quick removal and interchangeability when necessary.

Stock sheaves are designed to carry the loads of all belts shown in this catalog and other similarly rated V-Belts. For special higher rated V-Belts, consult Wood's Engineering Department for recommendations.

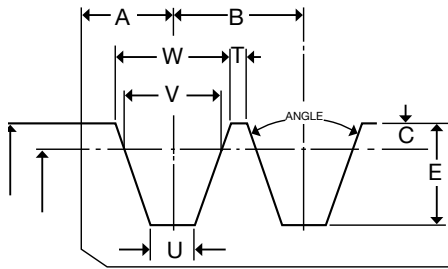


We cast or stamp the maximum safe operating speed, in rpm, on all sheaves we manufacture.

Classical (Conventional) Sheave

Dimensions

STANDARD GROOVE DIMENSIONS



V-Belt	GROOVE DIMENSIONS IN INCHES										
	A	B	C	D	E	V	T	U	W	Angle of Groove	Used on Datums
A-B	1/2	3/4	.175	.206	.6125	.5053	.1377 .1241	.2379 .2040	.6123 .6259	34 38	3.4 to 7.0 Over 7.0
C	11/16	1	.200	.200	.780	.757	.121	.402	.879	34	7.0 to 7.9
							.113	.380	.887	36	8.0 to 12.0
							.105	.358	.895	38	Over 12.0
D	7/8	1 7/16	.300	.300	1.050	1.076	.1785	.617	1.259	34	12.0 to 12.9
							.1665	.589	1.271	36	13.0 to 17.0
							.1545	.550	1.283	38	Over 17.0

STANDARD SHEAVE FACE WIDTHS

Groove Selection	FACE WIDTH OF SHEAVE IN INCHES																		For Each Additional Groove Add
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	
A	3/4	1 3/8	2	2 5/8	3 1/4	3 7/8	4 1/2	5 1/8	5 3/4	6 3/8	7	7 5/8	8 1/4	8 7/8	9 1/2	10 1/8	10 3/4	11 3/8	5/8
B	1	1 3/4	2 1/2	3 1/4	4	4 3/4	5 1/2	6 1/4	7	7 3/4	8 1/2	9 1/4	10	10 3/4	11 1/2	12 1/4	13	13 3/4	3/4
C	1 3/8	2 3/8	3 3/8	4 3/8	5 3/8	6 3/8	7 3/8	8 3/8	9 3/8	10 3/8	11 3/8	12 3/8	13 3/8	14 3/8	15 3/8	16 3/8	17 3/8	18 3/8	1
D	1 3/4	3 3/16	4 5/8	6 1/16	7 1/2	8 15/16	10 3/8	11 13/16	13 1/4	14 11/16	16 1/8	17 9/16	19	20 7/16	21 7/8	23 13/16*	25 1/4*	26 11/16*	1 7/16

* Sheaves 16D groove and over have 1/2 inch added to overall face width. All dimensions in inches.

DEEP GROOVE DIMENSIONS

V-Belt	GROOVE DIMENSIONS IN INCHES										
	A	B	C	D	E	V	T	U	W	Angle of Groove	Used on Datums
B	9/16	7/8	.355	.065	.7925	.5053	.153 .125	.262 .228	.747 .774	34 38	4.6 to 7.0 Over 7.0
C	13/16	1 1/4	.505	.200	1.085	.757	.1840	.402	1.066	34	7.0 to 7.99
							.165	.380	1.085	36	8.0 to 12.0
							.145	.358	1.105	38	Over 12.0
D	1 1/16	1 3/4	.715	.300	1.465	1.076	.237	.617	1.513	34	12.0 to 12.99
							.209	.589	1.541	36	13.0 to 17.0
							.181	.560	1.569	38	Over 17.0

DEEP GROOVE SHEAVE FACE WIDTHS

V-Belt	FACE WIDTH OF SHEAVE IN INCHES																		For Each Additional Groove Add
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	
B	1 1/8	2	2 7/8	3 3/4	4 5/8	5 1/2	6 3/8	7 1/4	8 1/8	9	9 7/8	10 3/4	11 5/8	12 1/2	13 3/8	14 1/4	15 1/8	16	7/8
C	1 5/8	2 7/8	4 1/8	5 3/8	6 5/8	7 7/8	9 1/8	10 3/8	11 5/8	12 7/8	14 1/8	15 3/8	16 5/8	17 7/8	19 1/8	20 3/8	21 5/8	22 7/8	1 1/4
D	2 1/8	3 7/8	5 5/8	7 3/8	9 1/8	10 7/8	12 5/8	14 3/8	16 1/8	17 7/8	19 5/8	21 3/8	23 1/8	24 7/8	26 5/8	28 3/8	30 1/8	31 7/8	1 3/4

Stock Classical (Conventional) Sheaves A-B

Dimensions

These Classical Sheaves are designed to carry the loads of all belts shown in this catalog and other similarly rated V-Belts. For special higher rated V-Belts, consult Wood's Application Engineering Department for recommendations.

The sheaves listed below are all stock sizes. The dimensions given are with the Sure-Grip bushing in place. The figure following the letter in the "Type" column indicates the sheave construction: 1-Solid; 2-Web; 3-Arms.

DIMENSIONS (In Inches)

Datum Dia.		O.D.	I.D.	Product No.	1 GROOVE							Product No.	2 GROOVE						
A Belts	B Belts				F = 7/8 & 1								F = 1-3/4						
					E *	Type	Bush.	K	L	M	Wt.		E *	Type	Bush.	K	L	M	Wt.
3.0	3.4	3.75	2.12	341B	1/2	D1	SH	1/16	1-1/4	1/8	1.8	342B	1-1/16	E1	SH	0	1-1/4	9/16	2.9
3.2	3.6	3.95	2.25	361B	1/2	D1	SH	1/16	1-1/4	1/8	2.1	362B	7/8	E1	SH	-3/16	1-1/4	3/8	3.2
3.4	3.8	4.15	2.44	381B	1/2	D1	SH	1/16	1-1/4	1/8	2.3	382B	7/8	E1	SH	-3/16	1-1/4	3/8	3.6
3.6	4.0	4.35	2.75	401B	1/4	C1	SH	5/16	1-1/4	1/8	2.8	402B	1/8	A1	SH	11/16	1-1/4	3/8	3.8
3.8	4.2	4.55	2.94	421B	1/4	C1	SH	5/16	1-1/4	1/8	3.0	422B	1/8	A1	SH	11/16	1-1/4	3/8	4.3
4.0	4.4	4.75	3.12	441B	1/4	C1	SH	5/16	1-1/4	1/8	3.3	442B	1/8	A1	SH	11/16	1-1/4	3/8	4.7
4.2	4.6	4.95	3.38	461B	5/16	C1	SDS	5/16	1-5/16	1/8	3.8	462B	1/16	A1	SDS	11/16	1-5/16	3/8	4.8
4.4	4.8	5.15	3.38	481B	5/16	C1	SDS	5/16	1-5/16	1/8	3.8	482B	1/16	A1	SDS	11/16	1-5/16	3/8	5.5
4.6	5.0	5.35	3.62	501B	5/16	C1	SDS	5/16	1-5/16	1/8	4.1	502B	1/16	A1	SDS	11/16	1-5/16	3/8	5.6
4.8	5.2	5.55	3.69	521B	5/16	C1	SDS	5/16	1-5/16	1/8	4.3	522B	1/16	A1	SDS	11/16	1-5/16	3/8	6.6
5.0	5.4	5.75	4.00	541B	5/16	C1	SDS	5/16	1-5/16	1/8	4.6	542B	1/16	A1	SDS	11/16	1-5/16	3/8	6.5
5.2	5.6	5.95	4.31	561B	5/16	C1	SDS	5/16	1-5/16	1/8	5.1	562B	1/16	A1	SDS	11/16	1-5/16	3/8	7.4
5.4	5.8	6.15	4.41	581B	5/16	C1	SDS	5/16	1-5/16	1/8	5.3	582B	1/16	A1	SDS	11/16	1-5/16	3/8	7.6
5.6	6.0	6.35	4.50	601B	5/16	C1	SDS	5/16	1-5/16	1/8	5.6	602B	1/16	A1	SDS	11/16	1-5/16	3/8	8.2
5.8	6.2	6.55	4.81	621B	5/16	C1	SDS	5/16	1-5/16	1/8	5.8	622B	1/16	A1	SDS	11/16	1-5/16	3/8	8.5
6.0	6.4	6.75	4.88	641B	5/16	C1	SDS	5/16	1-5/16	1/8	6.2	642B	1/16	A1	SDS	11/16	1-5/16	3/8	9.2
6.2	6.6	6.95	5.22	661B	5/16	C1	SDS	5/16	1-5/16	0	7.4	662B	1/16	A1	SDS	11/16	1-5/16	3/8	9.5
6.4	6.8	7.15	5.31	681B	5/16	C1	SDS	5/16	1-5/16	0	7.9	682B	1/16	A1	SDS	11/16	1-5/16	3/8	10.3
6.6	7.0	7.35	5.50	701B	1/2	D2	SDS	1/8	1-5/16	3/16	6.8	702B	9/32	D1	SK	7/16	1-7/8	5/32	13.3
7.0	7.4	7.75	5.70	741B	1/2	D2	SDS	1/8	1-5/16	3/16	7.7	742B	9/32	D2	SK	7/16	1-7/8	5/32	14.7
7.6	8.0	8.35	6.63	801B	1/2	D2	SDS	1/8	1-5/16	3/16	8.5	802B	9/32	D2	SK	7/16	1-7/8	5/32	14.0
8.2	8.6	8.95	7.25	861B	1/2	D2	SDS	1/8	1-5/16	3/16	9.6	862B	9/32	D2	SK	7/16	1-7/8	5/32	15.3
9.0	9.4	9.75	8.00	941B	1/2	D3	SDS	1/8	1-5/16	3/16	8.9	942B	9/32	D3	SK	7/16	1-7/8	5/32	15.2
10.6	11.0	11.35	9.62	1101B	1/2	D3	SDS	1/8	1-5/16	3/16	11.7	1102B	9/32	D3	SK	7/16	1-7/8	5/32	17.0
12.0	12.4	12.75	11.06	1241B	1/2	D3	SDS	1/8	1-5/16	3/16	12.2	1242B	9/32	D3	SK	7/16	1-7/8	5/32	21.0
13.2	13.6	13.95	12.25	1361B	1/2	D3	SDS	1/8	1-5/16	3/16	14.0	1362B	9/32	D3	SK	7/16	1-7/8	5/32	23.1
15.0	15.4	15.75	14.00	1541B	19/32	C3	SK	1/8	1-7/8	9/32	20.3	1542B	9/32	D3	SK	7/16	1-7/8	5/32	28.7
15.6	16.0	16.35	14.62	1601B	19/32	C3	SK	1/8	1-7/8	9/32	18.4	1602B	9/32	D3	SK	7/16	1-7/8	5/32	25.5
18.0	18.4	18.75	17.00	1841B	19/32	C3	SK	1/8	1-7/8	9/32	23.7	1842B	9/32	D3	SK	7/16	1-7/8	5/32	29.6
19.6	20.0	20.35	18.50	2001B	19/32	C3	SK	1/8	1-7/8	9/32	30.7	2002B	5/16	D3	SF	3/8	2	1/16	43.5
24.6	25.0	25.35	23.38	2501B	11/16	C3	SF	0	2	5/16	44.0	2502B	5/16	D3	SF	3/8	2	1/16	53.7
29.6	30.0	30.35	28.50	3001B	11/16	C3	SF	0	2	5/16	55.0	3002B	5/16	D3	SF	3/8	2	1/16	64.7
37.6	38.0	38.35	36.38	-	-	-	-	-	-	-	-	3802B	5/16	D3	SF	3/8	2	1/16	97.9

* "E" Dimension varies according to shaft tolerance.

Weights for all Sure-Grip bushed items are approximate and include the bushing.

Also available from stock made for the SF Bushing to accommodate larger bores.

P.D. for "A" Belts = DD + .25

P.D. for "B" Belts = DD + .413

Stock Classical (Conventional) Sheaves A-B

Dimensions

DIMENSIONS (In Inches)

Datum Dia.		O.D.	I.D.	Product No.	3 GROOVE							Product No	4 GROOVE						
A Belts	B Belts				F = 2-1/2								F = 3-1/4						
					E *	Type	Bush.	K	L	M	Wt.		E *	Type	Bush.	K	L	M	Wt.
3.0	3.4	3.75	2.12	343B	1-13/16	E1	SH	0	1-1/4	9/16	3.7	344B	2-3/8	E1	SD	7/16	1-13/16	15/16	5.6
3.2	3.6	3.95	2.25	363B	1-5/8	E1	SH	-3/16	1-1/4	3/8	4.1	364B	2-3/8	E1	SD	7/16	1-13/16	15/16	6.2
3.4	3.8	4.15	2.44	383B	1-5/8	E1	SH	-3/16	1-1/4	3/8	4.5	384B	2-3/8	E1	SD	5/16	1-13/16	15/16	6.2
3.6	4.0	4.35	2.75	403B	1/2	A1	SH	1-1/16	1-1/4	3/4	4.7	404B	2-1/16	E1	SD	0	1-13/16	5/8	6.5
3.8	4.2	4.55	2.88	423B	1/2	A1	SH	1-1/16	1-1/4	3/4	5.3	424B	2-1/16	E1	SD	0	1-13/16	5/8	6.9
4.0	4.4	4.75	3.12	443B	1/2	A1	SH	1-1/16	1-1/4	3/4	5.6	444B	2-1/16	E1	SD	0	1-13/16	5/8	7.4
4.2	4.6	4.95	3.35	463B	7/16	A1	SD	1-1/16	1-13/16	1/4	6.8	464B	11/16	A1	SD	1-5/16	1-13/16	3/4	8.0
4.4	4.8	5.15	3.44	483B	7/16	A1	SD	1-1/16	1-13/16	1/4	7.5	484B	11/16	A1	SD	1-5/16	1-13/16	3/4	8.8
4.6	5.0	5.35	3.62	503B	7/16	A1	SD	1-1/16	1-13/16	1/4	8.1	504B	11/16	A1	SD	1-5/16	1-13/16	3/4	9.1
4.8	5.2	5.55	3.81	523B	7/16	A1	SD	1-1/16	1-13/16	1/4	8.8	524B	11/16	A1	SD	1-5/16	1-13/16	3/4	10.2
5.0	5.4	5.75	4.06	543B	7/16	A1	SD	1-1/16	1-13/16	1/4	9.3	544B	11/16	A1	SD	1-5/16	1-13/16	3/4	10.5
5.2	5.6	5.95	4.25	563B	7/16	A1	SD	1-1/16	1-13/16	1/4	10.0	564B	11/16	A1	SD	1-5/16	1-13/16	3/4	11.3
5.4	5.8	6.15	4.42	583B	7/16	A1	SD	1-1/16	1-13/16	1/4	10.7	584B	11/16	A1	SD	1-5/16	1-13/16	3/4	12.1
5.6	6.0	6.35	4.68	603B	7/16	A1	SD	1-1/16	1-13/16	1/4	11.2	604B	11/16	A1	SD	1-5/16	1-13/16	3/4	13.3
5.8	6.2	6.55	4.82	623B	7/16	A1	SD	1-1/16	1-13/16	1/4	12.6	624B	11/16	A1	SD	1-5/16	1-13/16	3/4	14.4
6.0	6.4	6.75	5.06	643B	7/16	A1	SD	1-1/16	1-13/16	1/4	13.0	644B	11/16	A1	SD	1-5/16	1-13/16	3/4	15.1
6.2	6.6	6.95	5.25	663B	7/16	A2	SD	1-1/16	1-13/16	1/4	10.5	664B	11/16	A1	SD	1-5/16	1-13/16	3/4	15.3
6.4	6.8	7.15	5.44	683B	7/16	A2	SD	1-1/16	1-13/16	1/4	11.5	684B	11/16	A1	SD	1-5/16	1-13/16	3/4	16.8
6.6	7.0	7.35	5.62	703B	1/32	D1	SK	11/16	1-7/8	21/32	15.2	704B	9/32	A1	SK	1	1-7/8	1-3/32	17.2
7.0	7.4	7.75	6.06	743B	1/32	D1	SK	11/16	1-7/8	21/32	16.9	744B	9/32	A2	SK	1	1-7/8	1-3/32	16.2
7.6	8.0	8.35	6.73	803B	1/32	D2	SK	11/16	1-7/8	21/32	15.7	804B	9/32	A2	SK	1	1-7/8	1-3/32	18.1
8.2	8.6	8.95	7.31	863B	1/32	D2	SK	11/16	1-7/8	21/32	17.6	864B	9/32	A2	SK	1	1-7/8	1-3/32	22.0
9.0	9.4	9.75	8.00	943B	1/32	D3	SK	11/16	1-7/8	21/32	18.0	944B	9/32	A2	SK	1	1-7/8	1-3/32	23.9
10.6	11.0	11.35	9.62	1103B	1/32	D3	SK	11/16	1-7/8	21/32	19.6	1104B	9/32	A3	SK	1	1-7/8	1-3/32	26.4
12.0	12.4	12.75	11.06	1243B	1/32	D3	SK	11/16	1-7/8	21/32	22.5	1244B	9/32	A3	SK	1	1-7/8	1-3/32	28.4
13.2	13.6	13.95	12.25	1363B	1/32	D3	SK	11/16	1-7/8	21/32	26.4	1364B	9/32	A3	SK	1	1-7/8	1-3/32	29.9
15.0	15.4	15.75	14.00	1543B	1/32	D3	SK	11/16	1-7/8	21/32	30.4	1544B	5/16	A3	SF	1	2	15/16	40.3
15.6	16.0	16.35	14.62	1603B	1/32	D3	SK	11/16	1-7/8	21/32	32.7	1604B	5/16	A3	SF	1	2	15/16	38.7
18.0	18.4	18.75	17.00	1843B	1/32	D3	SK	11/16	1-7/8	21/32	35.6	1844B	5/16	A3	SF	1	2	15/16	44.9
19.6	20.0	20.35	18.50	2003B	1/16	D3	SF	5/8	2	9/16	45.7	2004B	5/16	A3	SF	1	2	15/16	56.6
24.6	25.0	25.35	23.38	2503B	1/16	D3	SF	5/8	2	9/16	65.8	2504B	3/32	A3	E	1	2-5/8	17/32	83.2
29.6	30.0	30.35	28.50	3003B	1/16	D3	SF	5/8	2	9/16	90.4	3004B	3/32	A3	E	1	2-5/8	17/32	110.1
37.6	38.0	38.35	36.38	3803B	9/32	D3	E	5/8	2-5/8	5/32	143.3	3804B	3/32	A3	E	1	2-5/8	17/32	158.0

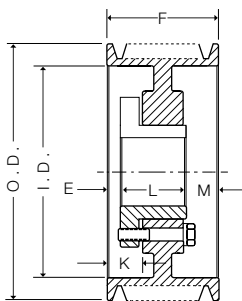
* "E" Dimension varies according to shaft tolerance.

Weights for all Sure-Grip bushed items are approximate and include the bushing.

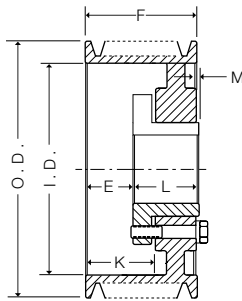
Also available from stock made for the SF Bushing to accommodate larger bores.

P.D. for "A" Belts = DD + .25

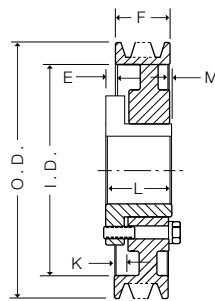
P.D. for "B" Belts = DD + .413



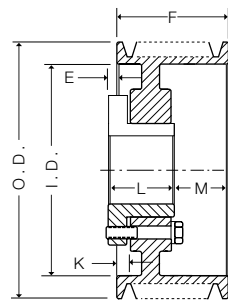
Type A



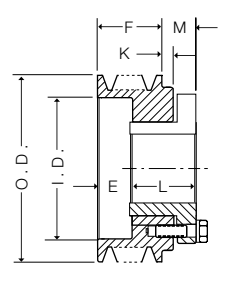
Type B



Type C



Type D



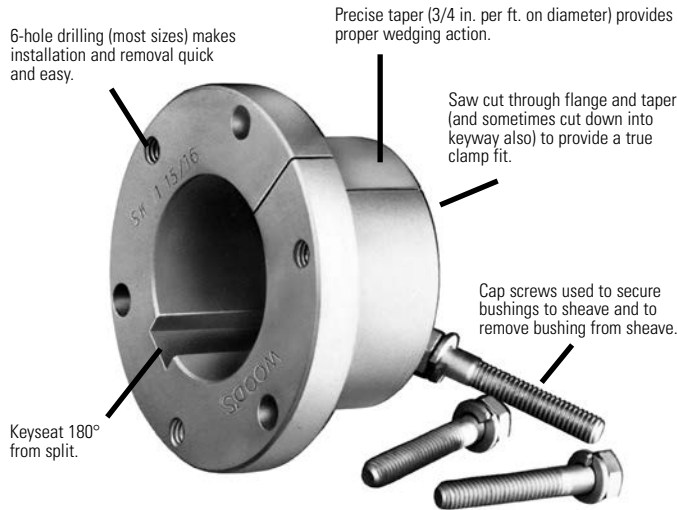
Type E

Sure-Grip Bushing dimensions — see section A1

Sure-Grip® Bushings

Features

Sure-Grip® “Quick Detachable” bushings are easy to install and remove. They are split through flange and taper to provide a true clamp on the shaft that is the equivalent of a shrink fit. All sizes except JA and QT have a setscrew over the key to help

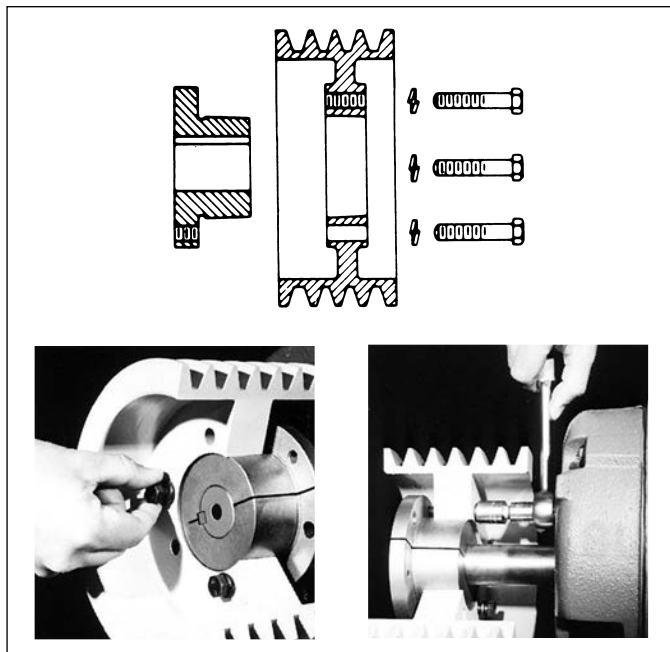


maintain the bushing's position on the shaft until the cap screws are securely tightened. Sure-Grip bushings have a very gradual taper (3/4-inch taper per ft. on the diameter) which is about half the inclined angle of many other bushings. The result is the Sure-Grip securely clamps the shaft, with twice the force of those competitive bushings, to provide extreme holding power.

Versatile Sure-Grip bushings permit the mounting of the same mating part on shafts of different diameters, and the mounting of different sheaves on the same shaft using the same bushing. Their interchangeability extends through sheaves, pulleys, timing pulleys, sprockets, flexible and rigid couplings, made-to-order items by Wood's, and to product lines of several other mechanical power transmission manufacturers.

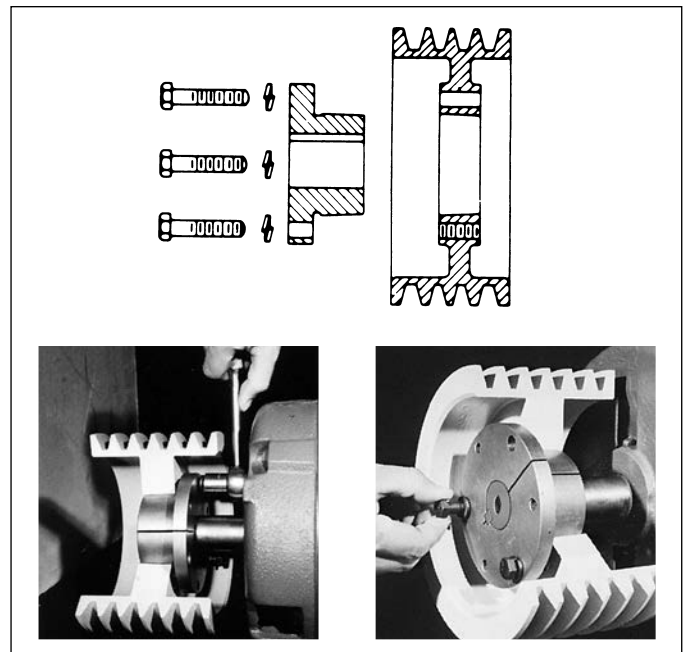
Sure-Grip bushings are manufactured with the drilled and tapped holes located at a precise distance from the keyseat; thus, a wide mating part having a bushing in each end can be mounted on a common shaft with the two keyways in line. This feature not only facilitates installation but also permits both bushings to carry an equal share of the load.

STANDARD MOUNTING



1. Cap screws from outside through drilled holes in the mating part and into threaded holes in the bushing flange located on the inside of the assembly. Or the complete assembly reversed on the shaft and;
2. Cap screws from inside through drilled holes in the mating part and into threaded holes in the bushing flange located on the outside of the assembly.

