

**SPECIFICATIONS
AND CONTRACT DOCUMENTS
FOR THE
GOULD PARK IMPROVEMENTS**

**VILLAGE OF DOBBS FERRY
WESTCHESTER COUNTY
NEW YORK
August 2023**



**AI ENGINEERS, INC.,
DOLPH ROTFELD ENGINEERING DIVISION
570 TAXTER ROAD
ELMSFORD, NEW YORK 10523**

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SECTION A

NOTICE TO BIDDERS

VILLAGE OF DOBBS FERRY

MAYOR

Vincent Rossillo

DEPUTY MAYOR

Nicole Sullivan

112 Main Street, Dobbs Ferry, N.Y. 10522

(914) 231-8504 Fax (914) 693-3470

www.dobbsferry.com

VILLAGE ADMINISTRATOR

Robert A. Yamuder

TRUSTEES

Jessica Galen

Michael Patino

Shari Rosen Ascher

Matt Rosenberg

Larry Taylor

VILLAGE ENGINEER

AI Engineers, Inc.,

Dolph Rotfeld Engineering Division

570 Taxter Road

Elmsford, New York 10523

NOTICE TO BIDDERS
GOULD PARK IMPROVEMENTS
VILLAGE OF DOBBS FERRY
WESTCHESTER COUNTY, NEW YORK

NOTICE IS HEREBY GIVEN that sealed bids for performing the work herein described will be received by the Village of Dobbs Ferry, NY, at the Office of the Village Administrator, Village Hall, 112 Main Street, Dobbs Ferry, NY 10522, until **September 11th, 2023 at 10:00 AM** and immediately thereafter the bids will be opened and read aloud for the furnishing and/or installing of the following:

Park improvements, including by not limited to; construction of new cast in place concrete retaining walls, stairs and ramp, installation of new sidewalks and curbs, asphalt pathway, construction of basketball court, drainage improvements, lighting improvements, plantings and other appurtenant work as necessary, all in accordance with Village specifications and requirements.

No bids will be received or considered after the time stated above.

Specifications and Bid Proposal Forms will be available on **August 18th, 2023**. Bid Package may be obtained at <https://www.dobbsferry.com/home/pages/bids-rfps> or at Village Hall. Please contact Village Clerk Liz Dreaper at ldreaper@dobbsferry.com, if the Bid Package is downloaded online, for any and all updates and addendums that may arise.

A bid bond, certified check or bank check in the amount of 5% of bid must accompany the bid proposal. All bids must be submitted in a sealed envelope bearing the name and address of the bidder and clearly marked “**BID FOR GOULD PARK IMPROVEMENTS**”.

The Village Administrator reserves the right to accept or reject any or all bids and to waive any informalities at his discretion, and to award contracts in a manner deemed to be in the best interests of the Village of Dobbs Ferry even if such award is to other than the lowest bidder.

All technical questions should be directed to AI Engineers, Inc., Dolph Rotfeld Engineering Division at (914) 631-8600 or dsingleton@aiengineers.com.

Robert A. Yamuder

Village Administrator

Village of Dobbs Ferry

Date of Publication: August 18, 2023

SECTION B

INFORMATION FOR BIDDERS

INFORMATION FOR BIDDERS

PROPOSALS are requested for the **Gould Park Improvements** and related work for the Village of Dobbs Ferry, New York, in accordance with specifications and other Contract Documents prepared by AI Engineers, Inc., Dolph Rotfeld Engineering Division, 570 Taxter Road Elmsford, NY 10523.

If the Bid Package has been downloaded through the Villages Bid Page please email the village clerk, Liz Dreaper (ldreaper@dobbsferry.com) to confirm the collection of the bid documents as well as to receive updates and addendums to the Bid Package

Each Proposal shall be made on a form prepared by the Engineer and included as one of the Contract Documents; and shall be submitted in a sealed envelope bearing the title of work and name of the Bidder. The Contractor's Bid shall be submitted in the entire bound Specifications and Contract Documents booklet including all original forms, any deviation shall be grounds for disqualification of bid.