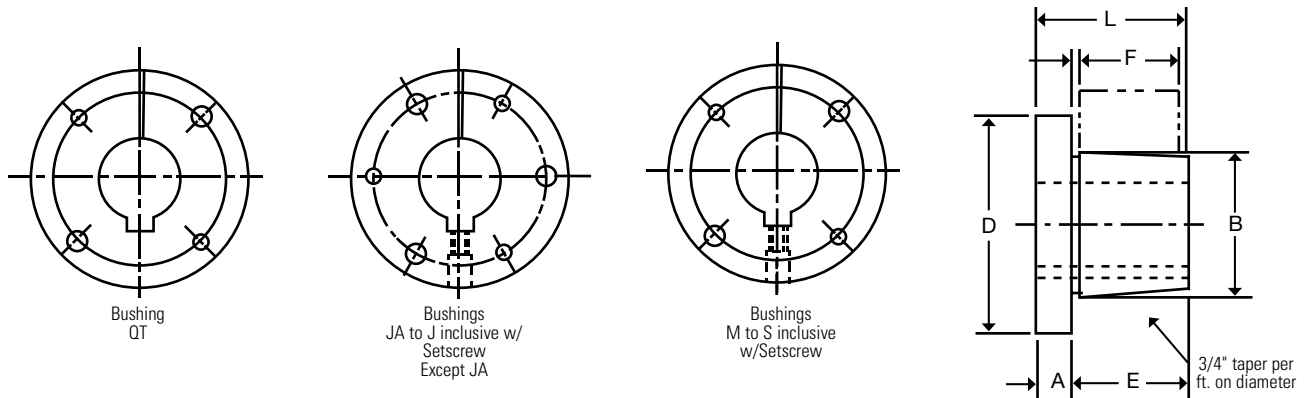
REVERSE MOUNTING



3. Cap screws from inside through drilled holes in the bushing flange located on the inside of the assembly and into threaded holes in the mating part.
4. Cap screws from outside through drilled holes in the bushing flange located on the outside of the assembly and into threaded holes in the mating part.

Dimensions

Sure-Grip bushings are designed to transmit the rated torque capacity listed in the table below when the cap screws are tightened as indicated. The bushings are stocked in all popular bore sizes, including metric bores, within the bore range for a particular bushing.



SURE-GRIP BUSHING TORQUE RATINGS AND DIMENSIONS

Bush.	Torque Capacity (In.-Lbs.)	(Note 1) Max. Bore	(Note 2) Max. Bore	DIMENSIONS IN INCHES						Bolt Circle	Cap Screws Required
				A	B	D	E	F*	L		
QT	1,750	1-1/2	30	1/4	1.625	2-1/2	1	7/8	1-1/4	2	2-1/4 x 1
JA	1,750	1-1/4	23	5/16	1.375	2	11/16	9/16	1	1-21/32	3 - #10 x 1
SH	3,500	1-5/8	36	3/8	1.871	2-11/16	7/8	13/16	1-1/4	2-1/4	3-1/4 x 1-3/8
SDS	5,000	1-15/16	42	7/16	2.1875	3-3/16	7/8	3/4	1-5/16	2-11/16	3-1/4 x 1-3/8
SD	5,000	1-15/16	42	7/16	2.1875	3-3/16	1-3/8	1-1/4	1-13/16	2-11/16	3-1/4 x 1-7/8
SK	7,000	2-1/2	56	1/2	2.8125	3-7/8	1-3/8	1-1/4	1-7/8	3-5/16	3-5/16 x 2
SF	11,000	2-15/16	63	1/2	3.125	4-5/8	1-1/2	1-1/4	2	3-7/8	3-3/8 x 2
E	20,000	3-1/2	78	3/4	3.834	6	1-7/8	1-5/8	2-5/8	5	3-1/2 x 2-3/4
F	40,000	3-15/16	90	13/16	4.4375	6-5/8	2-13/16	2-1/2	3-5/8	5-5/8	3-9/16 x 3-5/8
J	55,000	4-1/2	105	1	5.1484	7-1/4	3-1/2	3-3/16	4-1/2	6-1/4	3-5/8 x 4-1/2
M	125,000	5-1/2	130	1-1/4	6.500	9-1/8	5-1/2	5-3/16	6-3/4	7-7/8	4-3/4 x 6-3/4
N	150,000	6	140	1-1/2	7.000	10	6-5/8	6-1/4	8-1/8	8-1/2	4-7/8 x 8
P	250,000	7	160	1-3/4	8.250	11-3/4	7-5/8	7-1/4	9-3/8	10	4 - 1 x 9-1/2
W	375,000	8-1/2	200	2	10.437	15	9-3/8	9	11-3/8	12-3/4	4 - 1-1/8 x 11-1/2
S	625,000	10	240	3-1/4	12.125	17-3/4	12-1/2	12	15-3/4	15	5 - 1-1/4 x 15-1/2

* Mating hub length.

1. MAX INCH BORE WITH KEYSEAT.

2. MAX MM BORE WITH STANDARD KEYSEAT.

See pages A1-4 to A1-8 for Bore and Keyseat information and weights.

SURE-GRIP® BUSHINGS

Bore and Key Seat Dimensions

Sure-Grip Bushings are available from stock with all the bores and keyseats listed below. In some cases, as the bore increases in diameter, a shallow keyseat is provided—due to insufficient metal thickness. When this happens, Wood's furnishes the correct rectangular key to suit at no charge. This does not affect the bushing's ability to transmit the load. The rectangular key, or flat key as some call it, fits into the standard keyway in the shaft.

DIMENSIONS (In Inches)

Product No.	Bore	Key Seat	Wt. (*)
QT BUSHINGS			
QTMPB	7/16	No KS	.6
QT12	1/2	1/8 x 1/16	.6
QT9/16	9/16	1/8 x 1/16	.6
QT58	5/8	3/16 x 3/32	.6
QT11/16	11/16	3/16 x 3/32	.6
QT34	3/4	3/16 x 3/32	.6
QT13/16	13/16	3/16 x 3/32	.6
QT78	7/8	3/16 x 3/32	.6
QT15/16	15/16	1/4 x 1/8	.6
QT1	1	1/4 x 1/8	.6
QT1116	1-1/16	1/4 x 1/8	.6
QT118	1-1/8	1/4 x 1/8	.6
QT1316	1-3/16	1/4 x 1/8	.6
QT114	1-1/4	1/4 x 1/8	.6
QT1516	1-5/16	5/16 x 1/16	.6
QT138	1-3/8	5/16 x 1/16	.6
QT1716	1-7/16	3/8 x 1/16	.6
QT112	1-1/2	3/8 x 1/16	.6
JA BUSHINGS			
JAMPB	1/2	No KS	.8
JA12	1/2	1/8 x 1/16	.8
JA9/16	9/16	1/8 x 1/16	.8
JA58	5/8	3/16 x 3/32	.8
JA11/16	11/16	3/16 x 3/32	.8
JA34	3/4	3/16 x 3/32	.8
JA13/16	13/16	3/16 x 3/32	.8
JA78	7/8	3/16 x 3/32	.8
JA15/16	15/16	1/4 x 1/8	.8
JA1	1	1/4 x 1/8	.8
JA1116	1-1/16	1/4 x 1/16	.8
JA118	1-1/8	1/4 x 1/16	.8
JA1316	1-3/16	1/4 x 1/16	.8
JA114	1-1/4	1/4 x 1/32	.8
SH BUSHINGS			
SHMPB	7/16	No KS	1.1
SH12	1/2	1/8 x 1/16	1.1
SH9/16	9/16	1/8 x 1/16	1.1
SH58	5/8	3/16 x 3/32	1.1
SH11/16	11/16	3/16 x 3/32	1.0
SH34	3/4	3/16 x 3/32	1.0
SH13/16	13/16	3/16 x 3/32	1.0
SH78	7/8	3/16 x 3/32	1.0
SH15/16	15/16	1/4 x 1/8	1.0
SH1	1	1/4 x 1/8	.9

Product No.	Bore	Key Seat	Wt. (*)
SH BUSHINGS (continued)			
SH1116	1-1/16	1/4 x 1/8	.9
SH118	1-1/8	1/4 x 1/8	.9
SH1316	1-3/16	1/4 x 1/8	.8
SH114	1-1/4	1/4 x 1/8	.8
SH1516	1-5/16	5/16 x 5/32	.7
SH138	1-3/8	5/16 x 5/32	.7
SH1716	1-7/16	3/8 x 1/16	.7
SH112	1-1/2	3/8 x 1/16	.6
SH1916	1-9/16	3/8 x 1/16	.6
SH158	1-5/8	3/8 x 1/16	.5
SH11116	1-11/16	No KS	.5
SDS BUSHINGS			
SDSMPB	7/16	No KS	1.7
SDS12	1/2	1/8 x 1/16	1.7
SDS9/16	9/16	1/8 x 1/16	1.7
SDS58	5/8	3/16 x 3/32	1.6
SDS11/16	11/16	3/16 x 3/32	1.6
SDS34	3/4	3/16 x 3/32	1.6
SDS13/16	13/16	3/16 x 3/32	1.6
SDS78	7/8	3/16 x 3/32	1.5
SDS15/16	15/16	1/4 x 1/8	1.5
SDS1	1	1/4 x 1/8	1.5
SDS1116	1-1/16	1/4 x 1/8	1.4
SDS118	1-1/8	1/4 x 1/8	1.4
SDS1316	1-3/16	1/4 x 1/8	1.4
SDS114	1-1/4	1/4 x 1/8	1.3
SDS1516	1-5/16	5/16 x 5/32	1.3
SDS138	1-3/8	5/16 x 5/32	1.2
SDS13838KS	1-3/8	3/8 x 3/16	1.2
SDS1716	1-7/16	3/8 x 3/16	1.2
SDS112	1-1/2	3/8 x 3/16	1.1
SDS1916	1-9/16	3/8 x 3/16	1.1
SDS158	1-5/8	3/8 x 3/16	1.0
SDS11116	1-11/16	3/8 x 3/16	1.0
SDS134	1-3/4	3/8 x 1/8	1.0
SDS11316	1-13/16	1/2 x 1/8	.9
SDS178	1-7/8	1/2 x 1/16	.9
SDS11516	1-15/16	1/2 x 1/16	.8
SDS2	2	No KS	.7
SD BUSHINGS			
SDMPB	7/16	No KS	2.1
SD12	1/2	1/8 x 1/16	2.1
SD9/16	9/16	1/8 x 1/16	2.1
SD58	5/8	3/16 x 3/32	2.1
SD11/16	11/16	3/16 x 3/32	2.0

Product No.	Bore	Key Seat	Wt. (*)
SD BUSHINGS (continued)			
SD34	3/4	3/16 x 3/32	2.0
SD13/16	13/16	3/16 x 3/32	2.0
SD78	7/8	3/16 x 3/32	1.9
SD15/16	15/16	1/4 x 1/8	1.9
SD1	1	1/4 x 1/8	1.8
SD1116	1-1/16	1/4 x 1/8	1.8
SD118	1-1/8	1/4 x 1/8	1.7
SD1316	1-3/16	1/4 x 1/8	1.7
SD114	1-1/4	1/4 x 1/8	1.6
SD1516	1-5/16	5/16 x 5/32	1.6
SD138	1-3/8	5/16 x 5/32	1.5
SD13838KS	1-3/8	3/8 x 3/16	1.5
SD1716	1-7/16	3/8 x 3/16	1.4
SD112	1-1/2	3/8 x 3/16	1.4
SD1916	1-9/16	3/8 x 3/16	1.3
SD158	1-5/8	3/8 x 3/16	1.2
SD11116	1-11/16	3/8 x 3/16	1.2
SD134	1-3/4	3/8 x 1/8	1.1
SD11316	1-13/16	1/2 x 1/8	1.1
SD178	1-7/8	1/2 x 1/16	1.0
SD11516	1-15/16	1/2 x 1/16	.9
SD2	2	No KS	.8
SK BUSHINGS			
SKMPB	7/16	No KS	3.6
SK12	1/2	1/8 x 1/16	3.6
SK9/16	9/16	1/8 x 1/16	3.6
SK58	5/8	3/16 x 3/32	3.6
SK11/16	11/16	3/16 x 3/32	3.5
SK34	3/4	3/16 x 3/32	3.5
SK13/16	13/16	3/16 x 3/32	3.5
SK78	7/8	3/16 x 3/32	3.4
SK15/16	15/16	1/4 x 1/8	3.4
SK1	1	1/4 x 1/8	3.3
SK1116	1-1/16	1/4 x 1/8	3.3
SK118	1-1/8	1/4 x 1/8	3.2
SK1316	1-3/16	1/4 x 1/8	3.2
SK114	1-1/4	1/4 x 1/8	3.1
SK1516	1-5/16	5/16 x 5/32	3.1
SK151638KS	1-5/16	3/8 x 3/16	3.1
SK138	1-3/8	5/16 x 5/32	3.0
SK13838KS	1-3/8	3/8 x 3/16	3.0
SK1716	1-7/16	3/8 x 3/16	2.9
SK112	1-1/2	3/8 x 3/16	2.9
SK1916	1-9/16	3/8 x 3/16	2.8
SK158	1-5/8	3/8 x 3/16	2.7
SK11116	1-11/16	3/8 x 3/16	2.6
SK134	1-3/4	3/8 x 3/16	2.5
SK13412KS	1-3/4	1/2 x 1/4	2.5

* Approximate weight in lbs.

MPB Bushings are unsplit.

(Continued—next page)



HI-BUILD EPOXOLINE® II SERIES N69

PRODUCT DATA SHEET

PRODUCT PROFILE

GENERIC DESCRIPTION	Polyamidoamine Epoxy
COMMON USAGE	An advanced generation epoxy for protection and finishing of steel and concrete. It has excellent resistance to abrasion and is suitable for immersion as well as chemical contact exposure. Contact your local Tnemec representative for a list of chemicals. This product can also be used for lining storage tanks that contain demineralized, deionized or distilled water.
COLORS	Refer to Tnemec Color Guide. Note: Epoxies chalk with extended exposure to sunlight. Lack of ventilation, incomplete mixing, miscatalyzation or the use of heaters that emit carbon dioxide and carbon monoxide during application and initial stages of curing may cause yellowing to occur.
FINISH	Satin
SPECIAL QUALIFICATIONS	This product is part of a coating system tested in accordance with ISO 12944-6 (2018). Contact your Tnemec representative for coating system test results.

COATING SYSTEM

SURFACER/FILLER/PATCHER	Series 215, 217, 218
PRIMERS	Steel: Self-priming or Series 1, 27, 27WB, 37H, 66, L69, L69F, N69F, V69F, 90E-92, 90-97, H90-97, 90G-1K97, 90-98, 91-H ₂ O, 94-H ₂ O, 135, 161, 394, V530 Galvanized Steel and Non-Ferrous Metal: Self-priming or Series 66, L69, L69F, N69F, V69F, 161 Concrete: Self-priming or Series 27WB, 130, 1254 CMU: Self-priming or 130, 1254
TOPCOATS	Series 22, 27WB, 46H-413, 66, L69, L69F, N69, N69F, V69, V69F, 72, 73, 104, 113, 114, 118, 141, 156, 157, 161, 180, 181, 262, 265, 287, 740, 750, 1026, 1028, 1029, 1070, 1070V, 1071, 1071V, 1072, 1072V, 1074, 1074U, 1075, 1075U, 1077, 1078, 1078V, 1080, 1081, 1094, 1095, 1096, 1224. Note: The following recoat times apply for Series N69: Immersion Service—Surface must be scarified after 60 days. Atmospheric Service—After 60 days, scarification or an epoxy tie-coat is required. When topcoating with Series 740 or 750, recoat time for N69 is 21 days for atmospheric service. Contact your Tnemec representative for specific recommendations.

SURFACE PREPARATION

STEEL	Immersion Service: SSPC-SP10/NACE 2 Near-White Blast Cleaning or ISO Sa 2 1/2 Very Thorough Blast Cleaning with a minimum angular anchor profile of 1.5 mils. Non-Immersion Service: SSPC-SP6/NACE 3 Commercial Blast Cleaning or ISO Sa 2 Thorough Blast Cleaning with a minimum angular anchor profile of 1.5 mils. Note: Commercial Blast Cleaning generally produces the best coating performance for this exposure. If conditions will not permit this, in moderate exposures Series N69 may be applied to SSPC-SP2 or SP3 Hand or Power Tool Cleaned surfaces (SSPC Rust Grade Condition C).
GALVANIZED STEEL & NON-FERROUS METAL	Surface preparation recommendations will vary depending on substrate and exposure conditions. Contact your Tnemec representative or Tnemec Technical Services.
CAST/DUCTILE IRON	All external surfaces of ductile iron pipe and fittings shall be delivered to the application facility without asphalt or any other protective lining on the exterior surface. All oils, small deposits of asphalt paint, grease, and soluble deposits should be removed and uniformly abrasive blasted using angular abrasive in accordance with NAF 500-03-04: External Pipe Surface condition. When viewed without magnification, the exterior surfaces shall be free of all visible dirt, dust, loose annealing oxide, rust, mold coating and other foreign matter. Any area where rust reappears before application shall be reblasted. The surface shall contain a minimum angular anchor profile of 1.5 mils (38.1 microns) (Reference NACE RP0287 or ASTM D 4417, Method C).
CONCRETE	Allow new cast-in-place concrete to cure a minimum of 28 days at 75°F (24°C). Verify concrete dryness in accordance with ASTM F 1869 "Standard Test Method for Measuring Moisture Vapor Emission Rate of Concrete Subfloor Using Anhydrous Calcium Chloride" (moisture vapor transmission should not exceed three pounds per 1,000 square feet in a 24 hour period), F 2170 "Standard Test Method for Determining Relative Humidity in Concrete using in situ Probes" (relative humidity should not exceed 80%), or D 4263 "Standard Test Method for Indicating Moisture in Concrete by the Plastic Sheet Method" (no moisture present). Prepare concrete surfaces in accordance with NACE No. 6/SSPC-SP13 Joint Surface Preparation Standards and ICRI Technical Guidelines. Abrasive blast, shot-blast, water jet or mechanically abrade concrete surfaces to remove laitance, curing compounds, hardeners, sealers and other contaminants and to provide an ICRI-CSP 2-3 surface profile. Large cracks, voids and other surface imperfections should be filled with a recommended filler or surfacer.
CMU	Allow mortar to cure for 28 days. Level protrusions and mortar spatter.
PAINTED SURFACES	Non-Immersion Service: Ask your Tnemec representative for specific recommendations.
PRIMED SURFACES	Immersion Service: Scarify the Series N69 prime coat surface by abrasive-blasting with a fine abrasive before topcoating if: (a) the Series N69 prime coat has been in exterior exposure for 60 days or longer and Series 66, 46H-413, L69, L69F, N69, N69F, V69, V69F or 161 is the specified topcoat; (b) the Series N69 prime coat has been in exterior exposure for 14 days or longer and Series 104 is the specified topcoat; (c) the Series N69 prime coat has been in exterior exposure for 7 days or longer and Series 262 or 265 is the specified topcoat.
ALL SURFACES	Must be clean, dry and free of oil, grease, chalk and other contaminants.

TECHNICAL DATA

VOLUME SOLIDS	67.0 ± 2.0% (mixed) †
RECOMMENDED DFT	2.0 to 10.0 mils (50 to 255 microns) per coat. Note: The number of coats and thickness requirements will vary with substrate, application method and exposure. Contact your Tnemec representative.

PRODUCT DATA SHEET

HI-BUILD EPOXOLINE® II | SERIES N69

CURING TIME AT 5 MILS DFT

Without 44-700 Accelerator

Temperature	To Handle	To Recoat	Immersion
90°F (32°C)	5 hours	7 hours	7 days
80°F (27°C)	7 hours	9 hours	7 days
70°F (21°C)	9 hours	12 hours	7 days
60°F (16°C)	16 hours	22 hours	9 to 12 days
50°F (10°C)	24 hours	32 hours	12 to 14 days

Curing time varies with surface temperature, air movement, humidity and film thickness. **Note:** For faster curing and low-temperature applications, add No. 44-700 Epoxy Accelerator; see separate product data sheet for cure information.

VOLATILE ORGANIC COMPOUNDS

Unthinned: 2.40 lbs/gallon (285 grams/litre)
Thinned 10% (No. 4 Thinner): 2.80 lbs/gallon (334 grams/litre)
Thinned 10% (No. 60 Thinner): 2.80 lbs/gallon (335 grams/litre)

HAPS

Unthinned: 2.40 lbs/gal solids
Thinned 10% (No. 4 Thinner): 3.25 lbs/gal solids
Thinned 10% (No. 60 Thinner): 2.40 lbs/gal solids

THEORETICAL COVERAGE

1,074 mil sq ft/gal (26.4 m²/L at 25 microns). See APPLICATION for coverage rates. †

NUMBER OF COMPONENTS

Two: Part A (amine) and Part B (epoxy) — One (Part A) to one (Part B) by volume.

PACKAGING

	Part A	Part B	Yield (mixed)
Large Kit	5 gallon pail	5 gallon pail	10 gallons (37.9 L)
Small Kit	1 gallon can	1 gallon can	2 gallons (7.6 L)

NET WEIGHT PER GALLON

13.67 ± 0.25 lbs (6.10 ± .11 kg) (mixed) †

STORAGE TEMPERATURE

Minimum 20°F (-7°C) Maximum 110°F (43°C)

TEMPERATURE RESISTANCE

(Dry) Continuous 250°F (121°C) Intermittent 275°F (135°C)

SHELF LIFE

Part A: 24 months; Part B: 12 months at recommended storage temperature.

FLASH POINT - SETA

Part A: 82°F (28°C) Part B: 93°F (34°C)

HEALTH & SAFETY

Paint products contain chemical ingredients which are considered hazardous. Read container label warning and Material Safety Data Sheet for important health and safety information prior to the use of this product.
Keep out of the reach of children.

APPLICATION

COVERAGE RATES

	Dry Mils (Microns)	Wet Mils (Microns)	Sq Ft/Gal (m ² /Gal)
Suggested (1)	6.0 (150)	9.0 (230)	179 (16.6)
Minimum	2.0 (50)	3.0 (75)	537 (49.9)
Maximum	10.0 (250)	15.0 (375)	107 (10.0)

Dense Concrete & Masonry: From 100 to 150 sq ft (9.3 to 13.9 m²) per gallon.

CMU: From 75 to 100 sq ft (7.0 to 9.3 m²) per gallon.

(1) Note for Steel: Roller or brush application requires two or more coats to obtain recommended film thickness. Also, Series N69 can be spray applied to an optional high-build film thickness range of 8.0 to 10.0 dry mils (205 to 255 dry microns) or 11.5 to 14.5 wet mils (209 to 370 wet microns). Allow for overspray and surface irregularities. Film thickness is rounded to the nearest 0.5 mil or 5 microns. Application of coating below minimum or above maximum recommended dry film thicknesses may adversely affect coating performance. †

MIXING

Start with equal amounts of Series N69 Parts A and B. Power mix contents of each container separately, making sure no pigment remains on the bottom. Pour a measured amount of Part B into a clean container large enough to hold both components. If Series 44-700 is not being used, proceed with mixing and add an equal volume of Part A to Part B while under agitation. Continue agitation until the two components are thoroughly mixed. **Note:** Both components must be above 50°F (10°C) prior to mixing. For optimum mixing and application properties, the material should be above 60°F (16°C).

If using Series 44-700 accelerator, slowly add four (4) fluid ounces of 44-700 per gallon to Series N69 Part A material while under agitation and proceed with adding Part B. **Note:** The use of more than the recommended amount of 44-700 will adversely affect performance.

Thin by volume and thoroughly mix. Failure to thoroughly mix the Part A and Part B components prior to thinning can affect product's gloss and performance. Do not use mixed material beyond pot life limits. **Note:** For application of the unaccelerated version to surfaces between 50°F to 60°F (10°C to 16°C) or the accelerated version to surfaces between 35°F to 50°F (2°C to 10°C), allow mixed material to stand 30 minutes and restir before using.

THINNING

Use No. 4 or No. 60 Thinner. For air spray, thin up to 10% or 3/4 pint (380 mL) per gallon. For airless spray, roller or brush, thin up to 5% or 1/4 pint (190 mL) per gallon.

POT LIFE

Without 44-700: 6 hours at 50°F (10°C) 4 hours at 75°F (24°C) 1 hour at 100°F (38°C)
 With 44-700: 2 hours at 50°F (10°C) 1 hour at 75°F (24°C) 30 minutes at 100°F (38°C)

SPRAY LIFE

Without 44-700: 1 hour at 75°F (24°C) With 44-700: 30 minutes at 75°F (24°C)

Note: Spray application after listed times will adversely affect ability to achieve recommended dry film thickness.

PRODUCT DATA SHEET

HI-BUILD EPOXOLINE® II | SERIES N69

APPLICATION EQUIPMENT

Air Spray ‡

Gun	Fluid Tip	Air Cap	Air Hose ID	Mat'l Hose ID	Atomizing Pressure	Pot Pressure
DeVilbiss JGA	E	765 or 704	5/16" or 3/8" (7.9 or 9.5 mm)	3/8" or 1/2" (9.5 or 12.7 mm)	50-80 psi (3.4-5.5 bar)	10-20 psi (0.7-1.4 bar)

Low temperatures or longer hoses require higher pot pressure.

Airless Spray ‡

Tip Orifice	Atomizing Pressure	Mat'l Hose ID	Manifold Filter
0.015"-0.019" (380-485 microns)	3000-4800 psi (207-330 bar)	1/4" or 3/8" (6.4 or 9.5 mm)	60 mesh (250 microns)

Use appropriate tip/atomizing pressure for equipment, applicator technique and weather conditions.

‡ Spray application of first coat on CMU should be followed by backrolling. **Note:** Application over inorganic zinc-rich primers: Apply a wet mist coat and allow tiny bubbles to form. When bubbles disappear in 1 to 2 minutes, apply a full wet coat at specified mil thickness.

Roller: Use 3/8" or 1/2" (9.5 mm or 12.7 mm) synthetic woven nap roller cover. Use longer nap to obtain penetration on rough or porous surfaces.

Brush: Recommended for small areas only. Use high quality natural or synthetic bristle brushes.

SURFACE TEMPERATURE

Minimum 50°F (10°C) Maximum 135°F (57°C) The surface should be dry and at least 5°F (3°C) above the dew point. Coating will not cure below minimum surface temperature.

CLEANUP

Flush and clean all equipment immediately after use with the recommended thinner or MEK.

† Values may vary with color.

WARRANTY & LIMITATION OF SELLER'S LIABILITY: Tnemec Company, Inc. warrants only that its coatings represented herein meet the formulation standards of Tnemec Company, Inc. THE WARRANTY DESCRIBED IN THE ABOVE PARAGRAPH SHALL BE IN LIEU OF ANY OTHER WARRANTY, EXPRESSED OR IMPLIED, INCLUDING BUT NOT LIMITED TO, ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. THERE ARE NO WARRANTIES THAT EXTEND BEYOND THE DESCRIPTION ON THE FACE HEREOF. The buyer's sole and exclusive remedy against Tnemec Company, Inc. shall be for replacement of the product in the event a defective condition of the product should be found to exist and the exclusive remedy shall not have failed its essential purpose as long as Tnemec is willing to provide comparable replacement product to the buyer. NO OTHER REMEDY (INCLUDING, BUT NOT LIMITED TO, INCIDENTAL OR CONSEQUENTIAL DAMAGES FOR LOST PROFITS, LOST SALES, INJURY TO PERSON OR PROPERTY, ENVIRONMENTAL INJURIES OR ANY OTHER INCIDENTAL OR CONSEQUENTIAL LOSS) SHALL BE AVAILABLE TO THE BUYER. Technical and application information herein is provided for the purpose of establishing a general profile of the coating and proper coating application procedures. Test performance results were obtained in a controlled environment and Tnemec Company makes no claim that these tests or any other tests, accurately represent all environments. As application, environmental and design factors can vary significantly, due care should be exercised in the selection and use of the coating.

Tnemec Company, Inc. 6800 Corporate Drive Kansas City, Missouri 64120-1372 +1 816-483-3400 www.tnemec.com

GREENPORT, NY
VILLAGE OF GREENPORT WPCP
PROJECT #25-144

WARRANTY

Lakeside Equipment Corporation ("Lakeside") warrants to Buyer that equipment sold hereunder, of its manufacture, is free from defect in material and workmanship, and is of the kind and quality designated or described herein. This warranty shall run to Buyer and, if applicable, such entity specifically identified in the Primary Contract only, but not to their employees, representatives, agents, customers, assignees, etc., and applies to those technical portions of the Engineer's Specifications only to the extent that they are referred to herein. This warranty shall be in full force and effect at the time of shipment of such equipment for a period of one (1) year from the date of start-up but not to exceed 18 months from date of shipment, whichever comes first. Lakeside will furnish without charge, but will not install, replacements for such parts as it finds to have been defective. The obligation of Lakeside to replace such defective parts shall be the exclusive remedy hereunder. Buyer must give Lakeside notice in writing of any alleged defect covered by this warranty within thirty (30) days of the discovery of such defect during the warranty period. No claim more than thirty (30) days after the warranty period shall be valid. The warranty extends to replaced parts of Lakeside's manufacture for ninety (90) days or the remainder of the original warranty period applicable to the parts being replaced.

This warranty shall not apply to:

- A. Any equipment which has been subjected to misuse, neglect, or accident.
- B. Any equipment which has been altered, tampered with, or upon which corrective work has been done thereon without Lakeside's specific written consent.
- C. Any equipment which has been operated or maintained in a manner which in any way deviates from the maintenance schedules, specifications, and parameters set forth in Lakeside's Operator's Manual for such equipment.
- D. Fuses, lights or other standard wear items.
- E. Electrical damage due to overvoltage conditions.
- F. Damage to machine or components due to lack of implementing the Recommendations on Short-term and Long-term Storage of Equipment guidelines.
- G. Damage to stainless steel surfaces due to the environment or nearby materials that may be abrasive or corrosive.

No allowances will be made for any such alterations or corrective work done without the specific written consent of Lakeside. Conditions caused by improper lubrication, deterioration by chemical action, and wear caused by the presence of abrasive materials, do not constitute defects. Equipment manufactured by others, and included in Lakeside's proposal, is not warranted in any way by Lakeside but carries only that manufacturer's warranty, if any. No representative of Lakeside's has any authority to waive, alter, vary, or add to the items hereof without prior written approval.

THE FOREGOING WARRANTY IS EXCLUSIVE AND IN LIEU OF ALL OTHER GUARANTEES AND WARRANTIES OF QUALITY, WRITTEN, ORAL OR IMPLIED; ALL OTHER WARRANTIES, INCLUDING ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR PURPOSE ARE HEREBY EXPRESSLY DISCLAIMED.



June 2, 2025

Village of Greenport
236 3rd St.
Greenport, NY 11944

Attention: William Schulz

Subject: **GREENPORT, NY**
Village of Greenport WPCP
Customer P.O.# 9741
S.O. #25-144

Dear Mr. Schulz:

Enclosed is One (1) e-mail copy of submittals for the Two (2) 30" Dia. Screw Pumps that Lakeside will be providing on this project. Drawing numbers of the prints included are as listed on the EP-5 form sheet attached to the individual sets provided. After they have been approved, please return a copy with comments to Lakeside for any follow-up action.

This submittal will provide equipment which we believe will meet the full intent of the project. We have tried to be as informative as possible by way of the Approval Specifications attached to the individual sets of drawings. If we could further clarify any points in order to expedite the approval process, please do not hesitate to call.

Regards,

Jim Snyder
Production Manager

Cc: G.A. Fleet Associates Inc./Elaine Yarbrough



1022 E. Devon Avenue | P.O. Box 8448 | Bartlett, IL 60103
T: 630-837-5640 | F: 630-837-5647 | E: sales@lakeside-equipment.com
www.lakeside-equipment.com

June 2, 2025

Village of Greenport
236 3rd St.
Greenport, NY 11944

Attention: William Schulz

Subject: **GREENPORT, NY**
Village of Greenport WPCP
Customer P.O.# 9741
S.O. #25-144

Dear Mr. Schulz:

The service books provided for the equipment we are supplying are prepared specifically for this project. Therefore, we would like to prepare all the required books at one time. Your help in verifying the quantity is important to us.

Our records indicate you requested (1) electronic copy. **If this does not include copies for your installation crew, please increase the quantity as required.** These copies will be furnished at no charge if ordered now. You will be billed for copies ordered after the above books have been furnished at a cost of \$150.00 each.

All final books will be forwarded to you. If there are comments regarding these manuals, please direct your inquiries to Lakeside at har@lakeside-equipment.com.

Please verify this as correct by signing and returning this by email.

Regards,

Hunter Reeves
Technical Writer

_____ Quantity is correct.
_____ Quantity is not correct. Send _____ copies.



June 2, 2025

Village of Greenport
236 3rd St.
Greenport, NY 11944

Attention: William Schulz

Subject: **GREENPORT, NY**
Village of Greenport WPCP
Customer P.O.# 9741
S.O. #25-144

Dear Mr. Schulz:

We would appreciate your taking a few minutes to fill out the form below and sending it back with the Approval Drawings. This will enable us to ship your equipment to the jobsite in a prompt manner. **We would appreciate your also including a map of the area showing the job site and the roads to it. Our trucks are long and tall, so we need to know if there are any turning or height clearance problems.**

If the equipment is to be delivered to a location other than the job site, we would like this information for both locations.

JOB SUPERINTENDENT:

JOB PHONE:

DIRECTIONS TO THE JOB SITE: _____

NOTICE REQUIRED:

JOBSITE HOURS:

SPECIAL INSTRUCTIONS:

LZ/sp



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June 2, 2025

Village of Greenport
236 3rd St.
Greenport, NY 11944

Attention: William Schulz

Subject: **GREENPORT, NY**
Village of Greenport WPCP
Customer P.O.# 9741
S.O. #25-144

Dear Mr. Schulz:

DELIVERY OF EQUIPMENT

This project is being submitted for approval under a separate letter. Delivery schedules are important to you and to Lakeside. The tentative shipping requirement for this project is 24-28 weeks after approval.

If something should happen so that you would not be able to take the shipment from us at the scheduled time, please let us know immediately. *Once production of the equipment has started on the shop floor we cannot set it aside.* Please note – as mentioned above, we need to know of this before production starts. Production and storage space is at a premium in our shop. We would like to know where you stand in relation to your schedule so we can coordinate delivery when you are best able to receive the equipment. Please keep us up to date on any schedule changes. *Once the equipment is finished, it has to be shipped* so we can continue production.

Regards,

Jim Snyder

DRAWING TRANSMITTAL

EP-05

JOB: **GREENPORT, NY.**

VILLAGE OF GREENPORT WPCP

S.O. # **25-144-01**

EQUIPMENT: **30" DIA. SCREW PUMP**

REV:

BY: JM

DATE 5/8/2025

DRAWING NO.	DESCRIPTION	REV.
	APPROVAL SPECIFICATION	
GSI-38C	SCREW PUMP PRE-START UP CHECK LIST	
GSI-74A	EQUIPMENT RECEIVING AND STORAGE	
RAD-206A	INFORMATION ON "V" BELTS	
RAD-207A	INFORMATION ON SHEAVE AND BUSHING	
SPD-300A	GROUTING SAFETY PROCEDURES	
SPD-356H	GROUTING INSTRUCTIONS	
D130558	30" DIA. SCREW PUMP INSTALLATION	
D130559	30" DIA. SCREW PUMP INSTALLATION - SECTIONS	
D37110L	INSTALLATION INSTRUCTIONS	
B37080G	SCREED BAR INSTALLATION	
B125576	GREASE LINE INSTALLATION	
D15811AG	4 1/2" UPPER BEARING ASSEMBLY	
D42445N	3" LOWER BEARING ASSEMBLY	
D43013M	LUBRICATION INSTRUCTION	
B51216L	GREASE PUMP ASSEMBLY	
B41462J	GREASE CONTAINER ASSEMBLY	
A66164C	GREASE FITTING ANGLE ASSEMBLY	
A26328B	SCHEMATIC WIRING DIAGRAM	

S.O. # 25-144
EP-5

DATE: 05/08/2025

APPROVAL SPECIFICATIONS

OPEN SCREW PUMP

LOCATION: GREENPORT, NY.
VILLAGE OF GREENPORT WPCP

Detail Specifications each Unit as follows:

PART 1 – General

1.01 Design Parameters each unit

A.	Number of pumps.....	Two (2)
B.	Pump capacity, gal/min.....	1300
C.	Lift, feet.....	16
D.	Pump diameter, inches	30
E.	Number of flights.....	3
F.	Flight Thickness, inches.....	1/4
G.	Torque Tube Diameter, inches	16
H.	Torque Tube Wall Thickness, inches.....	3/8
I.	Angle of inclination, degree.....	38
J.	Lower bearing diameter, inches.....	3
K.	Upper bearing diameter, inches.....	4 1/2
L.	Rotational speed, rev/min	55
M.	Minimum gear reducer torque rating, inch-lb	12038
N.	Motor size, hp.....	10
O.	Total weight of screw, Lbs	3800
P.	Area classification – Screw Pump.....	Non-Hazardous
Q.	Area classification – Grease Pump.....	Non-Hazardous

PART 2 – Products

2.01 SPIRAL SCREW

- A. Spiral screw is fabricated of ASTM A36 steel. Each spiral screw has an outside diameter as noted in paragraph 1.01.D. with the number of flights as noted in paragraph 1.01.E. Flights are die formed and have a minimum thickness as noted in paragraph 1.01.F. Flights are helical shaped and continuously welded on both sides to the torque tube. There is no more than one flight butt weld per pitch, and all flight butt welds are full penetration joints.

- B. Each torque tube has a minimum diameter as noted in paragraph 1.0.G. with a minimum wall thickness as noted in paragraph 1.01.H. so that screw deflection is not greater than the bearing center distance divided by 2,000. Calculations for deflection and bearing loads are based on the dead weight of the screw plus the full weight of liquid being pumped. Decreased loading from buoyancy effects is not considered in the design calculations.
- C. The torque tube is sealed water tight with a welded steel plate at each end. All surfaces of the end plates mating with the bolted stub shafts are finish machined while the pump is supported between centers in a lathe after welding to the torque tube and after all flight welding is complete to assure alignment and parallelism.
- D. A solid steel upper drive shaft and lower stub shaft fitted with machine faced steel plate flange is fastened to the upper and lower ends of the fabricated spiral screw with ASTM A325 high-strength bolts. A shaft flange gasket is provided for the lower bearing between the stub shaft flange and torque tube machined steel plate.
- E. Lifting lugs on spiral screw body welded to the torque tube will be provided.
- F. The screw is placed in a lathe and the flights will be ground to a true radius.
- G. The weight of the screw is noted in paragraph 1.01.O.

2.02 LOWER BEARING ASSEMBLY

- A. The lower bearing assembly is a cam-type with a pressure grease lubricated bronze sleeve bearing pressed onto the shaft and carries the radial load of the screw. No thrust load is carried by the lower bearing. Lower bearing nominal diameter will be as noted in paragraph 1.01.J.
- B. The bronze sleeve rotates with the lower stub shaft in a bearing housing containing a minimum of two (2) spring loaded lip seals at the top of the bearing assembly. The seals are arranged to hold the grease in the bearing.
- C. The bearing assembly permits precise angular (vertical) and lateral (horizontal) field adjustment to eliminate misalignment between the upper and lower bearings without the use of shims. Bearing assembly accommodates all static and operating deflections of the screw.
- D. The bearing assembly is supplied with a split non-rotating shield installed between the housing and rotating screw for operation of the shaft and seals.
- E. The bearing assembly accommodates thermal expansion and contraction of the screw within the bearing housing on fully lubricated surfaces not subject to corrosion or seizure.

- F. The bottom of the bearing housing is fitted with an inspection plate that can be removed for inspection of the lower bearing without disassembly of the lower stub shaft or bearing housing.
- G. There is a flow through grease system with grease entering the lower part of the housing and passing across the full face of the bearing sleeve to the upper seals, then to a grease collection container for confirmation the bottom bearing is receiving grease from the automatic lubrication system.

2.03 UPPER BEARING ASSEMBLY

- A. The upper stub shaft extends through a grease lubricated upper bearing assembly which consists of a split housing fitted with dual bearings, lower spring loaded lip seal, bearing spacer and upper spring loaded lip seal. Upper bearing nominal diameter will be as noted in paragraph 1.01.K
- B. All the thrust load from the pump is carried by a spherical thrust-type bearing assembly and the upper screw pump radial load is carried by a spherical roller bearing.
- C. The two bearings (radial and thrust) are positioned in the bearing housing so that the pressure center of the thrust bearing and radial bearing intersects the axis of the screw at the same point to provide true self-alignment in all planes.
- D. Both radial and thrust bearings are rated at a minimum of 100,000 hours AFBMA L10 theoretical design life, based on the dead weight of the screw plus the full weight of the liquid being pumped.
- E. Upper stub shaft is grooved and positively locked into the upper bearing assembly by a split collar and locking halter ring.
- F. A split bearing housing is provided to allow removal of the cover for inspection of the bearings without removal of the stub shaft or the entire bearing assembly.

2.04 DRIVE ASSEMBLY

- A. The drive assembly is designed and constructed for a maximum screw rotational speed as noted in paragraph 1.01.L. The drive assembly is furnished and consists of a shaft-mounted gear reducer, belts and sheaves, and motor.
- B. A shaft-mounted, double-reduction reducer in cast iron housing with alloy steel high hardness helical gearing, positive splash-type lubrication and double lip oil seals are furnished and keyed to the screw pump stub shaft. Gear reducer is designed in accordance with the latest AGMA standards.

- C. The screw pump stub shaft is supported by the upper bearing and extended through the reducer hollow bore and centered and held firmly in place by tapered bushings on each side of the reducer.
- D. Gear reducer is designed with a service factor of not less than 1.5 based on the torque requirements of the screw of 1.0 based on the motor horsepower, whichever is greater. Gear reducer shall have a minimum torque rating as noted in paragraph 1.01.M.
- E. Reducer is held in position by a torque arm bracket. Torque arm bracket is fastened with anchors.
- F. A visual oil level gauge and oil filler tube for the reducer is mounted on the reducer.
- G. A backstop is provided with the reducer to prevent reverse rotation of the screw.

2.05 BELTS AND SHEAVES

- A. Power transmission from the motor to the reducer is by means of a set of V-belts and sheaves. Belts and sheave are designed with a 1.5 service factor based on full motor horsepower.
- B. Sheaves are two section units for both drive and driven sheaves and consist of a tapered split bushing with three tapped holes to which the sheave is attached by three cap screws. Changing sheaves does not require a wheel puller.
- C. Belts and sheaves are covered with a fabricated aluminum belt guard in accordance with OSHA standards.

2.06 MOTOR

- A. Each unit shall be driven by an 1,800 rpm, 3 phase, 60 Hertz, 208-230/460 volt, horizontal, ball bearing, continuous duty, constant speed, Design B, normal starting torque, totally enclosed fan cooled foot- mounted motor. The area classification is as noted in paragraph 1.01.P.
- B. Motor horsepower is as noted in paragraph 1.01.N.
- C. Motor is mounted on a fabricated steel plate which provides adjustment of belt slack.

2.07 DEFLECTION PLATES

- A. A flow deflection plate is provided to curve around the upper section on the uptake side of the screw to deflect the liquid as the screw rotates.

- B. The flow deflection plate is fabricated of 1/8 inch steel plate complete with stiffeners where required and stainless steel anchors on 1'-8" foot centers at the bottom edge.

2.08 LUBRICATION SYSTEM

- A. Each screw pump is furnished with a positive pressure, automatic lubrication pump and 3/8-inch minimum diameter stainless steel grease line.
- B. The automatic lubrication pump provides grease lubricant to the lower bearing assembly with provisions at the pump to manually charge the grease line.
- C. Each lubrication pump is adjustable and shall provide 6 ounces per day at the minimum setting and 17 ounces per day at the maximum setting. The grease reservoir holds a maximum of 15 pounds of lubricant.
- D. The lubricant pump consists of an eccentric piston pumping element, a check valve and has a one-third (1/3) horsepower, TEFC, ball bearing, 230/460 volt, 60 Hz, 3 phase, gear motor connected to the lubricator by a flexible coupling. The area classification is as noted in paragraph 1.01.Q.
- E. A centrifugal switch is furnished as an integral component of the grease pump and interlocked with the screw pump drive system. When the screw pump is required to operate, the lubrication pump motor will switch on. As the lubrication pump motor reaches full speed, the centrifugal switch will close, energizing the screw pump drive motor. If the grease pump motor stops, the centrifugal switch opens, de-energizing the screw pump drive motor. The centrifugal switch is rated for not less than 3 amps at 120 VAC, resistive.
- F. The lubrication system is factory assembled on a steel base plate. The coupling has a removable metal coupling guard in accordance with OSHA standards.
- G. Grease is recovered in a stainless steel collection container with two (2) 1/4-inch holes located 1-inch from the top of the container to allow liquid to drain out of the container.

2.09 GROUTING MATERIALS

- A. Lakeside will furnish a radius screed that is factory attached to the pump for the CONTRACTOR to place the finishing grout in the trough with the screw after the unit has been installed.
- B. Lakeside will furnish additional sheaves and belts as required to operate the screw at a reduced speed for grouting the trough with the screw pump drive.

2.10 ANCHOR BOLTS

- A. Lakeside furnishes all anchor bolts of ample size and strength required to securely anchor each item of equipment. Anchor bolts, hex nuts, and washers are 304 stainless steel unless noted otherwise. Anchor bolts are L-type embedded anchors.
- B. Anchor bolts are to be set by the CONTRACTOR. Equipment must be placed on the foundations, leveled, shimmed, bolted down, and grouted with a non-shrinking grout.

2.11 SPARE PARTS

- A. The following spare parts will be provided:
 - 1. Touch up paint
- B. Spare parts will be individually boxed with the project name and part number clearly identified on each individual box. All spare parts will be shipped in a separate crate and clearly labeled. Spare parts will be stored indoors by the Contractor in a temperature-controlled environment.

2.12 SHOP SURFACE PREPARATION AND PAINTING

- A. All fabricated carbon steel or cast iron components for submerged service will be near-white blast cleaned per SSPC-SP10 and given two (2) coats, 4 to 6 mil dry film thickness of Tnemec Series N69 Hi-Build Epoxoline II. Final color to be 68BR Twine.
- B. All fabricated carbon steel or case iron components for non-submerged service will be commercial blast cleaned per SSPC-SP6 and given two (2) coats, 4 to 6 mil dry film thickness of Tnemec Series N69 Hi-Build Epoxoline II. Final color to be 68BR Twine.
- C. Electric motors, speed reducers, and other self-contained or enclosed components will be supplied with the manufacturer's standard finish coating.
- D. Apply rust preventative compound to all machined, polished, and ferrous surfaces which are not to be painted.

2.13 SOURCE QUALITY CONTROL

- A. All structural steel components are fabricated in the United States and conform to the requirements of the "Specification for the Design, Fabrication and Erection of Structural Steel for Buildings" published by the American Institute of Steel Construction. Except where specifically indicated, otherwise, all plates and structural members have a minimum thickness of 1/4-inch.

- B. Lakeside's shop welds and welding procedures are in accordance with the requirements of the latest edition of ANSI/AWS D1.1 "Structural Welding Code-Steel" published by the American Welding Society.

PART 3 – EXECUTION

3.01 FIELD PREPARATION AND PAINTING

- A. The CONTRACTOR will touch-up all shipping damage to the paint as soon as the equipment arrives on the job site.
- B. Prior to the assembly, all stainless steel bolts and nut threads are to be coated with a non-seizing compound by the CONTRACTOR.
- C. Prior to the assembly, all stainless steel bolts and nut threads are to be coated with a non-seizing compound by the CONTRACTOR.

3.02 INSTALLATION

- A. The manufacturer will schedule three (3) trips totaling four (4) days to the project site for equipment start-up assistance as noted in paragraph 3.02.B. for the CONTRACTOR and for operating training as noted in paragraph 3.03.A. for OWNER personnel.
- B. After the equipment has been placed into operation, the manufacturer's representative will make all final adjustments for proper operation.

3.03 OPERATOR TRAINING

Lakeside will provide operator training for OWNER'S personnel after system is operational. Training will take place while Lakeside is at the job site for inspection.

LAKESIDE EQUIPMENT CORPORATION
JM/TH

Name: _____ S. O. # _____ Requested Date: _____ Date of Request: _____

SCREW PUMP PRE-STARTUP CHECKLIST**THIS FORM MUST BE COMPLETED AND RETURNED AT LEAST TWO WEEKS PRIOR TO THE SCHEDULED SERVICE OR START UP WILL NOT BE PERFORMED.****All items listed below must be completed prior to arrival of our service technician**Fax/email 630-837-5647 service@lakeside-equipment.com

1. What is service required for? Installation Checkout/Grouting _____
Final Startup _____ Other _____
2. Do you require a Lakeside service representative to be present during grouting? See NOTE 1. Yes _____ No _____
3. Confirm grouting sheave(s) are installed and you have reviewed grout requirements with your ready mix supplier. Yes _____ No _____
4. Confirm formwork is installed at top and bottom of torque tube. Yes _____ No _____
5. Confirm anchor bolts for the flow deflection plate(s) are installed. Yes _____ No _____
6. Confirm the dimension between the end of lower bearing stub shaft and the bearing housing end cap is per the bearing assembly drawing. Yes _____ No _____
7. Confirm the upper bearing stub shaft is centered in housing as noted on upper bearing assembly drawing. Yes _____ No _____
8. Confirm the screed bars are welded to pump flights. Yes _____ No _____
9. Confirm air is purged from the grease line to lower bearing and visual grease flow indicator line per the procedure on lubrication drawing. Yes _____ No _____
10. Confirm the screw pump and grease pump are wired to operate. Yes _____ No _____
11. Confirm if supplied the screw pump coupling is aligned with a dial indicator. What is the T.I.R. for parallel offset and angular misalignment? Yes _____ No _____

12. Confirm all spare parts are accounted for. Yes _____ No _____
13. Confirm all lubrication been completed. Reducer Yes _____ No _____
Upper Bearing Yes _____ No _____
Lower Bearing Yes _____ No _____
Coupling Yes _____ No _____

NOTE 1: Lakeside includes one trip for installation checkout & grouting. If the inspection checkout and grouting cannot be performed on the same trip, then the Contractor may choose to purchase an additional separate trip for a Lakeside serviceman to be present during the grouting process, or choose to grout without a Lakeside service representative present.

NOTE 2: If the technician arrives on-site and the start-up cannot be performed, an additional trip will be required at the buyer's expense. Rate is subject to change without notice.

Site Address _____

 Site Contact _____
 Phone _____

Sign as agent for buyer _____
 Print name _____
 Date _____

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EQUIPMENT RECEIVING AND STORAGE

(Contractor Responsibility)

GENERAL

These guidelines for equipment storage are intended to supplement specific instructions furnished in the service manual for each individual item.

Following these instructions helps to ensure that the equipment is not damaged due to lack of attention during periods while it is not being used. This is not to be construed as providing or extending any warranty by *Lakeside Equipment Corporation* or any manufacturer of components supplied with the equipment.

Safety

**WARNING:**

Alerts to a potential hazard that can result in serious personal injury or possible death. Safety must be observed.

**CAUTION:**

Alerts to a potential hazard that may result in personal injury, or an unsafe practice that causes damage to equipment or property.

Acronyms

The following acronyms are used in this document:

<u>Acronym</u>	<u>Meaning</u>
°F.....	Degrees Fahrenheit
DAR.....	Dielectric Absorption Ratio
DC.....	Direct Current
DO.....	Dissolved Oxygen
E.....	Earth
HP.....	Horse Power
ID.....	Identification
L.....	Line
No.....	Number
ORP.....	Oxidation-Reduction Potential
pH.....	potential Hydrogen
SN.....	Serial Number
SO.....	Shop Order
VDC.....	Volts, Direct Current
VFD.....	Variable Frequency Drive

STORAGE

Short Term Storage (3 Months or Less)

1. Store all motors, gear reducers, bearings, control panels, and electronic sensors (such as pH ORP and DO probes), solenoid valves, gear reducer torque overload devices, as well as materials such as chemical anchors in a dry heated area that is kept above 40°F.
2. Keep all equipment off of the floor to prevent moisture buildup.

CAUTION! MOISTURE ISSUE. DO NOT SEAL ANY EQUIPMENT AS THIS TRAPS MOISTURE.