In case of a difference between the stipulated amount of the Proposal written in words and the stipulated amount written in figures, the stipulated amount stated in words shall govern.

Proposals shall not contain any recapitulations of the work to be done. Alternate proposals will not be considered unless called for. Oral proposals or modifications will not be considered.

Before submitting a Proposal, Bidders shall carefully read the Specifications and other contract Documents, shall visit the site, and shall fully inform themselves as to all existing conditions and limitations, and shall include in the Proposal a sum to cover the cost of all items included in the Contract Drawings and Documents.

Proposals shall be delivered by the time and to the place stipulated in the advertisement. It is the sole responsibility of the Bidder to see that his Proposal is received in proper time. Any Proposal received after the scheduled closing time for receipt of Proposals shall be returned to the Bidder unopened.

Any Bidder may withdraw his Proposal, either personally or by written request, at any time prior to the scheduled closing time for receipt of Proposals.

Proposals will be opened and publicly read aloud at the time and place set forth in the Notice to Bidders.

The contract will be awarded to the lowest and/or best qualified responsible Bidder who complies with these instructions and with the Legal Notice. The Village reserves the right to reject any or all Proposals or to waive any formality or technicality in any Proposal in the interest of the Village. No Bidder may withdraw his Proposal for a period of 45 days after the date of opening thereof.

If any person contemplating submitting a Proposal is in doubt to the true meaning of any part of

the Drawings, Specifications or other Contract Documents, or finds discrepancies in, or omissions from, the Drawings or Specifications, he may submit to the Engineer a written request for an interpretation or correction thereof, the person submitting the request will be responsible for its prompt delivery. Any interpretation or correction of the documents will be made only by Addendum duly issued and a copy of the Addendum will be mailed or delivered to each person receiving a set of the Contract Documents. Neither the Village nor the Engineer will be responsible for any other explanations or interpretations of the Contract Documents.

Any Addenda issued during the time of the bidding, or forming a part of the Contract Documents received by the Bidder for the preparation of a Bid shall be covered in the Proposal and shall be made a part of the Contract. Receipt of each Addendum shall be acknowledged in the Proposal.

No person, firm or corporation shall be allowed to make, file or be interested in more than one Proposal for the same Contract as the prime bidder. A person, firm or corporation who has submitted a sub-proposal to a Bidder, or who has quoted prices on materials to a Bidder, is not hereby disqualified from submitting a sub-proposal or quoting prices to other Bidders.

The work under this contract shall be completed within two hundred ten (210) calendar days after signing of the contract, unless the Village waives adherence to this date in writing. The Contractor will be required to pay as liquidated damages, the sum of nine hundred dollars (\$900.00) for each calendar day beyond said time that is required to satisfactorily complete the work of this project.

The attention of persons intending to submit proposals is specifically called to the fact that no plea will be accepted in which a Contractor pleads misunderstanding or deception of estimates of quantities, character, scope of work, location or other conditions surrounding same. Permission will not be given to withdraw, modify or explain any proposal or bid after it has been deposited. To be entitled to consideration, a Certified Check or Bond payable to the Village of Dobbs Ferry, New York shall accompany the sealed bid, for the sum equal to 5% of the bid price. The checks of the unsuccessful bidders shall be returned within 30 days of the bid opening. Within ten (10) days of notification of acceptance and approval of the proposal, the successful bidder shall furnish the performance bond described herein, at which time the 5% check will be returned. Should the bidder neglect to or refuse to furnish the aforesaid bond, the 5% shall be retained by the Village of Dobbs Ferry, New York.

The Contractor shall provide a **Performance Bond** issued by a solvent insurance company licensed and admitted to do business in the State of New York with at least a Best rating of A-, which will indemnify and insure the Village of Dobbs Ferry, New York, so that all work herein required to be performed and all material to be furnished, will be satisfactorily completed in accordance with this proposal. The amount of the bond shall be 100% of the amount of the contract price. The form of this bond is included herein.