3. Cover all equipment with tarps or heavy plastic.
4. Periodically inspect all unpainted exposed surfaces for corrosion due to humidity or atmospheric contaminants. Recoat all exposed unpainted surfaces with a corrosion inhibitor such as Cosmoline.
5. Rotate all shafts and bearings several revolutions at least twice monthly.
6. Motors furnished with space heaters shall have the space heaters connected and powered during the storage period (see ELECTRIC MOTORS below).

Long Term Storage (Equipment not Installed)

In addition to the Short Term Storage guidelines listed above, the contractor shall observe the following:

1. Bearings, whether they are *Dodge* Pillow Block, Lakeside Upper and Lower bearings for Screw Pumps, or any other type of bearing, shall be rotated a minimum of 3 ½ revolutions each month. Any bearings not supplied with grease shall be filled at the beginning of any long term storage period.
2. Primer paints are not intended to be left unprotected indefinitely waiting for the finish coat to be applied. It is the responsibility of the contractor to touch up or re-prime any areas that show degradation during long term storage.

Installed Equipment Standing Idle

1. Equipment shall be operated for at least four (4) hours on a bi-weekly basis to keep all enclosed gear surfaces wetted with lubricant to prevent water etching or false brinelling of the bearings and seizure of the seal lips on the shafts.
2. If unit is being operated under power, then the contractor shall periodically check the level and condition of the oil in each gear reducer. Add or replace if necessary.
3. Motors furnished with space heaters shall have the space heaters connected and powered during all idle periods.

CAUTION! DO NOT OPERATE OIL FILLED REDUCERS WITH PLUGS UNDER POWER BECAUSE THE PRESSURE GENERATED WILL CAUSE SEAL FAILURE.

4. If power is not available, then reducers shall be filled completely with recommended oil, or a recommended additive shall be installed (*Shell* ENSIS, for *Flender* reducers or VCI-105 for Dodge reducers) and the vents shall be replaced with plugs. The input shafts shall then be rotated by hand a minimum of 30 revolutions every two weeks.
5. All bearings (except motor bearings) and their seal plates and end caps, when furnished, shall be kept full of grease to keep out moisture. Apply grease once a month until fresh grease shows at the seals. Motor bearings are to be lubricated per the manufacturer's instructions.

6. Enclosed Screw Pump lower bearing rollers shall be sprayed with oil before operation. Then, during startup, 6 oz. of oil must be sprayed on roller surfaces during the first five minutes of operation.

ELECTRIC MOTORS

General

WARNING! MEGOHM METERS PRODUCE HAZARDOUS VOLTAGES. OBSERVE SAFETY PRECAUTIONS PER THE METER MANUFACTURER'S INSTRUCTIONS.

CAUTION! A MEGOHM-METER WILL DAMAGE PANEL COMPONENTS SUCH AS VARIABLE FREQUENCY DRIVES (VFDS). IF THE MOTOR IS WIRED INTO THE EQUIPMENT, THE MOTOR WINDINGS SHALL BE FIRST DISCONNECTED FROM THE EXTERNAL CIRCUIT IN THE MOTOR JUNCTION BOX BEFORE PERFORMING THE MEGGER TEST. FAILURE TO DO SO WILL VOID THE WARRANTY ON THE CONTROL PANEL.

1. Upon receipt, each motor shall be Megger tested per the attached procedure. The results of the Megger test shall then be faxed to *Lakeside Equipment Corp.* at 630/837-5647 to the attention of the service manager or emailed to service@lakeside-equipment.com.
2. If the motor is not mounted to the equipment and is not be ready for service for more than 3 months, then the motor shall be stored in a clean, dry and heated area (above 40°F).
 - a. Use desiccants or other humidity control methods.
 - b. Connect and power any motor space heaters with the proper voltage to prevent condensation.
 - c. Coat all external machined surfaces with a corrosion inhibitor such as cosmoline.
3. If the motor is equipment-mounted and the equipment cannot be stored indoors, take reasonable measures to protect the motor(s) from moisture and temperature extremes from the elements. This would include covering the equipment with tarps and following the requirements of step #2 above.
4. Make sure the motor is greased according to the supplied manufacturer's recommendations.
5. Once per month, rotate the shaft several turns to distribute grease in bearings.
6. When the motor is ready for service it shall be megger tested again. This information shall be faxed to *Lakeside Equipment Corp.* as noted in step 1 (please note the cautions from step #1 above). Record this information on the form below and a copy turned over to the Service Engineer at equipment startup.

Motor Insulation Resistance Testing

It is natural for the insulation used on electric motor windings to slowly lose insulating properties over time. Under normal storage and operating conditions, insulation will be suitable for many years of service. If exposed to harsh environmental conditions such as temperature extremes, moisture, chemical contamination or any combination of these conditions; this process may be greatly accelerated. Motors stored for long-term periods, usually in excess of three months, may unknowingly be exposed to these extreme conditions. If long-term storage is required; it is prudent to test the insulation before and after the storage period. A copy of the test data must be furnished to Lakeside if there is a warranty claim for motors that have been in long-term storage.

This test describes the procedure to measure the Dielectric Absorption Ratio (DAR) for the motor insulation. The test is based on the fact that good insulation will show an increase in resistance after the test voltage is applied. After the connections are made and the voltage is applied, resistance readings are made at two different times, 30 and 60-second periods. The DAR is calculated by the formula, $DAR = R_{60}/R_{30}$. The calculated DAR value is then compared against a recommended range of values to determine if the insulation is suitable for service. The equipment and procedure to accomplish this test is outlined below.

Equipment Required

WARNING! MEGOHM METERS PRODUCE HAZARDOUS VOLTAGES. OBSERVE SAFETY PRECAUTIONS PER THE METER MANUFACTURER'S INSTRUCTIONS.

A megohm meter with a minimum output voltage of 500 Volts DC is required. A 500 VDC test voltage is sufficient for testing motors name plated for 600 Volts and less.

Electrical Hookup

1. If applicable, disconnect the incoming power and remove the power supply lines from the motor "T" leads.
2. Separate the motor "T" leads so that each winding can be tested separately.
3. Place a wire nut on the end of each "T" lead to prevent incidental contact or grounding while performing the test. Remove the nut as each winding is tested.
4. Connect the test lead from the Megohm meter marked "Line" or "L" to one of the motor "T" leads.
5. Connect the test lead from the Megohm meter marked "Earth" or "E" to the frame of the motor.

Procedure

1. Apply 500 volts between the motor "T" lead and frame of the motor.
2. Read and record the resistance (megohms) 30 seconds after the test voltage is applied. (See attached log for recording values)
3. Read and record the resistance 60 seconds after the voltage application.
4. Repeat the above procedure for each of the motor "T" leads.
5. Calculate the DAR. (R_{60}/R_{30})
6. Compare the DAR for each lead against the serviceability table which follows the log.

Dielectric Absorption Ratio Log**NOTE:** Here for use only if needed.

Motor Application: _____

Motor HP: _____

Motor ID/Serial No: _____

Test Voltage: _____

Megger Serial No: _____

Lakeside: SO #: _____

Tested By: _____

Test Date: _____

Motor Lead	R ₃₀ (Megohms)	R ₆₀ (Megohms)	DAR (R ₆₀ /R ₃₀)	Condition
T1				
T2				
T3				
T4				
T5				
T6				
T7				
T8				
T9				
T10				
T11				
T12				

Tested By: _____

Test Date: _____

Motor Lead	R ₃₀ (Megohms)	R ₆₀ (Megohms)	DAR (R ₆₀ /R ₃₀)	Condition
T1				
T2				
T3				
T4				
T5				
T6				
T7				
T8				
T9				
T10				
T11				
T12				

Serviceability Table

DAR	Condition
< 1.1	Poor
1.1 to 1.24	Questionable
1.25 to 1.3	Fair
1.4 to 1.6	Good
> 1.6	Excellent

DAR = Dielectric Absorption Ratio

Historical Value

Regular testing over time establishes a history, which may be used to detect a change in the insulation properties. If the rate of deterioration is rapid or has reached a questionable state, preventive measures may be taken to replace the motor or provide supplemental environmental protection. This test procedure may be used for optional preventive maintenance purposes to monitor the condition of the insulation over the life of the motor. Additional copies of the log may be made and the data saved for record purposes.

Revision History

REV	DATE	AUTHOR
A	08/26/2021	JH
NEW	12/20/2018	RP

Tensioning the Drive

Tensioning V-Belt Drives

Without exception, the most important factor in the successful operation of a V-belt drive is proper belt-tensioning. To achieve the long, trouble free service associated with V-belt drives, belt tension must be sufficient to overcome slipping under maximum peak load. This could be either at start or during the work cycle. The amount of peak load will vary depending upon the character of the driven machine or drive system. To increase total tension, merely increase the center distance. Before attempting to tension any drive it is imperative that the sheaves be properly installed and aligned. If a V-belt slips it is too loose. Add to the tension by increasing the center distance. Never apply belt dressing as this will damage the belt and cause early failure.

General Method

The general method for tensioning V-belts should satisfy most drive requirements.

Step 1: Reduce the center distance so that the belts may be placed over the sheaves and in the grooves without forcing them over the sides of the grooves. Arrange the belts so that both the top and bottom spans have about the same sag. Apply tension to the belts by increasing the center distance until the belts are snug. See figure 1.

Step 2: Operate the drive a few minutes to seat the belts in the sheave grooves. Observe the operation of the drive under its highest load condition (usually starting). A slight bowing of the slack side of the drive indicates proper tension. If the slack side remains taut during the peak load, the drive is too tight. Excessive bowing or slippage indicates insufficient tension. If the belts squeal as the motor comes on or at some subsequent peak load, they are not tight enough to deliver the torque demanded by the drive machine. The drive should be stopped and the belts tightened.

Step 3: Check the tension on a new drive frequently during the first day by observing the slack side span. After a few days of operation the belts will seat themselves in the sheave grooves and it may become necessary to readjust so that the drive again shows a slight bow in the slack.

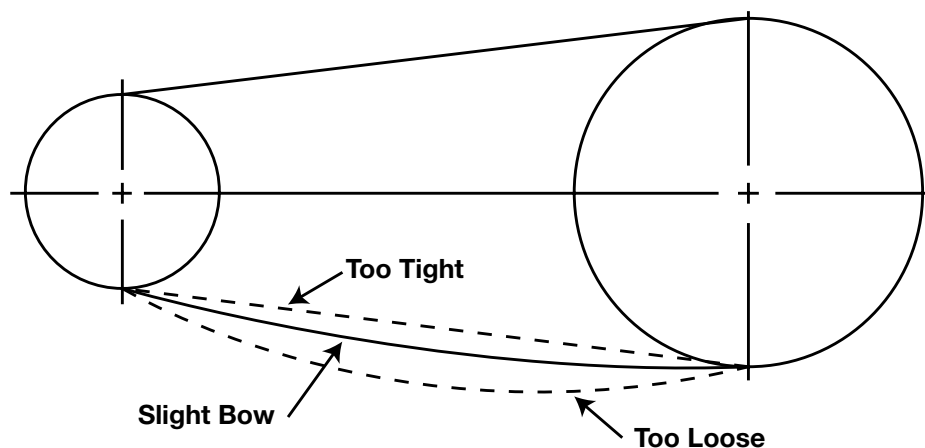


Figure 1

Tensioning the Drive

Force Deflection Method

This method should be used only for tensioning drives on which the grade of belt, rated belt capacity, service factor, design horsepower, etc. are known.

Step 1: Install belts per Step 1 of General Method.

Measure span length (t) in inches as shown in figure 2, or calculate using formula.

Step 2: From figure 2 the deflection height (h) is always 1/64" per inch of span length (t). For example, a 32" span length would require a deflection of 32/64" or 1/2".

Step 3: Determine the minimum, maximum, and initial recommended pounds force using table 1 or calculate based on the required Static Strand Tension (Ts). Note: The initial recommended force is used only for installing new belts which have not seated themselves into the sheave grooves and where initial belt stretch has not taken place.

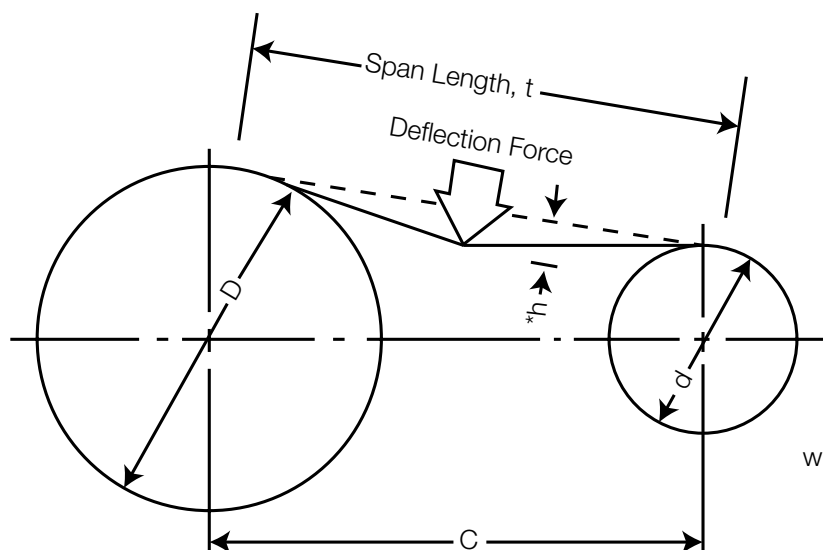
Step 4: Using a spring scale, apply a perpendicular force to any ONE of the belts at the mid point of the span as shown in figure 2. Compare this deflection force with the values found in Step 3.

a. If the deflection force is below the minimum, the belts are too loose and the tension should be increased by increasing the center distance.

b. If the deflection force is higher than the maximum, the belts are too tight and the tension should be decreased.

When new V-belts are installed on a drive the INITIAL tension will drop rapidly during the first few hours. Check tension frequently during the first 24 hours of operation. Subsequent retensioning should fall between the minimum and maximum force.

To determine the deflection distance from normal position, use a straightedge or stretch a cord from sheave to sheave to use as a reference line. On multiple-belt drives an adjacent undeflected belt can be used as a reference.



* Deflection height
 $h = 1/64$ " per inch of span

$$t = \sqrt{C^2 - \left(\frac{D-d}{2}\right)^2}$$

$$h = \frac{t}{64}$$

where t = Span length, inches
C = Center Distance, inches
D = Larger sheave diameter, inches
d = Smaller sheave diameter, inches

Figure 2

Sure-Grip® Sheaves and Brushing Installation Instructions

TB Wood's Sure-Grip bushings are the most widely used, tapered, QD-type and have exceptional holding power that eliminates wobble. Standard and reverse mounting features provide greater adaptability. Sure-Grip bushings can be used interchangeably in many of TB Wood's products as well as those of other manufacturers.

To Install:

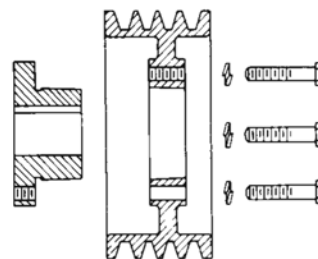
IMPORTANT: DO NOT USE LUBRICANTS IN THIS INSTALLATION

Before beginning, make sure the correct size and quantity of parts are available for the installation. The bushing has been manufactured to accept a setscrew over the key and its use is optional. It is packaged with the hardware on sizes SH to M and loosely installed in the bushing on sizes N to S.

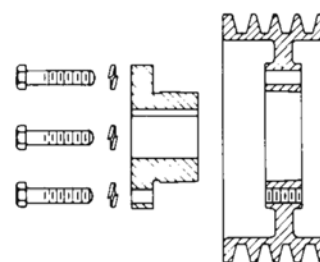
1. Inspect the tapered bore of the sheave and the tapered surface of the bushing. Any paint, dirt, oil or grease **MUST** be removed.
2. Select the type of mounting (See Fig. 1 or 2) that best suits your application.
3. **STANDARD MOUNTING:** Install shaft key. (Note: If key was furnished with bushing, you must use that key.) Install bushing on clean shaft, flange end first. If bushing will not freely slide on the shaft, insert a screwdriver or similar object into the flange sawcut to act as a wedge to open the bushing's bore. **Caution: Excessive wedging will split the bushing.** If using the setscrew, tighten it just enough to prevent the bushing from sliding on the shaft. **Caution: Do not over tighten setscrew!** Slide sheave into position on bushing aligning the drilled holes in the sheave with the tapped holes in the bushing flange. (Note: Install M thru S bushings so that the two tapped holes in the sheave are located as far away as possible from the bushing's sawcut.) Loosely thread the capscrews with lockwashers into the assembly.

DO NOT USE LUBRICANT ON THE CAPSCREWS!

4. **REVERSE MOUNTING:** With large end of the taper out, slide sheave onto shaft as far as possible. Install shaft key. (See shaft key note in #3 above.) Install bushing onto shaft so tapered end will mate



Standard Mounting
Fig. 1



Reverse Mounting
Fig. 2

with sheave. (See wedging note in #3 above.) If using the setscrew, tighten it enough to prevent the bushing from sliding on the shaft. **Caution: Do not over tighten setscrew!** Pull the sheave up on the bushing, aligning the drilled holes in the bushing flange with the tapped holes in the sheave. Loosely thread the capscrews with lockwashers into the assembly.

DO NOT USE LUBRICANT ON THE CAPSCREWS!

5. Using a torque wrench, tighten all capscrews evenly and progressively in rotation to the torque value in Table. There must be a gap between the bushing flange and sheave hub when installation is complete.

DO NOT OVER TORQUE! DO NOT ATTEMPT TO CLOSE GAP BETWEEN BUSHING FLANGE AND SHEAVE HUB!

Drive Installation

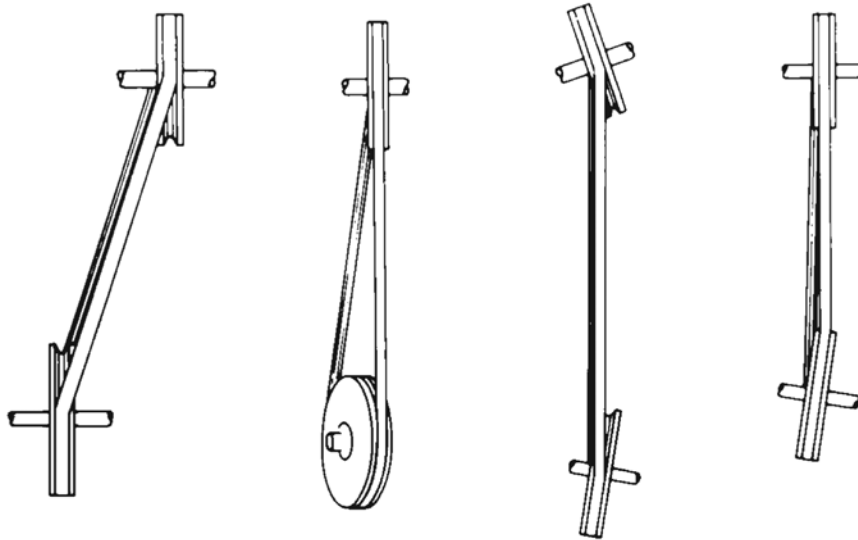
To Remove:

1. Relieve drive tension by shortening the center distance between driver and driven sheaves.
2. Lift off belts.
3. Loosen and remove cap screws. If the bushings have keyway setscrews, loosen them.
4. As shown below, insert cap screws (three in JA through J bushings, two in QT and M thru W bushings and four in S bushing) in tapped removal holes and progressively tighten each one until mating part is loose on bushing. (Exception: If mating part is installed with cap screws heads next to motor, with insufficient room to insert screws in tapped holes, loosen cap screws and use wedge between bushing flange and mating part.)
5. Remove mating part from bushing, and if necessary, bushing from shaft.



Sure-Grip Bushing Screw Tightening Information

Tapered Bushing	Size & Thread of Cap Screw	Ft.-Lbs. To Apply with Torque Wrench
QT	1/4 - 20	9
JA	No. 10 - 24	5
SH-SDS-SD	1/4 - 20	9
SK	5/16 - 18	15
SF	3/8 - 16	30
E	1/2 - 13	60
F	9/16 - 12	110
J	5/8 - 11	135
M	3/4 - 10	225
N	7/8 - 9	300
P	1 - 8	450
W	1 1/8 - 7	600
S	1 1/4 - 7	750
CAUTION: The tightening force on the screws is multiplied many times by the wedging action of the tapered surface. If extreme tightening force is applied, or if a lubricant is used, bursting pressures will be created in the hub of the mating part.		



Check Alignment

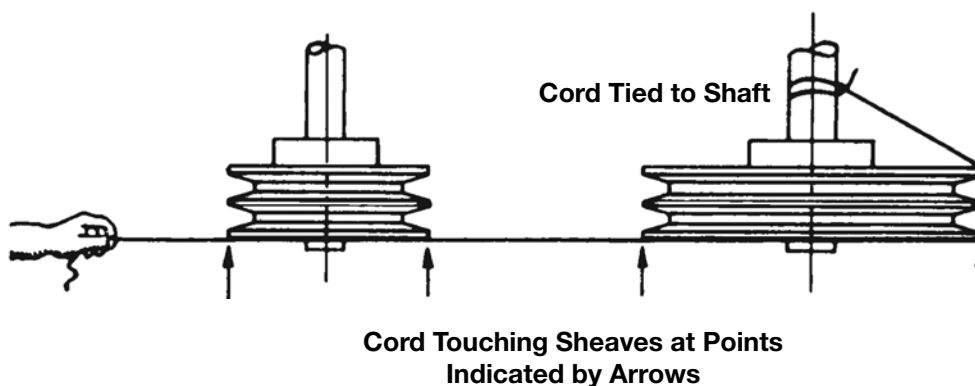
Although alignment is not as critical in V-belt drives as in others, proper alignment is essential to long belt and sheave life.

First, make sure that drive shafts are parallel. The most common causes of misalignment are non-parallel shafts and improperly located sheaves. Where shafts are not parallel, belts on one side are drawn tighter and pull more than their share of the load. As a result, these belts wear out faster, requiring the entire set to be replaced before it has given maximum service. If misalignment is in the sheave, belts will enter and leave the grooves at an angle, causing excessive belt cover and sheave wear.

Shaft alignment can be checked by measuring the distance between the shafts at three or more locations. If the distances are equal, then the shafts will be parallel.

To check the location of the sheaves on the shafts, a straightedge or a piece of string can be used. If the sheaves are properly lined up, the string will touch them at the points indicated by the arrows in the accompanying sketch. Rotating each sheave a half revolution will determine whether the sheave is wobbly or the drive shaft is bent. Correct any misalignment.

With sheaves aligned, tighten cap screws evenly and progressively. Apply the recommended torque to cap screws as listed in table on page 10. NOTE: There should be 1/8" to 1/4" gap between the mating part hub and the bushing flange. If the gap is closed, the shaft is seriously undersize.



Drive Installation

Install Belts

Shorten the center distance between the driven and the driver sheave so the belts can be put on without the use of force.

While the belts are still loose on the drive, rotate the drive until all the slack is on one side. Then increase the center distance until the belts are snug. The drive is now ready for tensioning.

NOTE: Never “roll” or “pry” the belts into the sheave grooves. This can damage the belt cords and lead to belt turnover, short life or actual breakage. Moreover, it is both difficult and unsafe to install belts this way.

Keep takeup rails, motor base or other means of center distance adjustment free of dirt, rust and grit. Lubricate adjusting screws and slide rails from time to time.

No!



When belts are forced into the sheave with a screwdriver or other wedge, the outer fabric is often ruptured and cords broken.

Yes!



It is well worth the time to move the driver unit forward so V-belts can be slipped easily into the sheave groove without damage.

Center Distance Allowance for Installation and Take-Up (Inches)

Narrow Belt

Belt Length	For Installation (Subtract)						For Take-Up (Add)
	3VX & 3V	3V Banded	5VX & 5V	5V Banded	8VX & 8V	8V Banded	All Cross Sections
250 thru 475	0.5	1.2	-	-	-	-	1.0
500 thru 710	0.8	1.4	1.0	-	2.1	-	1.2
750 thru 1060	0.8	1.4	1.0	1.5	2.1	3.4	1.5
1120 thru 1250	0.8	1.4	1.0	1.5	2.1	3.4	1.8
1320 thru 1700	0.8	1.4	1.0	1.5	2.1	3.4	2.2
1800 thru 20000	-	-	1.0	1.8	2.1	3.6	2.5
2120 thru 2360	-	-	1.2	1.8	2.4	3.6	3.0
2500 thru 2650	-	-	1.2	1.8	2.4	3.6	3.2
2800 thru 3000	-	-	1.2	1.8	2.4	3.6	3.5
3150 thru 3550	-	-	1.2	2.0	2.4	4.0	4.0
3750	-	-	-	2.0	-	4.0	4.5
4000 thru 5000	-	-	-	2.0	-	4.0	5.5

Classical Belts

Belt Length Designation	For Installation (Subtract)							For Take-Up (Add)
	AX & AP	BX & BP	BX & BP Banded	CX & CP	CX & CP Banded	DX & DP	DX & DP Banded	All Cross Sections
21 thru 35	0.8	1.0	1.5	-	-	-	-	1.0
36 thru 55	0.8	1.0	1.5	1.5	2.0	-	-	1.5
56 thru 85	0.8	1.2	1.6	1.5	2.0	-	-	2.0
86 thru 112	1.0	1.2	1.6	1.5	2.0	-	-	2.5
116 thru 144	1.0	1.3	1.8	1.5	2.1	2.0	2.9	3.0
148 thru 180	-	1.3	1.8	2.0	2.2	2.0	3.0	3.5
191 thru 210	-	1.5	1.9	2.0	2.3	2.0	3.2	4.0
225 thru 240	-	1.5	2.0	2.0	2.5	2.5	3.2	4.5
255 thru 300	-	1.5	2.2	2.0	2.5	2.5	3.5	5.0
315 thru 390	-	-	-	2.0	2.7	2.5	3.6	6.0
420 and Over	-	-	-	2.5	2.9	3.0	4.1	1.5% of belt length

OPEN SCREW PUMP GROUTING SAFETY PROCEDURES

GENERAL

To grout the *Lakeside* Open Screw Pumps trough, use the Screw to distribute most of the grout. The installing crew with its own supervisor performs this work. *Lakeside* does provide an advisor to assist in answering any technical questions.

REQUIREMENTS

In order to reduce the risk of injury, the following requirements or their equivalent must be provided.

1. Disconnects, which are capable of being locked out, must be provided on the prime power lines to each pump.
2. A pushbutton control must be provided at a point where the pump grouting crew can be observed.
 - Station a person at that control who can understand English as well as any other language being used.
 - This person is to guard the control to prevent it from accidentally being turned on while the crew is grouting.
 - Unless a control is located in such a place that the person can observe the grouting operation, it is necessary to provide a temporary control.
3. Provide adequate railings to prevent anyone from falling into the pump trough.
4. Provide protection to prevent anyone from getting into any moving drive components such as V-belts, sheaves, couplings, etc.

ADDITIONAL INFORMATION

Additional safety notes are included in the *Lakeside* Service Book and on the approved submittal drawings. Due to the nature of the equipment and the installation process, all possibilities cannot be covered. The intent is to help you provide safe working conditions for those who are involved in the assembly and grouting of the pump(s).

Consult and work with the Project Safety Coordinator to determine that all necessary cautions and/or guarding is being provided to prevent accidents.

Revision History

REV	DATE	AUTHOR
A	08/27/2021	JH
NEW	12/20/2017	RP

Replaced SPD-251

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SCREW PUMP GROUTING INSTRUCTIONS

GENERAL

Safety Conventions

**CAUTION:**

Alerts to a potential hazard that may result in personal injury, or an unsafe practice that causes damage to equipment or property.

Purpose

These details assist in the process of grouting for the screw pump.

PREPARATION

Responsibilities

1. These grouting Instructions are based on Lakeside's field experience and information from the Portland Cement Association literature.
2. A Lakeside serviceman advises the contractor in grouting the Screw Pump. However, we cannot be responsible for grouting due to the labor involved and various regional material differences.
3. It is the responsibility of the Contractor to have the pumps set, aligned, formed, lubricated, power connected, and safety disconnect switches provided so the pump is ready for inspection by Lakeside when the service representative arrives at the job.
4. The service representative is there to check the alignment and advise supervisory personnel. He suggests and recommends when he knows something is being approached incorrectly, and so advises. However, the responsibility for a good grout job is the responsibility of the Contractor as mentioned above.

NOTE: If grout comes off the truck chute without any aid, it is too wet. If the grout needs a shovel for help off chute, it may be just right.

5. After Lakeside's inspection, address any issues.

Preliminary

1. Read Lakeside's Screw Pump Installation Instructions Drawing included in each set and each Installation and Operating Instructions Manual.
Screw Pump Installation Instructions Drawing: _____
2. Have a pressure water line on the job site with a garden hose and fine spray nozzle before the start of grouting.
3. The concrete surfaces on which the drive and upper and lower bearing base plates are set should be to be cleaned of all foreign matter, dirt, oil, etc. before setting the base plates
4. These concrete surfaces should be well wetted before grouting.

Mixing Grout

1. When preparing or ordering grout, request a 1 to 2 grout mix (1 part cement to 2 parts sand). This is 14 bags of cement to 1 yard of #8 sieve sand. By weight, this represents 1400 pounds of cement to 2300 pounds of sand.

The minimum acceptable grout mix is 1 part cement to 3 parts sand. This is approximately 10 bags of cement to 1 yard of #8 sieve sand. By weight this represents 1000 pounds of cement to 2300 pounds of sand.

2. Whatever the grout mix, it must be stiff. The slump should not exceed 1-2 inches. This expedites the grouting process, generates the least amount of shrinkage, and provides the strongest grout. In most applications, the initial 14 bag mix is recommended; however, the weather is sometimes a determining factor. For example, on a very hot, dry day a weaker mix may be desired if only to prolong the workability of the grout.
3. When mixing the first batch, or truck, of grout for the trough, use enough water added to the dry material to produce a rather stiff mixture. Then, if required, water may be added in small increments until the desired consistency is secured. The same total amount of water should be used in the next truck.

Preparing the Site

1. Refer to the Lakeside Installation Drawing furnished in the Lakeside manual. Be sure the screed bars are straight (not bent) to insure the proper clearance between the screw and trough is maintained.

Lakeside Installation Drawing Number: _____

2. Check the gear box for proper lubrication and lubrication level. Install the grouting sheaves. Complete coupling alignment, if required. Check motor for correct rotation before installing belts. See Screw Pump installation instructions and lubrication instruction drawings for checking rotation of Screw Pump.

Screw Pump Installation Instruction Drawing: _____

Lubrication Instruction Drawing Number: _____

3. Fill the upper bearing until there is evidence of grease located at the upper seal. Fill and purge the grease line to the bottom bearing with a grease gun, then connect to grease pump and bottom bearing housing. Pump additional grease until flow is seen at grease indicator flow line. If possible, rotate the Screw Pump by hand while pumping grease into the upper and lower bearings.

Prepping to Grout

1. Install forms at top, bottom and on one side of trough as shown on Lakeside Screw Pump installation instructions.

Lakeside Screw Pump Installation Instruction: _____

2. Thoroughly clean the trough surface, removing all loose particles, grease, oil, paint, or other materials that would interfere with a good bond.

NOTE: Paint must be chipped off. Sandblasting removes paint, dirt, and skin coats of cement. Scrubbing with a 10-20% solution of muriatic acid or a strong washing soda solution is helpful in removing dirt, food products, etc.

3. Flush the surface with water to remove all acid, detergent, or washing soda. Keep wet overnight.
4. Before placing new concrete, remove any water on the surface. There should be no pools of water on the surface during the next operations.

5. Apply a bonding agent inside the screw trough for better adhesion before starting grouting.
6. Before starting to grout, run the Screw Pump for about one hour to assure that the assembly is running smoothly.
 - a. Pour the first of the grout into the trough starting about 1/4 of the way up from the bottom of the Screw. It works best if the grout is put in the trough with a chute.
 - b. Move the chute to place the grout where it is needed. Work your way up the trough.

APPLYING GROUT

CAUTION! DO NOT USE SOUPY GROUT! THE SHRINKAGE AND STRENGTH OF THE GROUT ARE INFLUENCED BY THE AMOUNT OF WATER USED. AS THE AMOUNT OF WATER IS INCREASED, SHRINKAGE INCREASES AND THE STRENGTH OF THE GROUT DECREASES. THEREFORE, THE AMOUNT OF WATER SHOULD BE KEPT TO A MINIMUM AND SHOULD BE CONTROLLED AS CAREFULLY AS THE OTHER MATERIAL.

1. Grout the base plates of the drive assembly and the upper and lower bearings with stiff grout.
 - The grout should be placed from one side of the base plate.
 - Place the grout from one location until the space is entirely filled.
 - A stiff wire or piece of wood moved back and forth in the grout helps to release trapped air, distribute the grout, and make sure of a complete contact with the bottom of the plate.

CAUTION! DO NOT STOP THE PUMP LONGER THAN 10 MINUTES AT ONE TIME TO AVOID HAVING THE GROUT SET AROUND THE SCREW. THIS IS ESPECIALLY TRUE WHEN THE TEMPERATURE IS ABOVE 80° F.

2. When the grout starts to stay in place;
 - a. Turn on the pump to aid the placement of the grout by the screed bar.
 - b. Then stop the pump.
 - c. Pack grout in with a bricklayer's trowel or by hand, under the side form used for the deflection plate.
3. After grouting is finished and the grout is partially set, spray the trough with a light mist on the carrying side of the Screw to let the Screw clean itself.

NOTE: Use a fine spray!

4. Stop the pump.
5. Finish the trough on the side opposite the deflection plate with a trowel to a slope as shown on the Lakeside drawings.

NOTE: A 15° slope is normal.

6. Run the pump until the grout is set.

CAUTION! RUNNING THE PUMP WITH A DRY SURFACE CAN DRAG ON THE FRESH GROUT.

7. Mist the trough with water to keep grout from building up on the flights of the Screw Pump.

8. Clean the Screw and trough (top and bottom) and do any other finishing in the trough that is required.
9. When finished grouting, protect the grout from drying too rapidly. Exposed grout surfaces should be protected for a couple of days by covering with burlap which is kept wet or an equal means. This precaution will prevent crazing and cracking which can accompany rapid drying. It also produces a stronger grout with a higher bonding value.
10. Let the grout set over night or at least for about four to six hours.
11. Remove the screed rods and forms. The clearance must be maintained between the flights and the grout to avoid a serious problem due to the Screw grinding. For the proper clearance, see Lakeside's Screw Pump Installation drawing.

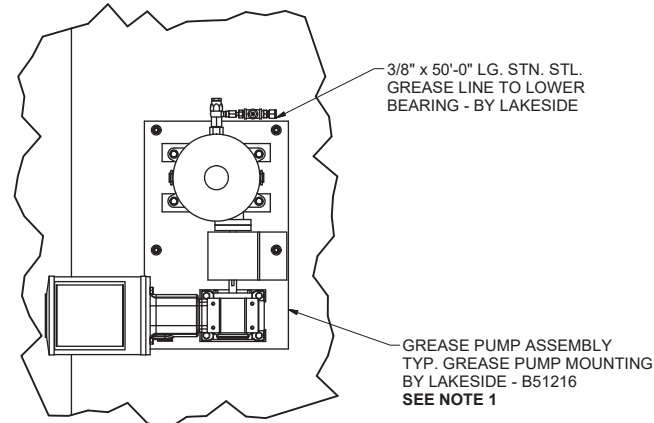
Screw Pump Installation Drawing Number: _____

Revision History

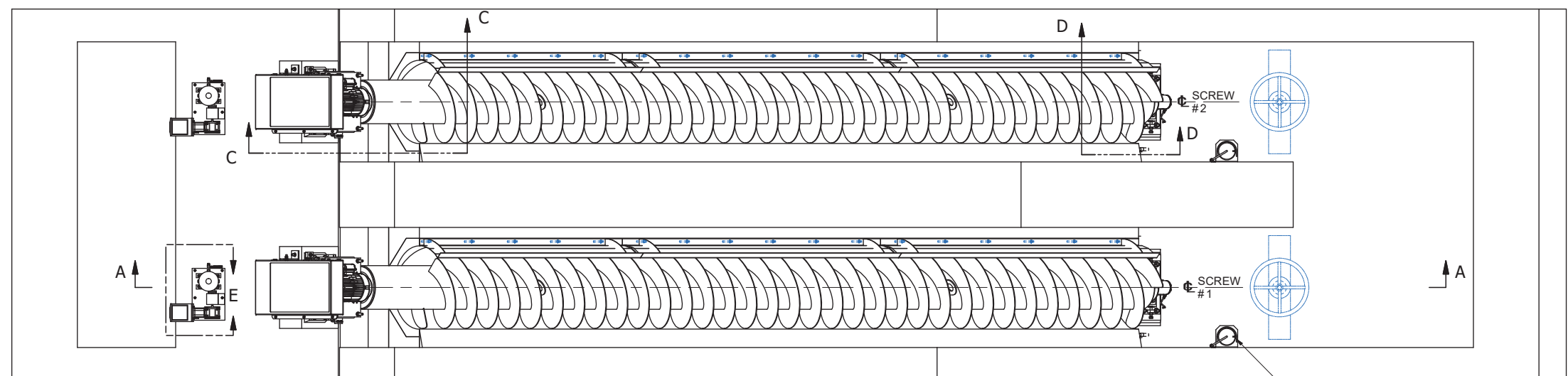
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H	12/12/2024	HAR
G	02/03/2023	JH
F	08/30/2021	JH
E	11/21/2019	RP
D	06/26/2019	RP
C	12/20/2017	RP
B	11/17/2017	RP
A	07/25/2017	RP
NEW	2017	RP/pb

Replaced SPD-261

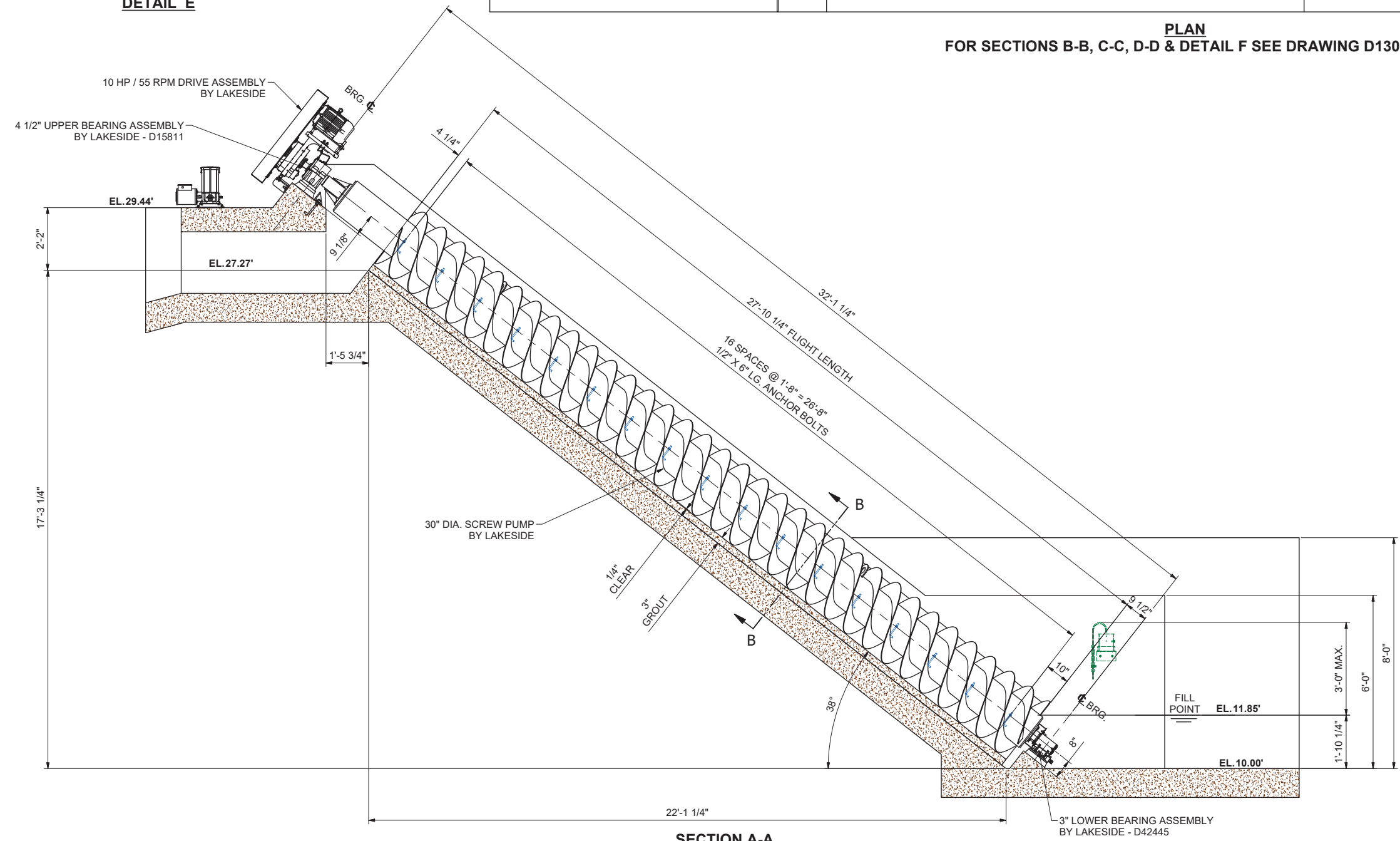
8 7 6 5 4 3 2 1



DETAIL E



PLAN
FOR SECTIONS B-B, C-C, D-D & DETAIL F SEE DRAWING D130559

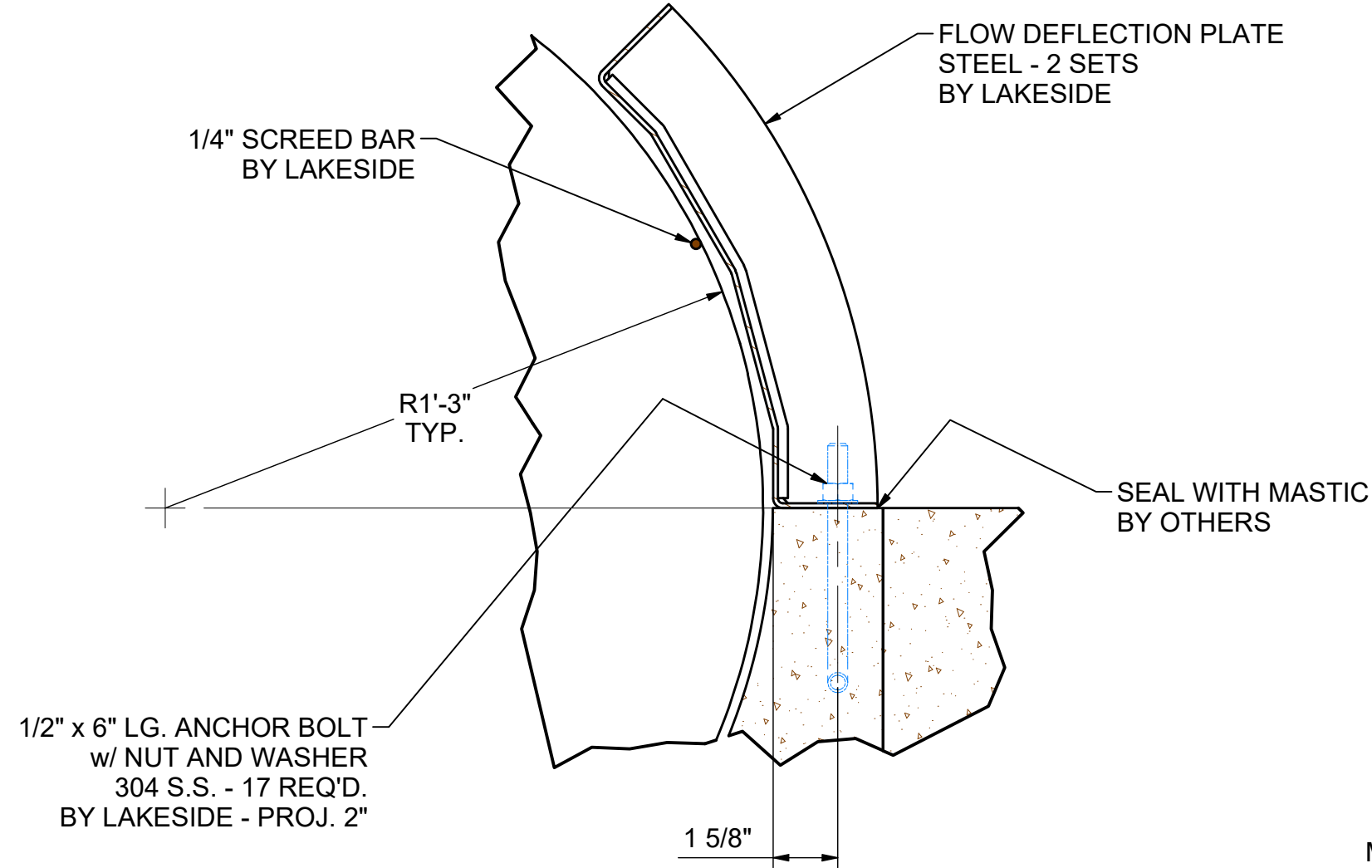


SECTION A-A

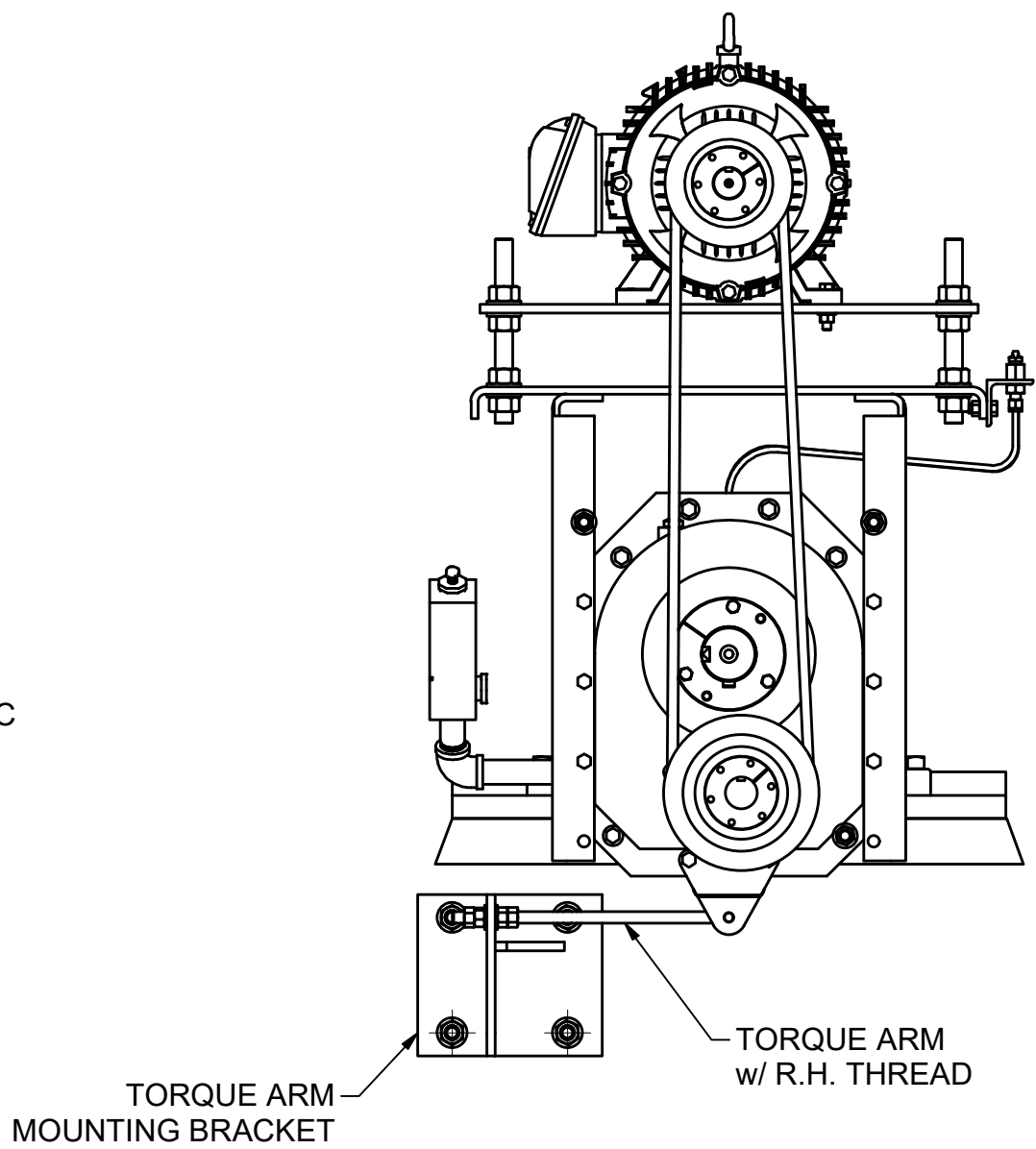
- EXISTING CONCRETE:**
CHECK ALL DIMENSIONS AND ELEVATIONS CAREFULLY. RELAY ANY DISCREPANCIES TO LAKESIDE ON OR BEFORE APPROVED DRAWINGS ARE RETURNED TO LAKESIDE.
- SAFETY WARNING:**
THERE ARE INHERENT DANGERS WHILE INSTALLING OR OPERATING ELECTRICALLY POWERED MECHANICAL EQUIPMENT. CONSULT AND WORK WITH YOUR PROJECT SAFETY COORDINATOR TO DETERMINE ALL NECESSARY CAUTION IS EXERCISED AND GUARDING IS BEING PROVIDED TO PREVENT ACCIDENTS.
- CONTRACTOR NOTES:**
1) GREASE PUMP LOCATION IS DISCRETIONARY. LEAVE AMPLE ROOM TO FIELD WIRE MOTOR, DRILL CONCRETE FOR 3/8" x 3 3/4" EXPANSION ANCHOR, 4 - REQ'D. / PUMP BY LAKESIDE.
2) ALL ANCHOR BOLTS SHOULD BE FASTENED TO RE-BAR.
3) DO NOT SCALE DRAWING.
4) DO NOT GROUT BEARING PLATES UNTIL AFTER ACCEPTANCE BY LAKESIDE SERVICEMAN.
5) LAKESIDE DOES NOT RECOMMEND SUBSTITUTING EXPANSION ANCHORS DUE TO VIBRATION.
6) WEIGHT OF THE SCREW WITHOUT STUB SHAFT IS 3,800 LBS.