The Contractor shall also pay for and furnish a separate **Labor and Material Payment Bond** issued by a solvent insurance company licensed and admitted to do business in the State of New York with at least a Best rating of A-, which will guarantee prompt payment of monies due to all persons supplying the Contractor or any Sub-contractor with work, labor or materials employed and used in carrying out the Contract. The amount of such bond shall be 100% of the amount of

the contract price. The form of this bond is included herein.

The Contractor shall, at the time of requesting final payment, submit a two-year **Maintenance Bond from the date of final acceptance**, issued by a solvent insurance company licensed and admitted to do business in the State of New York with a minimum Best rating of A-, which will guarantee against defective materials and workmanship. The Bond amount shall equal one hundred percent (100%) of the contract amount. The form of this bond is included herein.

The Contractor shall comply with all local, state, and federal laws, rules and regulations applicable and with the New York State Labor Law.

All costs and expenses for obtaining and providing required shop drawings, submittals, Insurances and Bonds shall be deemed included in all items of this contract and therefore no separate payment item is provided.

Regarding Subcontractors, any material purchased by the Contractor and not used by him in his work shall be considered a Subcontract. See Section H (General Conditions) for more information.

Contractor must be in contact and must coordinate with all relevant utility companies. Contractor to who the contract is awarded shall contact and coordinate with the following individuals:

1. Village of Dobbs Ferry DPW
 - a. Office (914) 231-8507
2. Consolidated Edison
3. Veolia North America
 - a. Contact (914) 261-0078

Please note that only calling in a “Code 753 – Call Before You Dig” will not be sufficient as part of this contact and coordination requirement.

Any questions regarding the plans or specifications shall be directed to AI Engineers, Inc., Dolph Rotfeld Engineering Division no later than Tuesday September 5th, 2023.

SECTION C

BID FORMS

**VILLAGE OF DOBBS FERRY
GOULD PARK IMPROVEMENTS
BID PROPOSAL FORM**

To: **Village Administrator – Village Hall
Dobbs Ferry, New York**

Bid Submitted by:

(Name)

(Address)

(Telephone No.)

1. I/We do hereby declare that I/We have carefully examined the Notice to Bidders, the Plans, and the Specifications relating to the above entitled matter and the work, and have also examined the site.
2. I/We do hereby offer and agree to furnish all materials, to fully and faithfully construct, perform and execute all work in the above titled matter in accordance with the Plans, Drawings, and Specifications relating thereto, and to furnish all labor, tools, implements, models, forms, transportations and materials necessary and proper for the purpose and the price/prices as given on the bid forms.
3. I/We do hereby declare that the prices so stated cover all expenses of every kind incidental to the completion of said work, and the contract therefore, including all claims that may arise through damages or any other cause whatsoever.
4. I/We do hereby agree that I/We will execute a contract therefore, containing all the terms, conditions, provisions and covenants necessary to complete the work according to the Plans and Specifications therefore within 10 business days after the award of the contract and if I/We fail to execute said contract within said period of time, that the Village Board shall have the power to rescind said award and also that the said Village Board shall retain the proceeds of the certified check, or require the payment of the sum of the bid bond. The Contract execution will serve as the official notification to commence work.
5. I/We do also declare and agree I/We will commence the work within ten days after the Contract execution and will complete the work fully and in every respect on or before the time specified in said Contract and do authorize the said Board, in case of failure to complete the work within such specified time, to employ such men, equipment and materials as may be necessary for the proper completion of said work and to deduct the cost thereof from the amount due under the Contract.
6. I/We agree that the Village reserves the right to select any one, combination of, or all the Bid items in this proposal for the Contractor to complete without affecting any of the Bid prices.