SEE DWG. D130559 FOR VIEWS B-B, C-C, D-D, AND DETAIL F

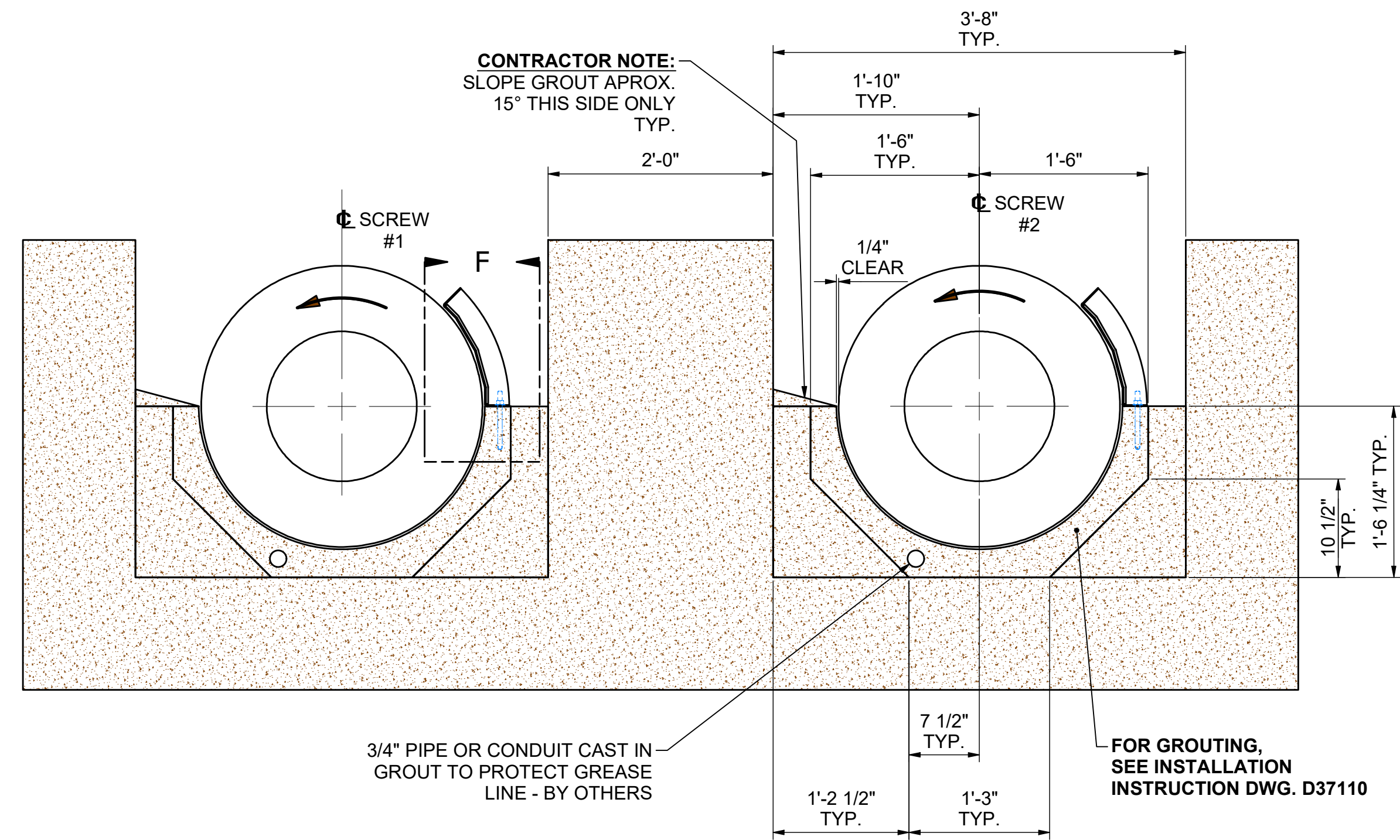
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		TITLE 30" DIA. SCREW PUMP INSTALLATION	
DRAWN JSM		DATE 5/8/2025	INVENTORY No.
CHECKED T.H.		DATE 5/29/2025	PART No.
SCALE		SIZE D	25-144
SHEET 1 OF 1		PART No. D130558	
COPYRIGHT ©2025 LAKESIDE EQUIPMENT CORPORATION		FILE No. 71	



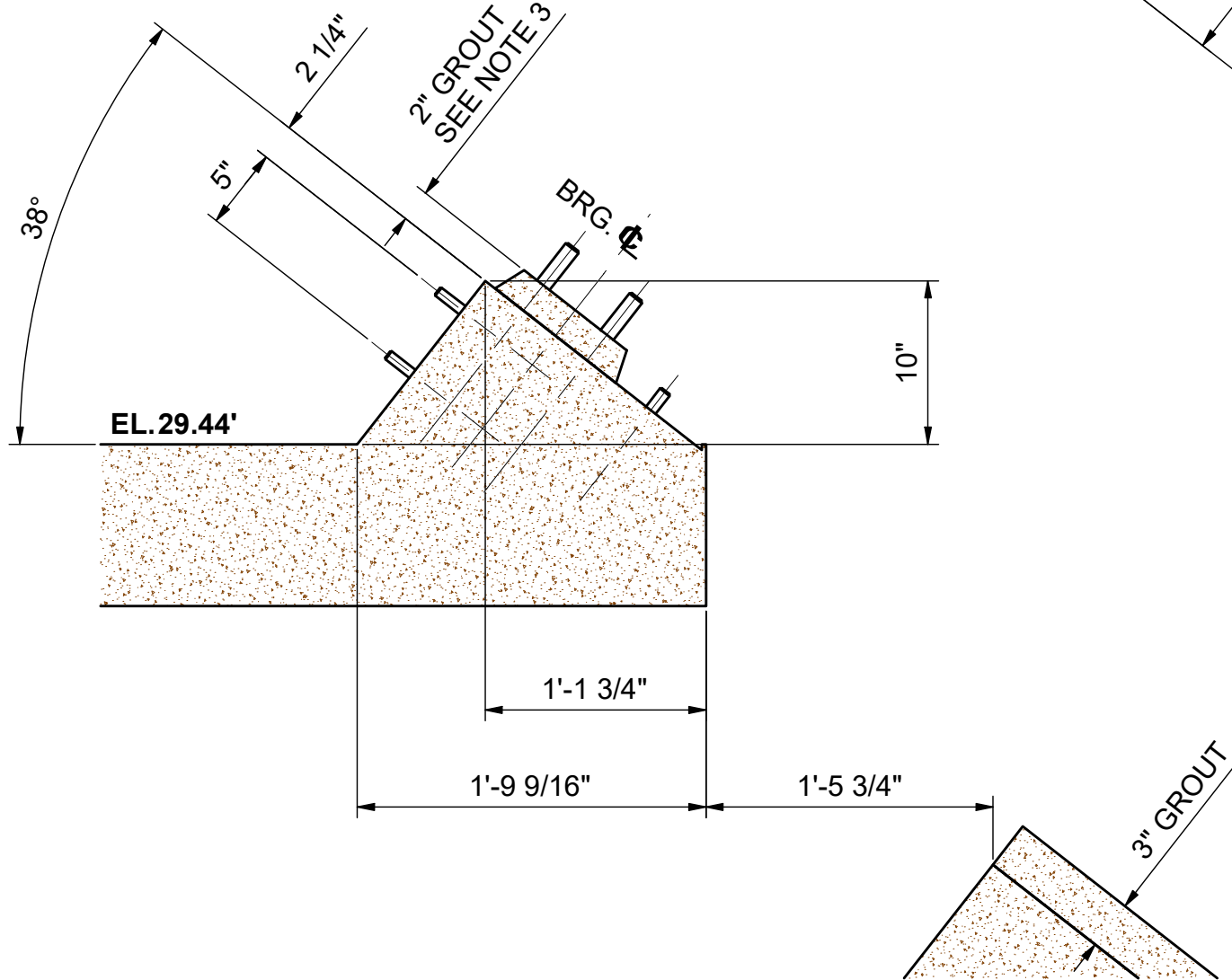
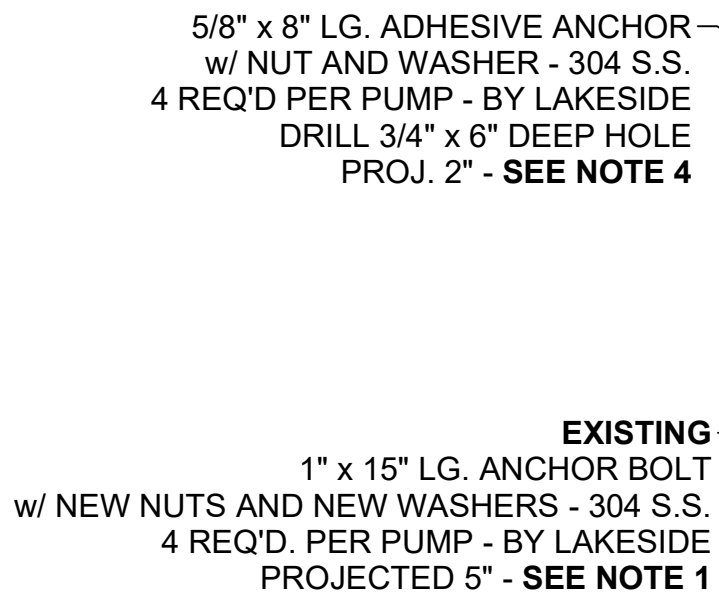
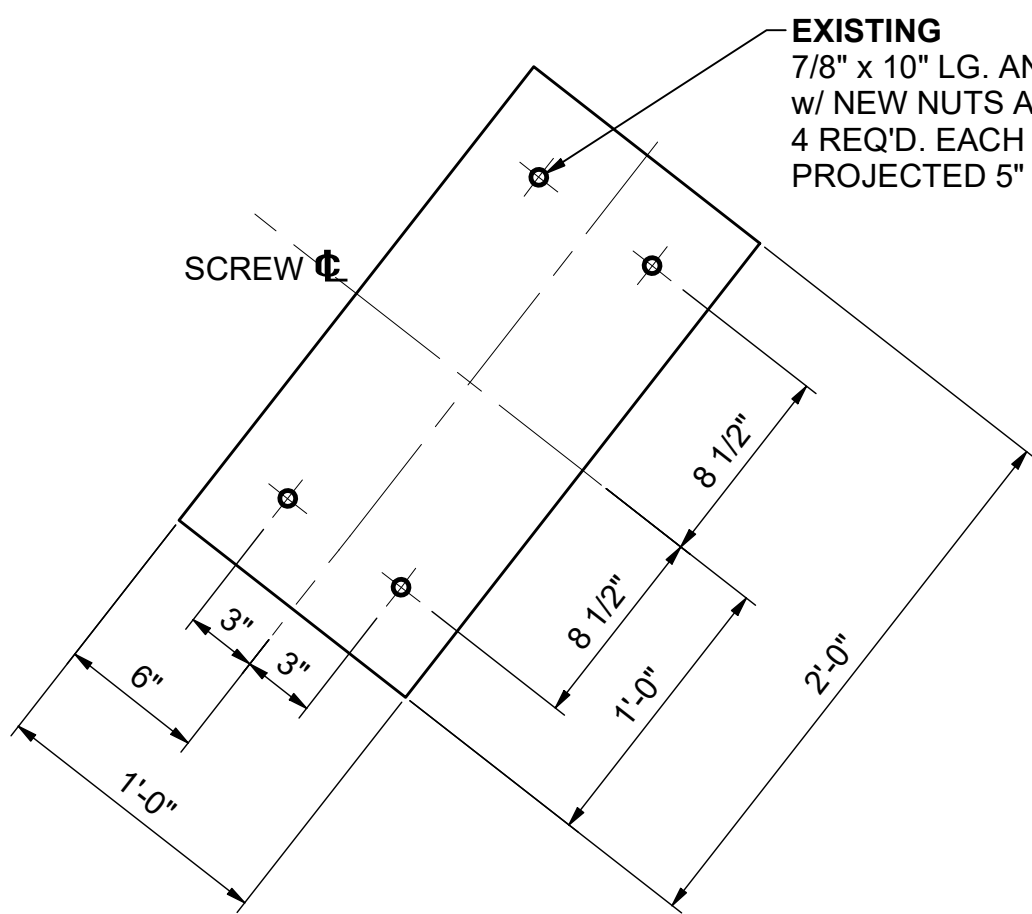
DETAIL F



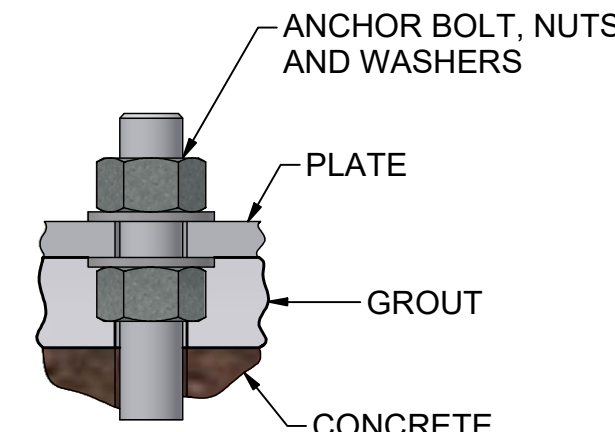
TORQUE ARM CONNECTION DETAIL



SECTION B-B



SECTION C-C



TYPICAL ANCHOR w/ GROUT

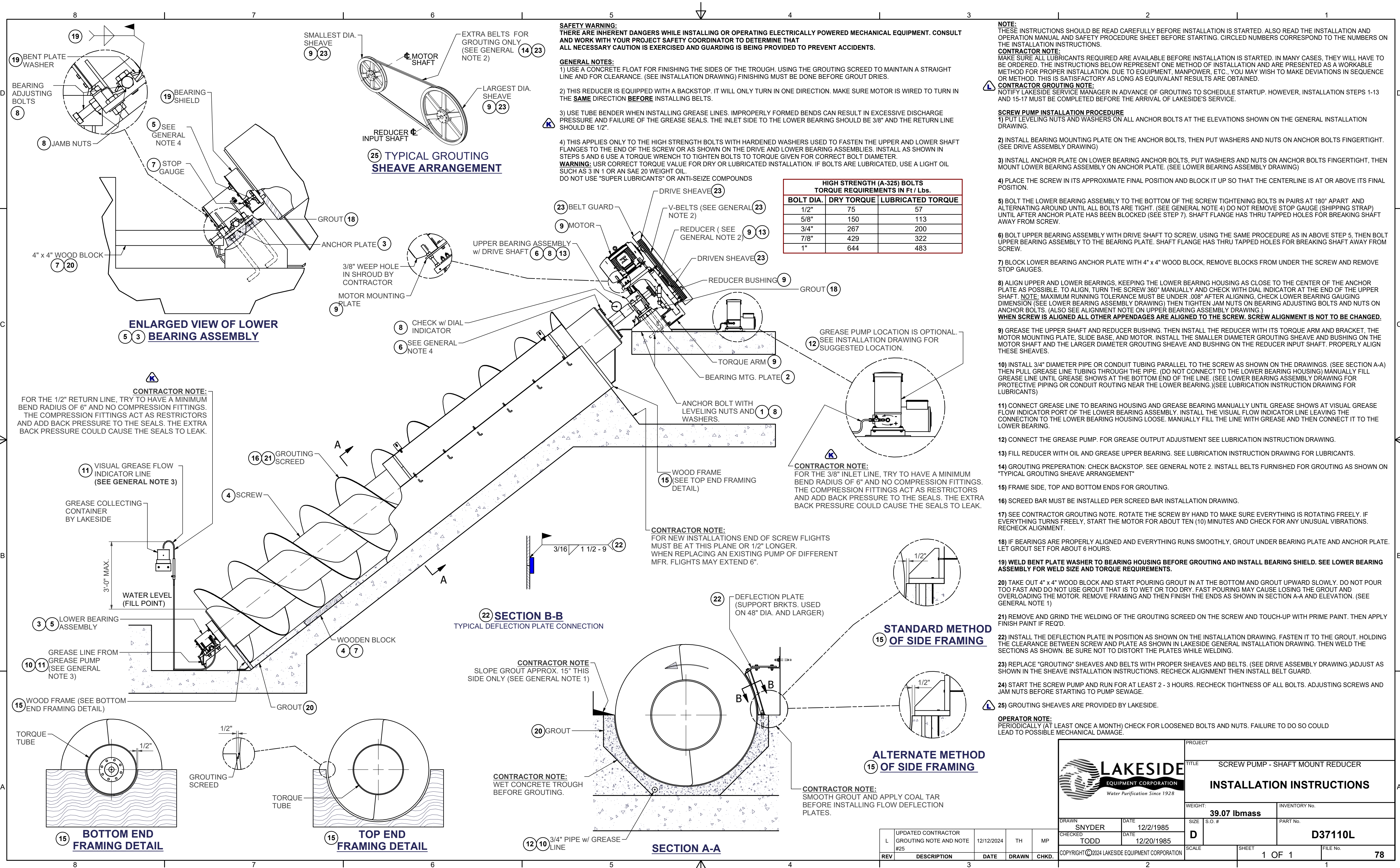
EXISTING CONCRETE:
CHECK ALL DIMENSIONS AND ELEVATIONS CAREFULLY. RELAY ANY DISCREPANCIES TO LAKESIDE ON OR BEFORE APPROVED DRAWINGS ARE RETURNED TO LAKESIDE.

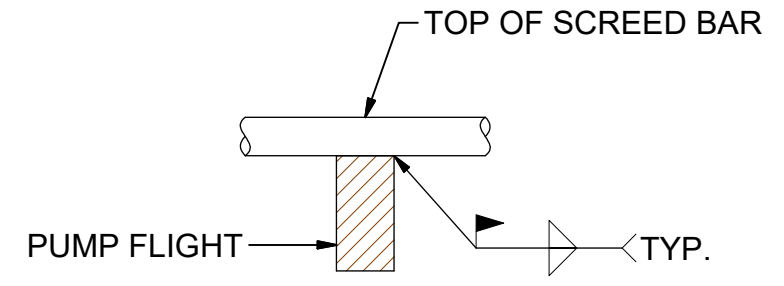
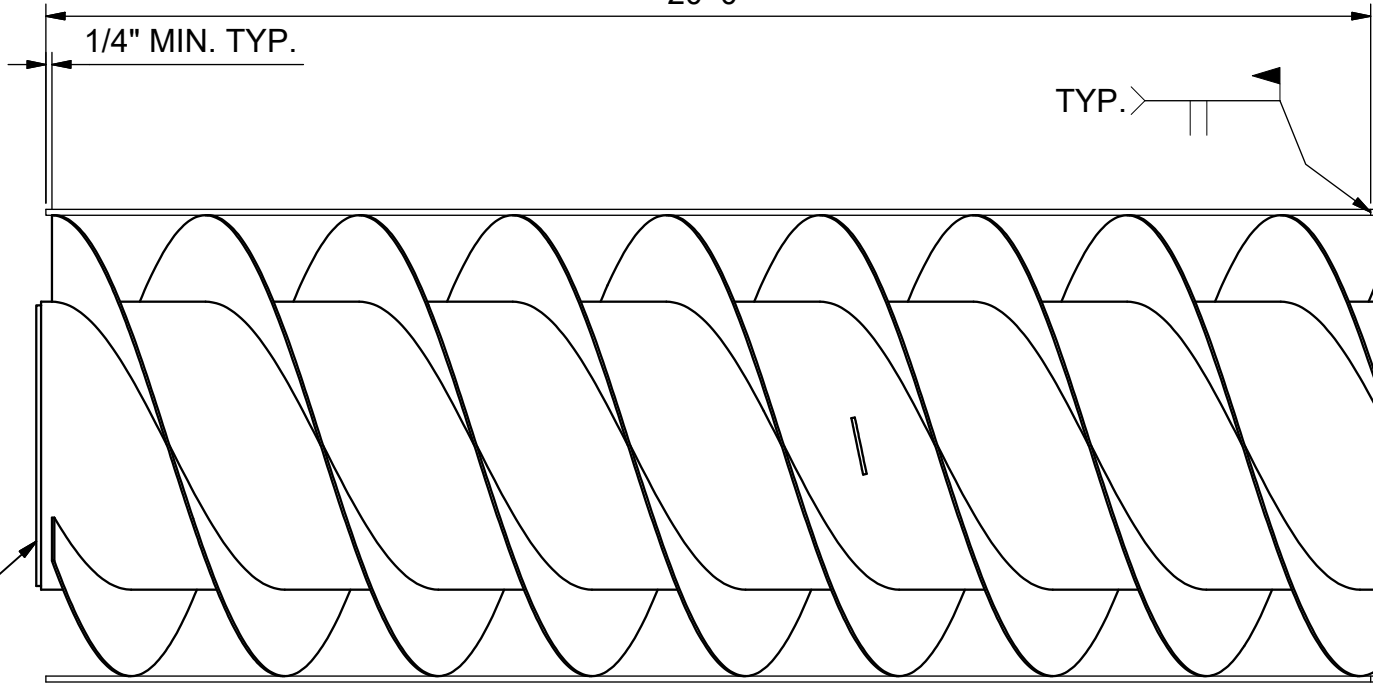
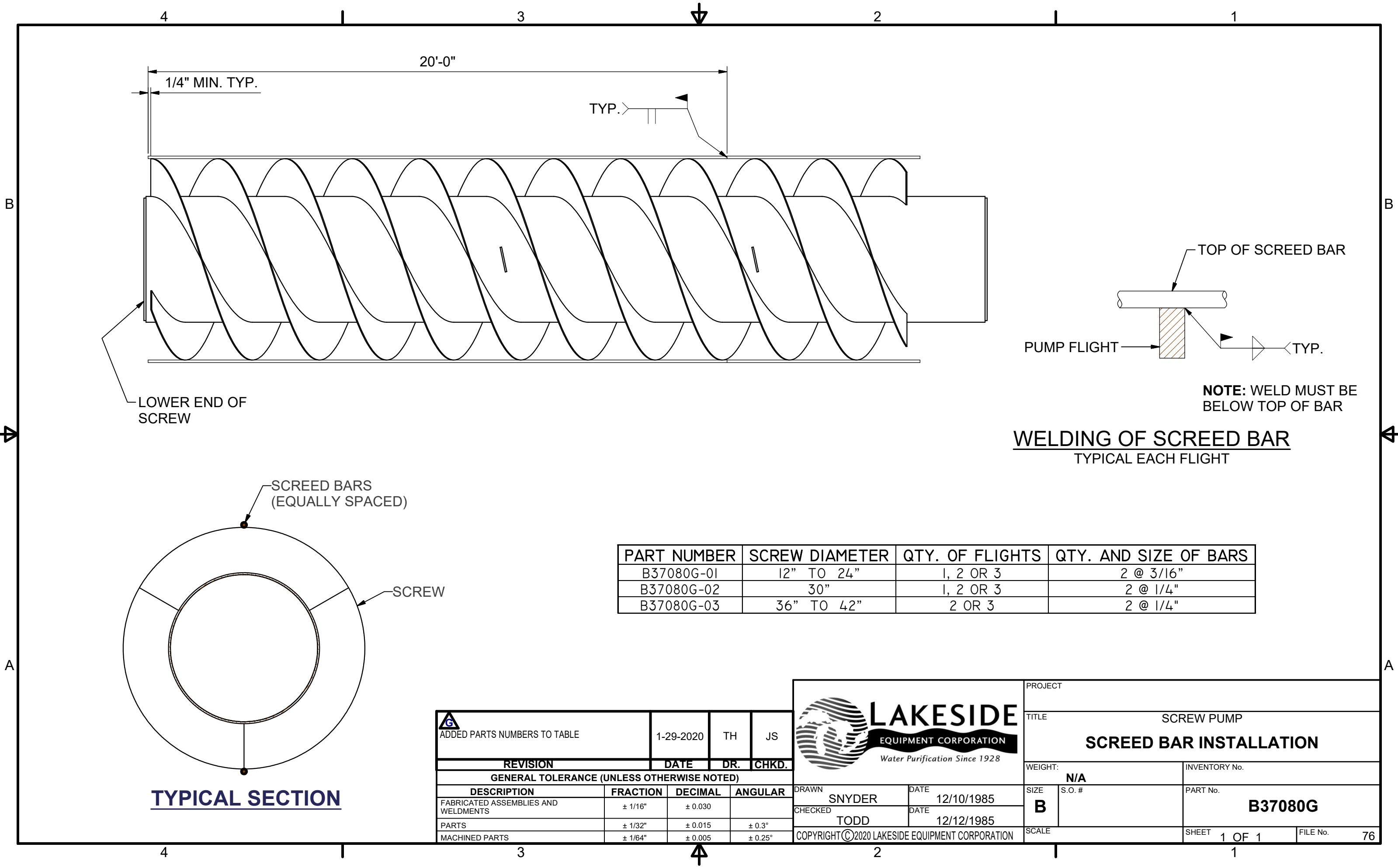
SAFETY WARNING:
THERE ARE INHERENT DANGERS WHILE INSTALLING OR OPERATING ELECTRICALLY POWERED MECHANICAL EQUIPMENT. CONSULT AND WORK WITH YOUR PROJECT SAFETY COORDINATOR TO DETERMINE ALL NECESSARY CAUTION IS EXERCISED AND GUARDING IS BEING PROVIDED TO PREVENT ACCIDENTS.

CONTRACTOR NOTES:
1) ALL ANCHOR BOLTS SHOULD BE FASTENED TO RE-BAR.
2) DO NOT SCALE DRAWING.
3) DO NOT GROUT BEARING PLATES UNTIL AFTER ACCEPTANCE BY LAKESIDE SERVICEMAN.
4) LAKESIDE DOES NOT RECOMMEND SUBSTITUTING EXPANSION ANCHORS DUE TO VIBRATION.

SEE DWG. D130558 FOR PLAN VIEW, SECTION A-A AND DETAIL E

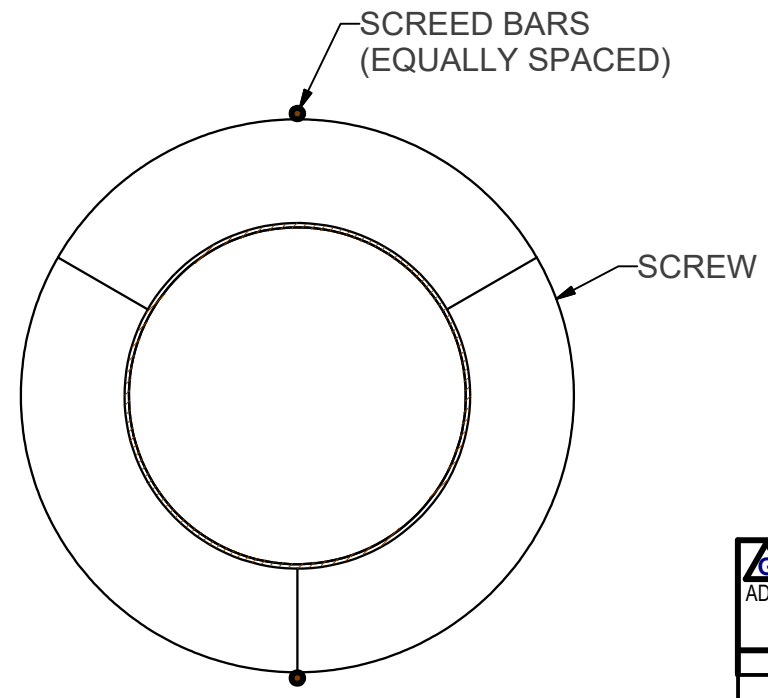
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		TITLE 30" DIA. SCREW PUMP INSTALLATION - SECTIONS	
DRAWN JSM		DATE 5/8/2025	
CHECKED TH		DATE 5/29/2025	
SCALE		SHEET 1 OF 1	
COPYRIGHT ©2025 LAKESIDE EQUIPMENT CORPORATION		FILE No. 71	
WEIGHT: N/A		INVENTORY No.	
SIZE D		PART No. D130559	
S.O. # 25-144			





NOTE: WELD MUST BE BELOW TOP OF BAR

WELDING OF SCREED BAR
TYPICAL EACH FLIGHT

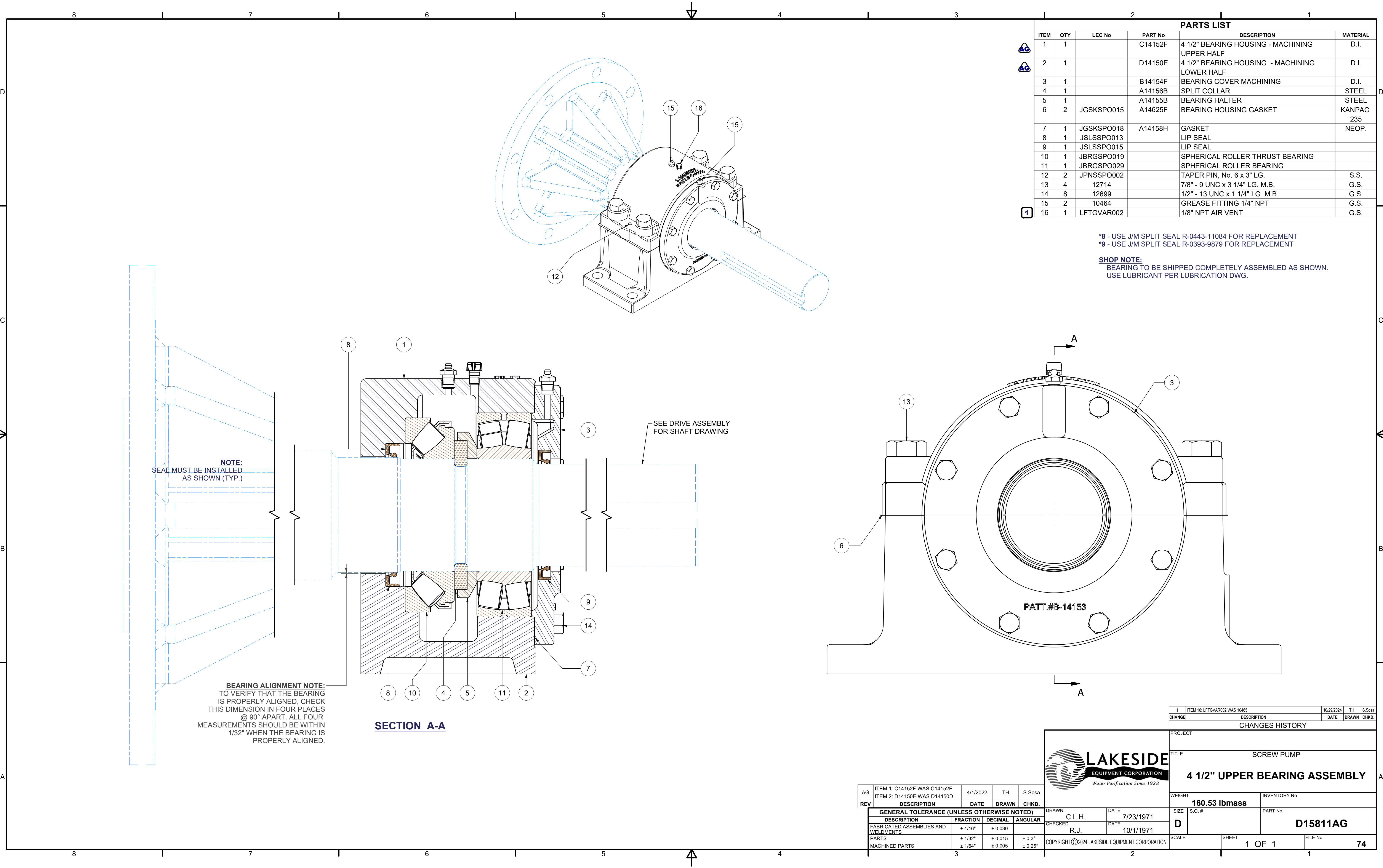


TYPICAL SECTION

PART NUMBER	SCREW DIAMETER	QTY. OF FLIGHTS	QTY. AND SIZE OF BARS
B37080G-01	12" TO 24"	1, 2 OR 3	2 @ 3/16"
B37080G-02	30"	1, 2 OR 3	2 @ 1/4"
B37080G-03	36" TO 42"	2 OR 3	2 @ 1/4"

 ADDED PARTS NUMBERS TO TABLE		1-29-2020	TH	JS
REVISION		DATE	DR.	CHKD.
GENERAL TOLERANCE (UNLESS OTHERWISE NOTED)				
DESCRIPTION	FRACTION	DECIMAL	ANGULAR	
FABRICATED ASSEMBLIES AND WELDMENTS	± 1/16"	± 0.030		
PARTS	± 1/32"	± 0.015	± 0.3°	
MACHINED PARTS	± 1/64"	± 0.005	± 0.25°	

 LAKESIDE EQUIPMENT CORPORATION <i>Water Purification Since 1928</i>		PROJECT	
		TITLE SCREW PUMP SCREED BAR INSTALLATION	
DRAWN SNYDER		DATE 12/10/1985	
CHECKED TODD		DATE 12/12/1985	
COPYRIGHT © 2020 LAKESIDE EQUIPMENT CORPORATION		WEIGHT: N/A	INVENTORY No.
		SIZE B	PART No. B37080G
		SCALE	SHEET 1 OF 1 FILE No. 76



PARTS LIST					
ITEM	QTY	LEC No	PART No	DESCRIPTION	MATERIAL
1	1		C14152F	4 1/2" BEARING HOUSING - MACHINING UPPER HALF	D.I.
2	1		D14150E	4 1/2" BEARING HOUSING - MACHINING LOWER HALF	D.I.
3	1		B14154F	BEARING COVER MACHINING	D.I.
4	1		A14156B	SPLIT COLLAR	STEEL
5	1		A14155B	BEARING HALTER	STEEL
6	2	JGSKSPO015	A14625F	BEARING HOUSING GASKET	KANPAC 235
7	1	JGSKSPO018	A14158H	GASKET	NEOP.
8	1	JSLSSPO013		LIP SEAL	
9	1	JSLSSPO015		LIP SEAL	
10	1	JBRGSP0019		SPHERICAL ROLLER THRUST BEARING	
11	1	JBRGSP0029		SPHERICAL ROLLER BEARING	
12	2	JPNSSPO002		TAPER PIN, No. 6 x 3" LG.	S.S.
13	4	12714		7/8" - 9 UNC x 3 1/4" LG. M.B.	G.S.
14	8	12699		1/2" - 13 UNC x 1 1/4" LG. M.B.	G.S.
15	2	10464		GREASE FITTING 1/4" NPT	G.S.
16	1	LFTGVAR002		1/8" NPT AIR VENT	G.S.

*8 - USE J/M SPLIT SEAL R-0443-11084 FOR REPLACEMENT
*9 - USE J/M SPLIT SEAL R-0393-9879 FOR REPLACEMENT

SHOP NOTE:
BEARING TO BE SHIPPED COMPLETELY ASSEMBLED AS SHOWN.
USE LUBRICANT PER LUBRICATION DWG.

1	ITEM 16: LFTGVAR002 WAS 10465	10/29/2024	TH	S.Sosa
CHANGE	DESCRIPTION	DATE	DRAWN	CHKD.

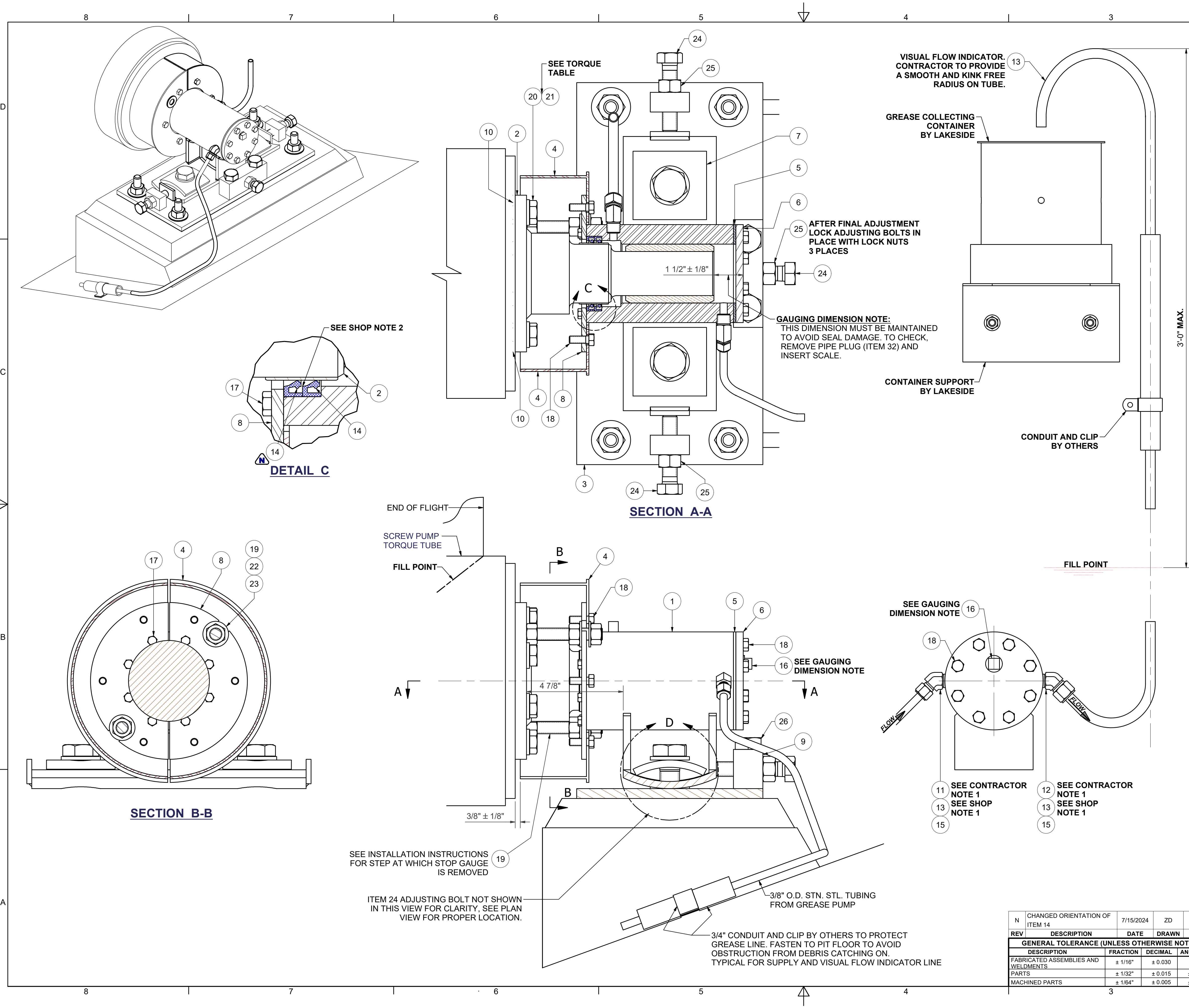
CHANGES HISTORY



AG	ITEM 1: C14152F WAS C14152E ITEM 2: D14150E WAS D14150D	4/1/2022	TH	S.Sosa
REV	DESCRIPTION	DATE	DRAWN	CHKD.
GENERAL TOLERANCE (UNLESS OTHERWISE NOTED)				
DESCRIPTION	FRACTION	DECIMAL	ANGULAR	
FABRICATED ASSEMBLIES AND WELDMENTS	± 1/16"	± 0.030		
PARTS	± 1/32"	± 0.015	± 0.3°	
MACHINED PARTS	± 1/64"	± 0.005	± 0.25°	

DRAWN	C.L.H.	DATE	7/23/1971
CHECKED	R.J.	DATE	10/1/1971
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PROJECT		TITLE	
		SCREW PUMP	
		4 1/2" UPPER BEARING ASSEMBLY	
WEIGHT:	160.53 lbmass	INVENTORY No.	
SIZE	S.O. #	PART No.	D15811AG
SCALE		SHEET	1 OF 1
FILE No.			74



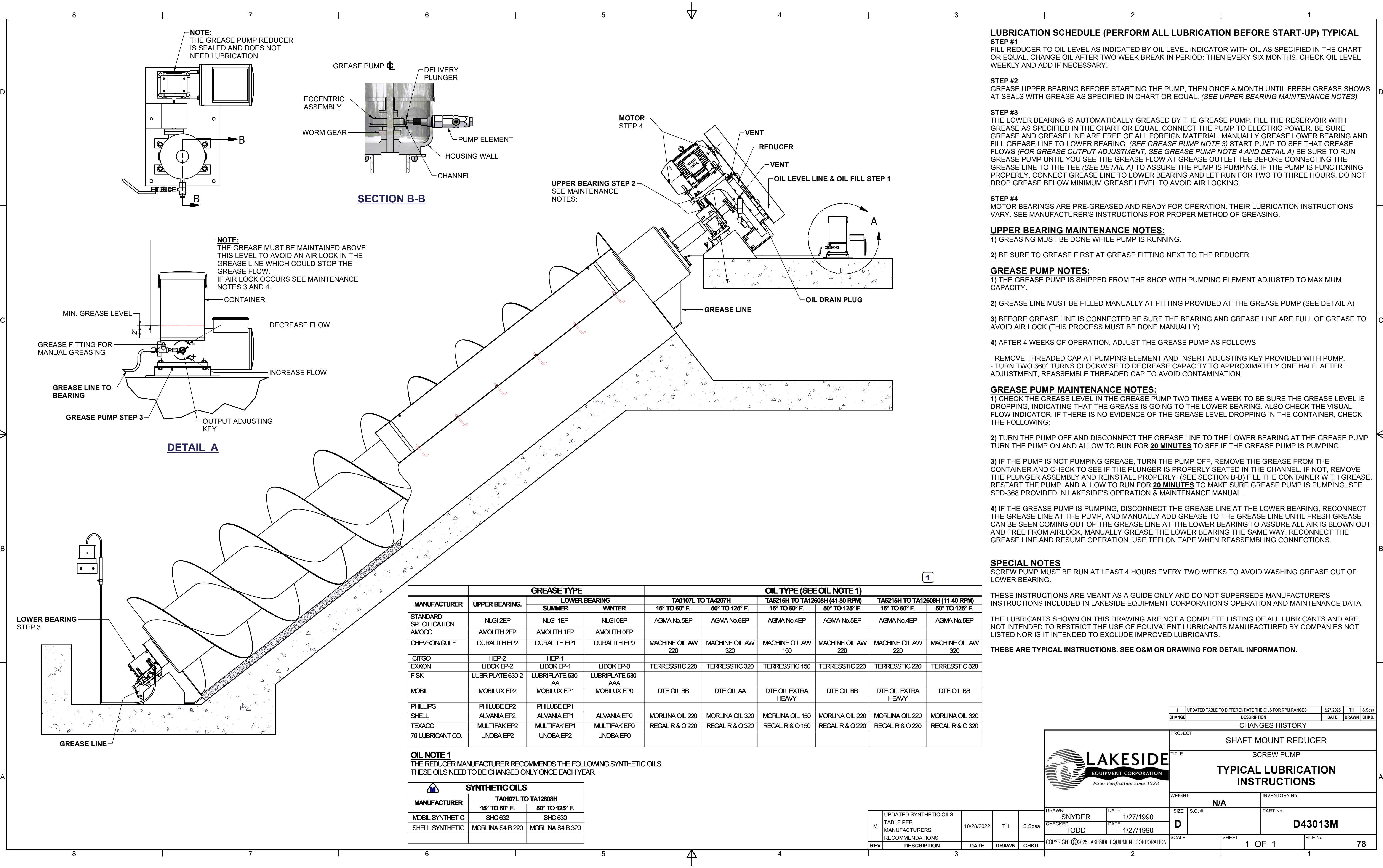
PARTS LIST					
ITEM	QTY	LEC No	PART No	DESCRIPTION	MATERIAL
1	1		D65984C	3" LOWER BEARING HOUSING	STEEL
2	1		D65986D	LOWER BEARING SHAFT ASSEMBLY	
3	1		B65980A	ANCHOR / BEARING MTG. PLATE	STEEL
4	2		B65979A	BEARING SHIELD	STEEL
5	1		A22718B	BEARING HOUSING END CAP GASKET	NEOP.
6	1		A65981B	BEARING HOUSING END CAP	STEEL
7	2		A66089C	BENT PLATE WASHER	STEEL
8	1		A65983A	SEAL RETAINER	STEEL
9	1		A65978A	BEARING ADJUSTING BLOCK	STEEL
10	1	JGSKSPO006	A16205F	LOWER SHAFT FLANGE GASKET	KANPAC 235
11	1	LFTGVAR067		45° MALE ELBOW COMPRESSION FITTING 3/8" P.T. x 3/8" TUBE	BRASS
12	1	LFTGVAR066		45° MALE ELBOW COMPRESSION FITTING 3/8" P.T. x 1/2" TUBE	BRASS
13	15.000 ft	LTUBVAR002		1/2" O.D. TUBING	304 S.S.
14	2	JSLSSPO007		LIP SEAL	
15	2	11708		3/8" SQUARE HEAD PLUG	S.S.
16	1	10014		1/2" SQUARE HEAD PLUG	S.S.
17	8	10109		1/4" - 20 UNC x 3/4" LG. M.B.	S.S.
18	14	10121		3/8" - 16 UNC x 1" LG. M.B.	S.S.
19	2	15092		5/8" - 11 UNC x 4 1/2" LG. THREADED ROD	S.S.
20	8	13437		5/8" - 11 UNC x 2" LG. M.B.	A-325
21	8	11033		5/8" HARDENED FLAT WASHER, 1 5/16" O.D. x 21/32" I.D.	STEEL
22	6	10199		5/8" - 11 UNC NUT	S.S.
23	4	10215		5/8" STD. FLAT WASHER	S.S.
24	3	13537		3/4" - 10 UNC x 3 1/2" LG. FULL THREAD M.B.	S.S.
25	3	10200		3/4" - 10 UNC NUT	S.S.
26	2	10176		7/8" - 9 UNC x 2 3/4" LG. M.B.	S.S.
27	2	10018		1" - 8 UNC x 2 1/2" LG. M.B.	A-325
28	2	10027		1" HARDENED FLAT WASHER 2" O.D x 1 1/16" I.D.	STEEL

HIGH STRENGTH (A-325) BOLTS TORQUE REQUIREMENTS IN Ft / Lbs.		
BOLT DIA.	DRY TORQUE	* LUBRICATED TORQUE
5/8"	150	113
* USE LIGHT OIL SUCH AS 3 IN 1 OR AN SAE 20. DO NOT USE "SUPER LUBRICANTS" OR ANTI-SEIZE COMPOUNDS.		

SHOP NOTE:
1) PACK WITH GREASE AND PLUG BOTH HOLES WITH ITEM 15, BEFORE SHIPPING.
2) PACK GREASE IN CAVITY OF SEALS.
3) ITEMS 3, 4, 7, 9, 10 THRU 13, 20, 21, 24 THRU 28 SHIPPED LOOSE FOR FIELD INSTALLATION.
CONTRACTOR NOTE:
1) FILL GREASE LINES WITH GREASE, REMOVE PLUGS (ITEM 15) AND ATTACH TO BEARING WITH FITTINGS (ITEMS 11 AND 12)

 LAKESIDE EQUIPMENT CORPORATION <i>Water Purification Since 1928</i>		PROJECT			
		TITLE			
		SCREW PUMP			
		3" LOWER BEARING ASSEMBLY			
WEIGHT:		138.09 lbmass		INVENTORY No.	
DRAWN	DATE	SIZE	S.O. #		PART No.
SNYDER	8/22/1989	D			D42445N
CHECKED	DATE				
TODD	8/25/1989	SCALE		SHEET	FILE No.
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REV	DESCRIPTION	DATE	DRAWN	CHKD.
N	CHANGED ORIENTATION OF ITEM 14	7/15/2024	ZD	TH
GENERAL TOLERANCE (UNLESS OTHERWISE NOTED)				
DESCRIPTION	FRACTION	DECIMAL	ANGULAR	
FABRICATED ASSEMBLIES AND WELDMENTS	± 1/16"	± 0.030		
PARTS	± 1/32"	± 0.015	± 0.3°	
MACHINED PARTS	± 1/64"	± 0.005	± 0.25°	



LUBRICATION SCHEDULE (PERFORM ALL LUBRICATION BEFORE START-UP) TYPICAL

STEP #1
FILL REDUCER TO OIL LEVEL AS INDICATED BY OIL LEVEL INDICATOR WITH OIL AS SPECIFIED IN THE CHART OR EQUAL. CHANGE OIL AFTER TWO WEEK BREAK-IN PERIOD: THEN EVERY SIX MONTHS. CHECK OIL LEVEL WEEKLY AND ADD IF NECESSARY.

STEP #2
GREASE UPPER BEARING BEFORE STARTING THE PUMP, THEN ONCE A MONTH UNTIL FRESH GREASE SHOWS AT SEALS WITH GREASE AS SPECIFIED IN CHART OR EQUAL. (SEE UPPER BEARING MAINTENANCE NOTES)

STEP #3
THE LOWER BEARING IS AUTOMATICALLY GREASED BY THE GREASE PUMP. FILL THE RESERVOIR WITH GREASE AS SPECIFIED IN THE CHART OR EQUAL. CONNECT THE PUMP TO ELECTRIC POWER. BE SURE GREASE AND GREASE LINE ARE FREE OF ALL FOREIGN MATERIAL. MANUALLY GREASE LOWER BEARING AND FILL GREASE LINE TO LOWER BEARING. (SEE GREASE PUMP NOTE 3) START PUMP TO SEE THAT GREASE FLOWS (FOR GREASE OUTPUT ADJUSTMENT, SEE GREASE PUMP NOTE 4 AND DETAIL A) BE SURE TO RUN GREASE PUMP UNTIL YOU SEE THE GREASE FLOW AT GREASE OUTLET TEE BEFORE CONNECTING THE GREASE LINE TO THE TEE (SEE DETAIL A) TO ASSURE THE PUMP IS PUMPING. IF THE PUMP IS FUNCTIONING PROPERLY, CONNECT GREASE LINE TO LOWER BEARING AND LET RUN FOR TWO TO THREE HOURS. DO NOT DROP GREASE BELOW MINIMUM GREASE LEVEL TO AVOID AIR LOCKING.

STEP #4
MOTOR BEARINGS ARE PRE-GREASED AND READY FOR OPERATION. THEIR LUBRICATION INSTRUCTIONS VARY. SEE MANUFACTURER'S INSTRUCTIONS FOR PROPER METHOD OF GREASING.

UPPER BEARING MAINTENANCE NOTES:

- 1) GREASING MUST BE DONE WHILE PUMP IS RUNNING.
- 2) BE SURE TO GREASE FIRST AT GREASE FITTING NEXT TO THE REDUCER.

GREASE PUMP NOTES:

- 1) THE GREASE PUMP IS SHIPPED FROM THE SHOP WITH PUMPING ELEMENT ADJUSTED TO MAXIMUM CAPACITY.
- 2) GREASE LINE MUST BE FILLED MANUALLY AT FITTING PROVIDED AT THE GREASE PUMP (SEE DETAIL A)
- 3) BEFORE GREASE LINE IS CONNECTED BE SURE THE BEARING AND GREASE LINE ARE FULL OF GREASE TO AVOID AIR LOCK (THIS PROCESS MUST BE DONE MANUALLY)
- 4) AFTER 4 WEEKS OF OPERATION, ADJUST THE GREASE PUMP AS FOLLOWS.

- REMOVE THREADED CAP AT PUMPING ELEMENT AND INSERT ADJUSTING KEY PROVIDED WITH PUMP.
- TURN TWO 360° TURNS CLOCKWISE TO DECREASE CAPACITY TO APPROXIMATELY ONE HALF. AFTER ADJUSTMENT, REASSEMBLE THREADED CAP TO AVOID CONTAMINATION.

GREASE PUMP MAINTENANCE NOTES:

- 1) CHECK THE GREASE LEVEL IN THE GREASE PUMP TWO TIMES A WEEK TO BE SURE THE GREASE LEVEL IS DROPPING, INDICATING THAT THE GREASE IS GOING TO THE LOWER BEARING. ALSO CHECK THE VISUAL FLOW INDICATOR. IF THERE IS NO EVIDENCE OF THE GREASE LEVEL DROPPING IN THE CONTAINER, CHECK THE FOLLOWING:
- 2) TURN THE PUMP OFF AND DISCONNECT THE GREASE LINE TO THE LOWER BEARING AT THE GREASE PUMP. TURN THE PUMP ON AND ALLOW TO RUN FOR **20 MINUTES** TO SEE IF THE GREASE PUMP IS PUMPING.
- 3) IF THE PUMP IS NOT PUMPING GREASE, TURN THE PUMP OFF, REMOVE THE GREASE FROM THE CONTAINER AND CHECK TO SEE IF THE PLUNGER IS PROPERLY SEATED IN THE CHANNEL. IF NOT, REMOVE THE PLUNGER ASSEMBLY AND REINSTALL PROPERLY. (SEE SECTION B-B) FILL THE CONTAINER WITH GREASE, RESTART THE PUMP, AND ALLOW TO RUN FOR **20 MINUTES** TO MAKE SURE GREASE PUMP IS PUMPING. SEE SPD-368 PROVIDED IN LAKESIDE'S OPERATION & MAINTENANCE MANUAL.
- 4) IF THE GREASE PUMP IS PUMPING, DISCONNECT THE GREASE LINE AT THE LOWER BEARING, RECONNECT THE GREASE LINE AT THE PUMP, AND MANUALLY ADD GREASE TO THE GREASE LINE UNTIL FRESH GREASE CAN BE SEEN COMING OUT OF THE GREASE LINE AT THE LOWER BEARING TO ASSURE ALL AIR IS BLOWN OUT AND FREE FROM AIRLOCK. MANUALLY GREASE THE LOWER BEARING THE SAME WAY. RECONNECT THE GREASE LINE AND RESUME OPERATION. USE TEFLON TAPE WHEN REASSEMBLING CONNECTIONS.

SPECIAL NOTES

SCREW PUMP MUST BE RUN AT LEAST 4 HOURS EVERY TWO WEEKS TO AVOID WASHING GREASE OUT OF LOWER BEARING.

THESE INSTRUCTIONS ARE MEANT AS A GUIDE ONLY AND DO NOT SUPERSEDE MANUFACTURER'S INSTRUCTIONS INCLUDED IN LAKESIDE EQUIPMENT CORPORATION'S OPERATION AND MAINTENANCE DATA.

THE LUBRICANTS SHOWN ON THIS DRAWING ARE NOT A COMPLETE LISTING OF ALL LUBRICANTS AND ARE NOT INTENDED TO RESTRICT THE USE OF EQUIVALENT LUBRICANTS MANUFACTURED BY COMPANIES NOT LISTED NOR IS IT INTENDED TO EXCLUDE IMPROVED LUBRICANTS.

THESE ARE TYPICAL INSTRUCTIONS. SEE O&M OR DRAWING FOR DETAIL INFORMATION.

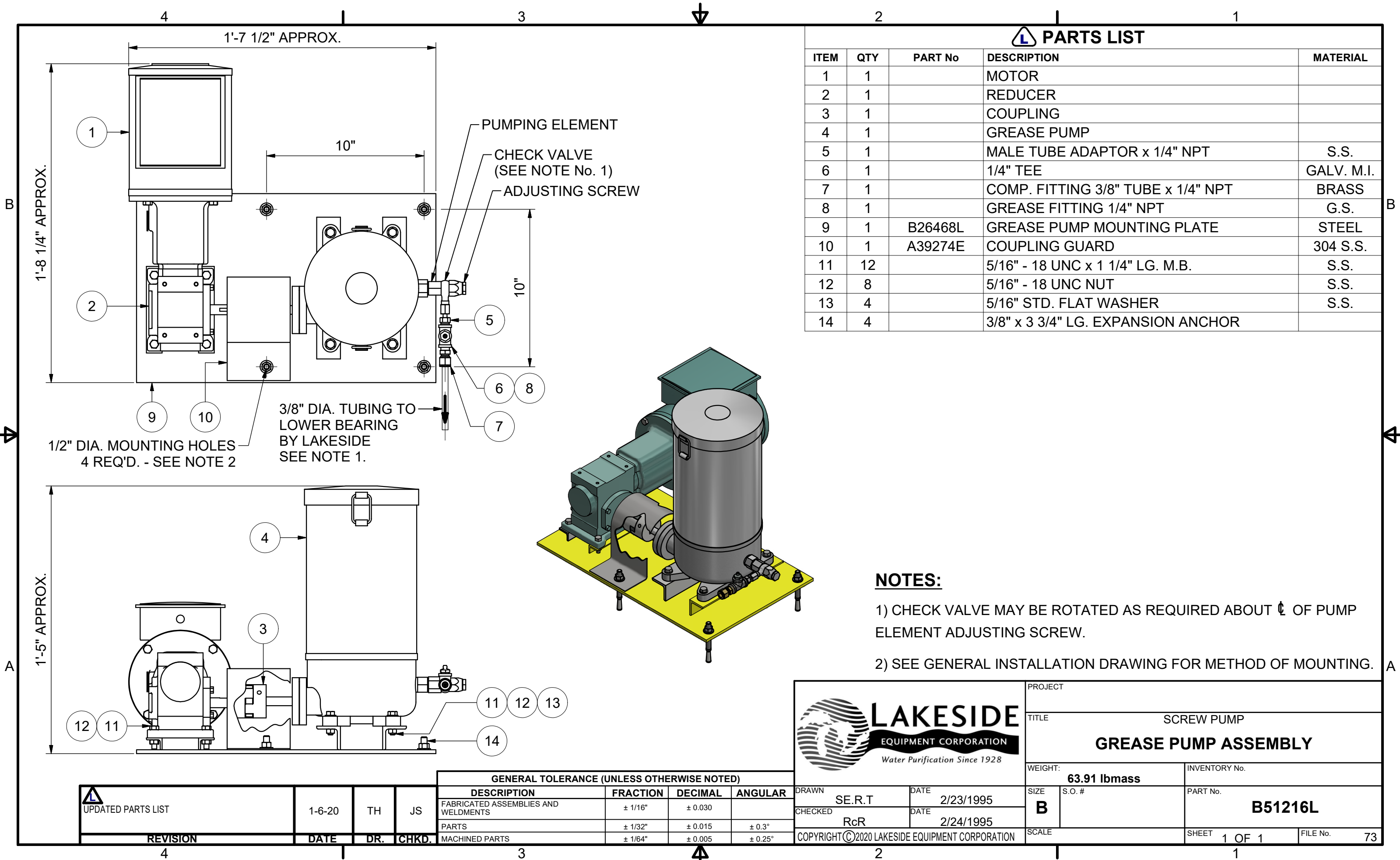
MANUFACTURER	GREASE TYPE			OIL TYPE (SEE OIL NOTE 1)					
	UPPER BEARING.	LOWER BEARING		TA0107L TO TA4207H		TA5215H TO TA12608H (41-80 RPM)		TA5215H TO TA12608H (11-40 RPM)	
		SUMMER	WINTER	15° TO 60° F.	50° TO 125° F.	15° TO 60° F.	50° TO 125° F.	15° TO 60° F.	50° TO 125° F.
STANDARD SPECIFICATION	NLGI 2EP	NLGI 1EP	NLGI 0EP	AGMA No.5EP	AGMA No.6EP	AGMA No.4EP	AGMA No.5EP	AGMA No.4EP	AGMA No.5EP
AMOCO	AMOLITH 2EP	AMOLITH 1EP	AMOLITH 0EP						
CHEVRON/GULF	DURALITH EP2	DURALITH EP1	DURALITH EP0	MACHINE OIL AW 220	MACHINE OIL AW 320	MACHINE OIL AW 150	MACHINE OIL AW 220	MACHINE OIL AW 220	MACHINE OIL AW 320
QTGO	HEP-2	HEP-1							
EXXON	LIDOK EP-2	LIDOK EP-1	LIDOK EP-0	TERRESSTIC 220	TERRESSTIC 320	TERRESSTIC 150	TERRESSTIC 220	TERRESSTIC 220	TERRESSTIC 320
FSK	LUBRIPLATE 630-2	LUBRIPLATE 630-AA	LUBRIPLATE 630-AAA						
MOBIL	MOBILUX EP2	MOBILUX EP1	MOBILUX EP0	DTE OIL BB	DTE OIL AA	DTE OIL EXTRA HEAVY	DTE OIL BB	DTE OIL EXTRA HEAVY	DTE OIL BB
PHILLIPS	PHILUBE EP2	PHILUBE EP1							
SHELL	ALVANIA EP2	ALVANIA EP1	ALVANIA EP0	MORLINA OIL 220	MORLINA OIL 320	MORLINA OIL 150	MORLINA OIL 220	MORLINA OIL 220	MORLINA OIL 320
TEXACO	MULTIFAK EP2	MULTIFAK EP1	MULTIFAK EP0	REGAL R & O 220	REGAL R & O 320	REGAL R & O 150	REGAL R & O 220	REGAL R & O 220	REGAL R & O 320
76 LUBRICANT CO.	UNOBA EP2	UNOBA EP2	UNOBA EP0						

OIL NOTE 1
THE REDUCER MANUFACTURER RECOMMENDS THE FOLLOWING SYNTHETIC OILS. THESE OILS NEED TO BE CHANGED ONLY ONCE EACH YEAR.

SYNTHETIC OILS		
MANUFACTURER	TA0107L TO TA12608H	
	15° TO 60° F.	50° TO 125° F.
MOBIL SYNTHETIC	SHC 632	SHC 630
SHELL SYNTHETIC	MORLINA S4 B 220	MORLINA S4 B 320

M	UPDATED SYNTHETIC OILS	10/28/2022	TH	S.Sosa
	TABLE PER MANUFACTURERS RECOMMENDATIONS			
REV	DESCRIPTION	DATE	DRAWN	CHKD.

LAKESIDE EQUIPMENT CORPORATION Water Purification Since 1928	1 UPDATED TABLE TO DIFFERENTIATE THE OILS FOR RPM RANGES				TH	S.Sosa
	CHANGE	DESCRIPTION	DATE	DRAWN	CHKD.	
CHANGES HISTORY						
PROJECT SHAFT MOUNT REDUCER						
TITLE SCREW PUMP						
TYPICAL LUBRICATION INSTRUCTIONS						
WEIGHT:		N/A		INVENTORY No.		
DRAWN SNYDER		DATE 1/27/1990		SIZE S.O. #		
CHECKED TODD		DATE 1/27/1990		PART No.		
D		D		D43013M		
SCALE		SHEET		FILE No.		
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PARTS LIST				
ITEM	QTY	PART No	DESCRIPTION	MATERIAL
1	1		MOTOR	
2	1		REDUCER	
3	1		COUPLING	
4	1		GREASE PUMP	
5	1		MALE TUBE ADAPTOR x 1/4" NPT	S.S.
6	1		1/4" TEE	GALV. M.I.
7	1		COMP. FITTING 3/8" TUBE x 1/4" NPT	BRASS
8	1		GREASE FITTING 1/4" NPT	G.S.
9	1	B26468L	GREASE PUMP MOUNTING PLATE	STEEL
10	1	A39274E	COUPLING GUARD	304 S.S.
11	12		5/16" - 18 UNC x 1 1/4" LG. M.B.	S.S.
12	8		5/16" - 18 UNC NUT	S.S.
13	4		5/16" STD. FLAT WASHER	S.S.
14	4		3/8" x 3 3/4" LG. EXPANSION ANCHOR	

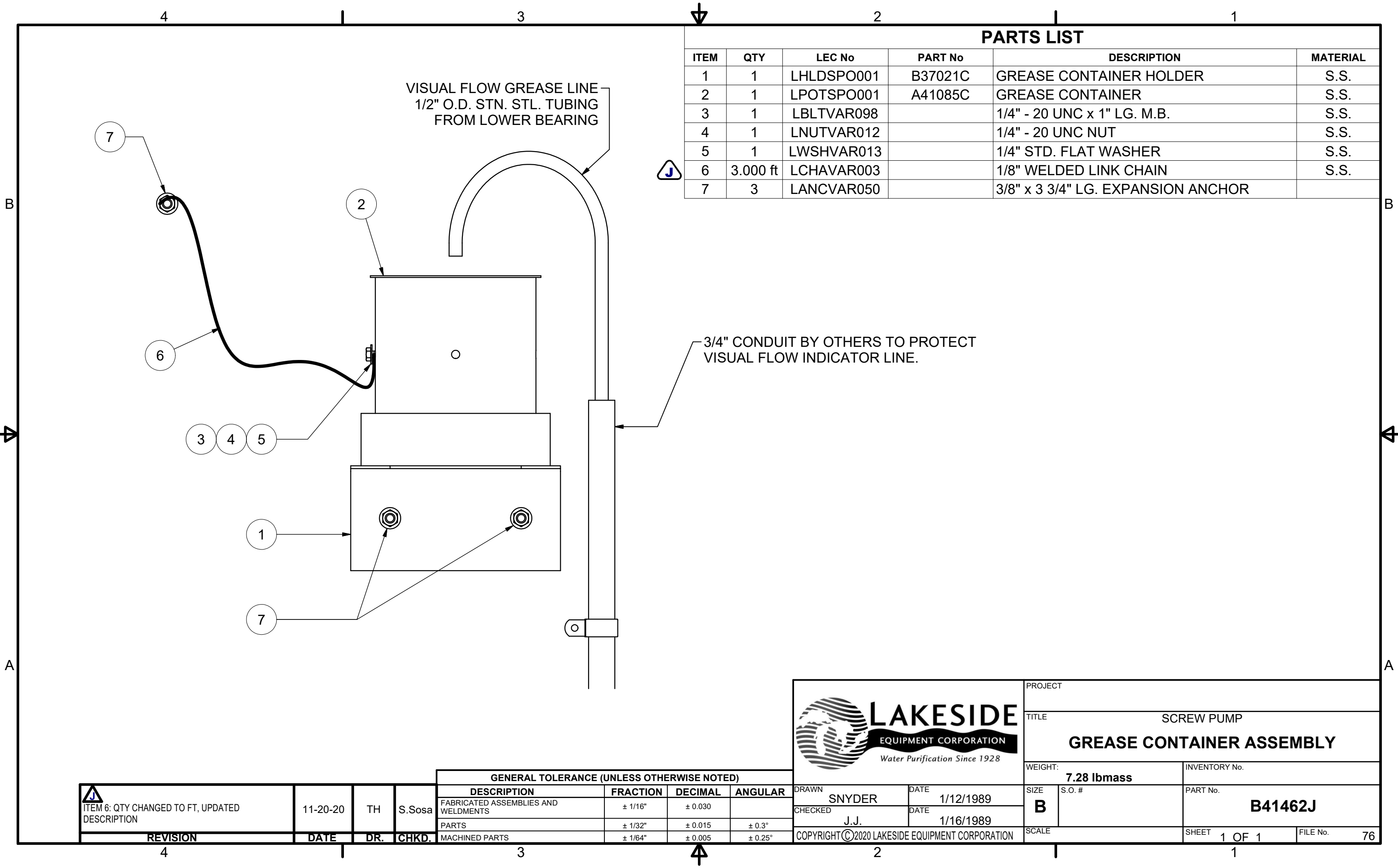
NOTES:

1) CHECK VALVE MAY BE ROTATED AS REQUIRED ABOUT $\perp$ OF PUMP ELEMENT ADJUSTING SCREW.

2) SEE GENERAL INSTALLATION DRAWING FOR METHOD OF MOUNTING.

GENERAL TOLERANCE (UNLESS OTHERWISE NOTED)				
DESCRIPTION	FRACTION	DECIMAL	ANGULAR	
FABRICATED ASSEMBLIES AND WELDMENTS	± 1/16"	± 0.030		
PARTS	± 1/32"	± 0.015	± 0.3°	
MACHINED PARTS	± 1/64"	± 0.005	± 0.25°	

 LAKESIDE EQUIPMENT CORPORATION <i>Water Purification Since 1928</i>		PROJECT			
		TITLE SCREW PUMP GREASE PUMP ASSEMBLY			
		WEIGHT: 63.91 lbmass		INVENTORY No.	
		SIZE B		S.O. #	
DRAWN SE.R.T		DATE 2/23/1995		PART No. B51216L	
CHECKED RcR		DATE 2/24/1995			
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				SHEET 1 OF 1	
				FILE No. 73	

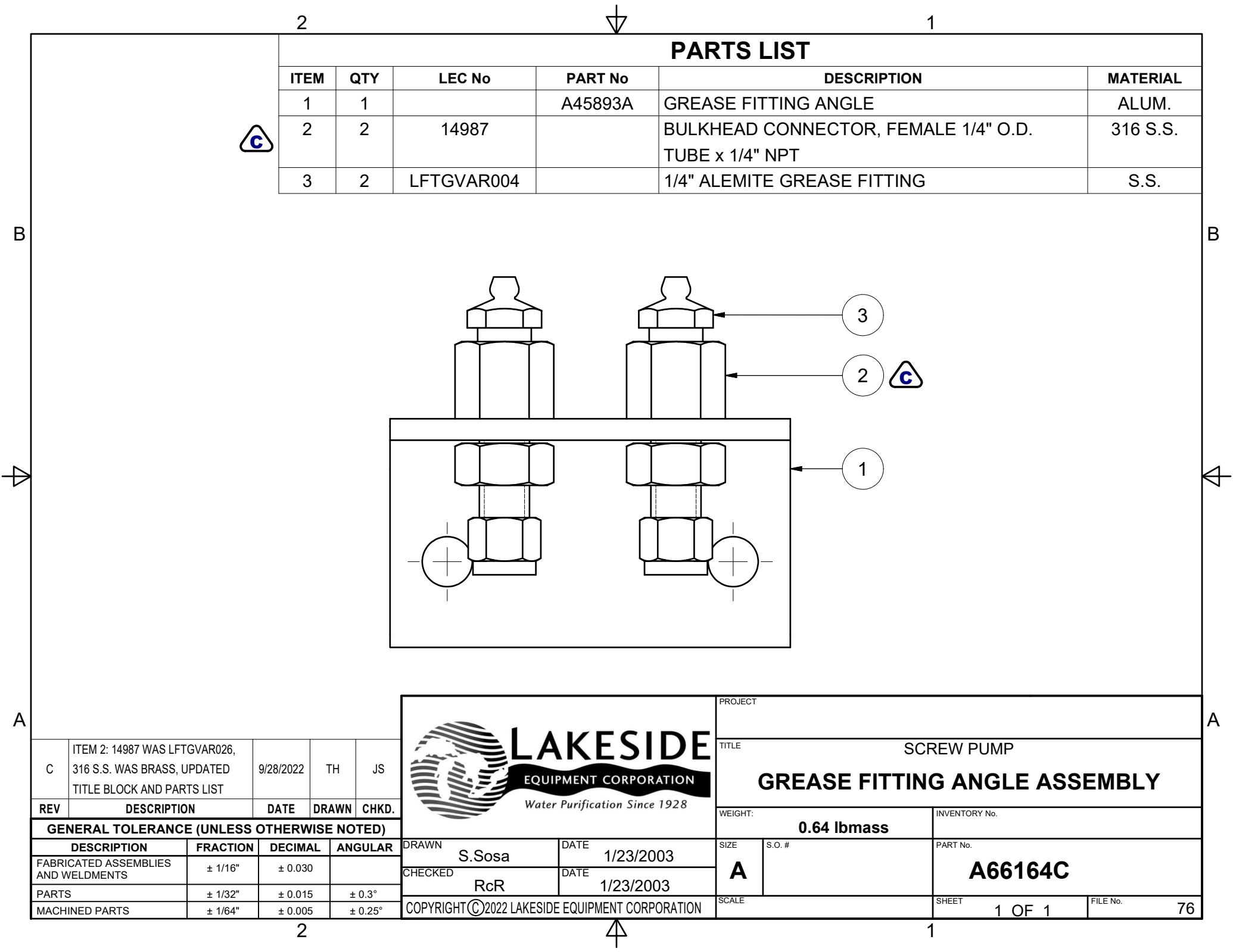


PARTS LIST					
ITEM	QTY	LEC No	PART No	DESCRIPTION	MATERIAL
1	1	LHLDSP0001	B37021C	GREASE CONTAINER HOLDER	S.S.
2	1	LPOTSP0001	A41085C	GREASE CONTAINER	S.S.
3	1	LBLTVAR098		1/4" - 20 UNC x 1" LG. M.B.	S.S.
4	1	LNUTVAR012		1/4" - 20 UNC NUT	S.S.
5	1	LWSHVAR013		1/4" STD. FLAT WASHER	S.S.
6	3.000 ft	LCHAVAR003		1/8" WELDED LINK CHAIN	S.S.
7	3	LANCVAR050		3/8" x 3 3/4" LG. EXPANSION ANCHOR	

 ITEM 6: QTY CHANGED TO FT, UPDATED DESCRIPTION	11-20-20	TH	S.Sosa
	DATE	DR.	CHKD.

GENERAL TOLERANCE (UNLESS OTHERWISE NOTED)			
DESCRIPTION	FRACTION	DECIMAL	ANGULAR
FABRICATED ASSEMBLIES AND WELDMENTS	± 1/16"	± 0.030	
PARTS	± 1/32"	± 0.015	± 0.3°
MACHINED PARTS	± 1/64"	± 0.005	± 0.25°

 Water Purification Since 1928		PROJECT	
		TITLE SCREW PUMP GREASE CONTAINER ASSEMBLY	
		WEIGHT: 7.28 lbmass	INVENTORY No.
DRAWN SNYDER	DATE 1/12/1989	SIZE B	PART No. B41462J
CHECKED J.J.	DATE 1/16/1989		
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PARTS LIST

ITEM	QTY	LEC No	PART No	DESCRIPTION	MATERIAL
1	1		A45893A	GREASE FITTING ANGLE	ALUM.
2	2	14987		BULKHEAD CONNECTOR, FEMALE 1/4" O.D. TUBE x 1/4" NPT	316 S.S.
3	2	LFTGVAR004		1/4" ALEMITE GREASE FITTING	S.S.



LAKESIDE
EQUIPMENT CORPORATION
Water Purification Since 1928

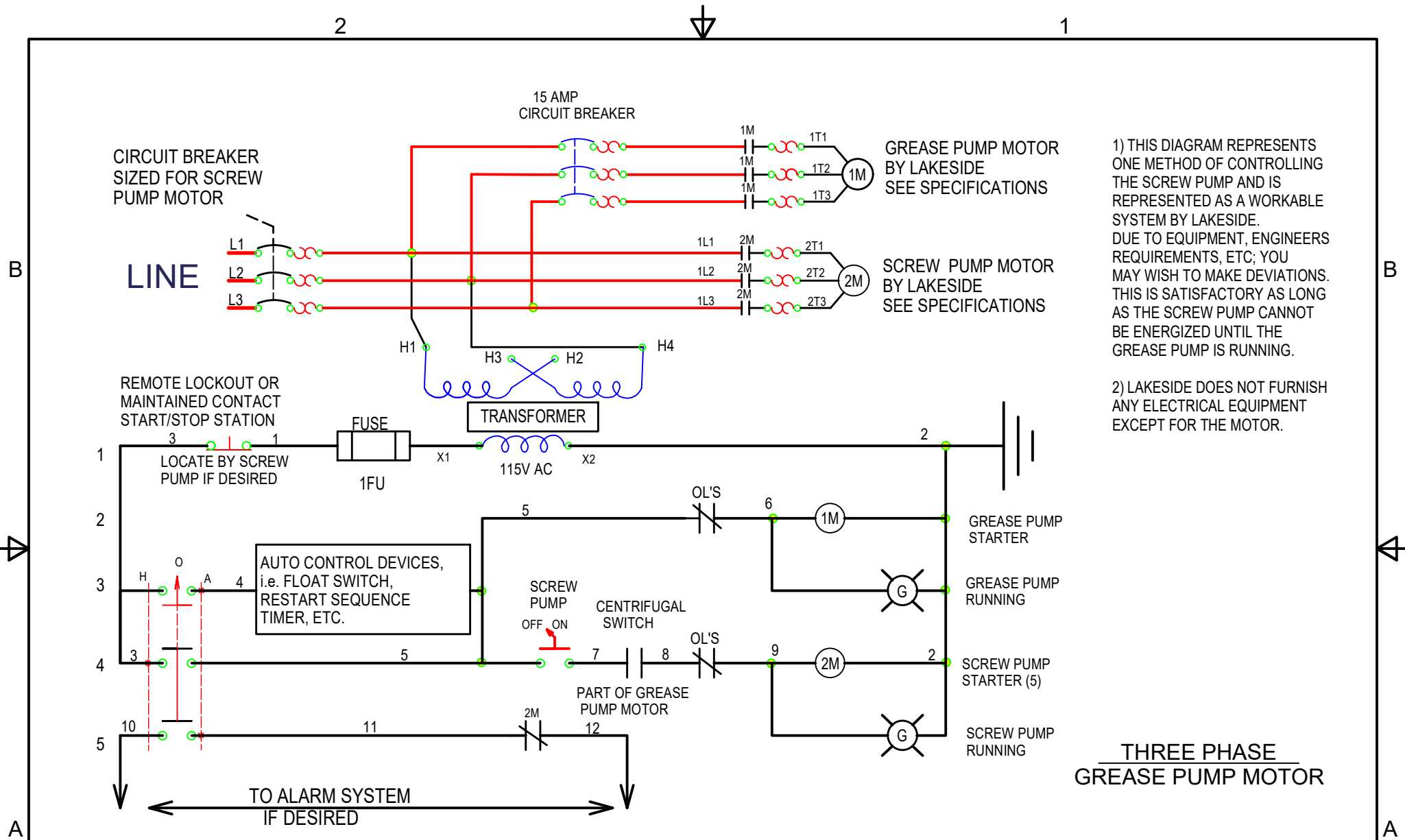
PROJECT			
TITLE			
SCREW PUMP			
GREASE FITTING ANGLE ASSEMBLY			
WEIGHT:		INVENTORY No.	
0.64 lbmass			
SIZE	S.O. #	PART No.	
A		A66164C	
SCALE		SHEET	FILE No.
		1 OF 1	76

C	ITEM 2: 14987 WAS LFTGVAR026, 316 S.S. WAS BRASS, UPDATED TITLE BLOCK AND PARTS LIST	9/28/2022	TH	JS
REV	DESCRIPTION	DATE	DRAWN	CHKD.
GENERAL TOLERANCE (UNLESS OTHERWISE NOTED)				
DESCRIPTION	FRACTION	DECIMAL	ANGULAR	
FABRICATED ASSEMBLIES AND WELDMENTS	± 1/16"	± 0.030		
PARTS	± 1/32"	± 0.015	± 0.3°	
MACHINED PARTS	± 1/64"	± 0.005	± 0.25°	

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1) THIS DIAGRAM REPRESENTS ONE METHOD OF CONTROLLING THE SCREW PUMP AND IS REPRESENTED AS A WORKABLE SYSTEM BY LAKESIDE. DUE TO EQUIPMENT, ENGINEERS REQUIREMENTS, ETC; YOU MAY WISH TO MAKE DEVIATIONS. THIS IS SATISFACTORY AS LONG AS THE SCREW PUMP CANNOT BE ENERGIZED UNTIL THE GREASE PUMP IS RUNNING.

2) LAKESIDE DOES NOT FURNISH ANY ELECTRICAL EQUIPMENT EXCEPT FOR THE MOTOR.

LAKESIDE EQUIPMENT CORPORATION	PROJECT 2-WIRE SYSTEM FOR UNATTENDED OR AUTOMATIC PLANT OPERATION WITH CENTRIFUGAL SWITCH			
	TITLE SCREW PUMP			
	SCHEMATIC WIRING DIAGRAM			
DRAWN G.C.N.	DATE 3/1/1978	SIZE A	S.O. #	DWG No. A26328
CHECKED R.J.	DATE 3/8/1978	SCALE		REV B
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REVISION	DATE	DR.	CHKD.
REDRAWN ON INVENTOR	2-04-10	S.Sosa	RcR