7. I/We hereby affirm that 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 the penalty of perjury, that to the best of knowledge and belief:
 - (a) 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;
 - (b) 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 prior to opening, directly or indirectly, to any other Bidder or to any competitor; and
 - (c) no attempt has been made or will be made-by the Bidder to induce any other person, partnership or corporation to submit or not submit a Bid for the purpose of restricting competition.
 - (d) no member of the Village Board or and officer or employee of the Village of Dobbs Ferry, New York, or person whose salary is payable in whole or in part from the said Treasury is, shall be or become interested, directly, as contracting party, partner, stockholder, surety or otherwise, in this Bid, or in the performance of the Contract, or in the supplies, materials or equipment and work or labor to which it relates, or in any portion of the profits thereof.
8. I/We hereby further agree that this proposal is a firm Bid and shall remain in effect for a period of at least forty five (45) calendar days from the date of the opening of Bids, and that with said period of forty five (45) days, the Village of Dobbs Ferry will accept or reject this proposal, or this period may be extended by mutual agreement.
9. I/WE do hereby declare that, if this is a Corporate Bid, I have been duly authorized to act as the Signator on this proposal in behalf of this Corporation.
10. I/We hereby affirm under penalty of perjury, the truth of all statements in this proposal.
11. I/We hereby agree that I/We accept the unit prices on the following pages for the various items of work, and for additions to or deletions from the stated quantities.
12. I/We hereby agree that I/We shall make no claim on account of any variation of the approximate estimate in the quantities of work to be done, whether the actual quantities are greater, smaller or completely deleted. A change in the quantity of any item shall not be regarded as sufficient grounds for a change in the price of that item.

BASE BID (As per Special Conditions): *Total Bid for estimated quantities:

(written in numbers)

(written in words)

*The **TOTAL BID** shall be the sum of the extensions (unit price multiplied by estimated quantity, for each item). It is stated here only as a convenience for comparison of bids. If there are any errors in addition or multiplication, the unit prices for each item shall govern, and the bid comparison will be made on the basis of correct arithmetic applied to these unit prices. In case of a discrepancy between the unit price in words and the unit price in numbers, the unit price in words shall govern.

The estimated quantities are not guaranteed, and are only for bid comparison purposes and final payment will be made for actual quantities regardless of the estimated quantities contained herein.

(Legal Name of Bidder) Date: _____

Address of Individual, Firm or Corporation

Telephone Number of Individual, Firm or Corporation

By: _____
(Authorized Signatory)

Corporate Seal
(If incorporated)

Bidder acknowledges receipt of Addenda as follows:

Signature_____

Signature_____

Signature_____

**VILLAGE OF DOBBS FERRY
GOULD PARK IMPROVEMENTS**

BID SHEET

**Note: Unit prices are to be written in both words and numbers.
In case of any discrepancy those prices shown in words shall govern.
All prices will be in dollars and cents.**

				Extension:	
				Est. Quantity	Times Unit
Item No.	Quantity	Unit	Item with Unit Price Written in Words	Unit Price in Numbers	Price in Numbers
1M	1	As Necessary	Miscellaneous Additional Work		
			One Hundred Thousand		
			As Necessary	\$100,000.00	\$100,000.00
2	300	CY	Grading		
			CY		
2M	20	CY	Miscellaneous Earth Excavation		
			CY		
10HDPE-12"	30	LF	12" HDPE Stormwater		
			LF		
10HDPE-24"	215	LF	24" HDPE Stormwater Drain Line		
			LF		
10HDPE-36"	30	LF	36" HDPE Stormwater Drain Line		
			LF		

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				Extension: Est. Quantity Times Unit Price in Numbers	
Item No.	Quantity	Unit	Item with Unit Price Written in Words	Unit Price in Numbers	
10RCP-54"	52	LF	54" RCP Stormwater Drain Line		
			_____ LF	_____	_____
10HDPE-60"	120	LF	60" HDPE Stormwater		
			_____ LF	_____	_____
11P-4	310	LF	4" Diameter Perforated PVC Underdrain Pipe		
			_____ LF	_____	_____
11SD	94	LF	Slot Drain		
			_____ LF	_____	_____
20SW-5	430	SY	5" Concrete Sidewalk		
			_____ SY	_____	_____
20SW-7	50	SY	7" Driveway Aprons		
			_____ SY	_____	_____
25CC-A	610	LF	Concrete Curb with Rebar Reinforcement		
			_____ LF	_____	_____

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				Extension: Est. Quantity Times Unit Price in Numbers	
Item No.	Quantity	Unit	Item with Unit Price Written in Words	Unit Price in Numbers	
25CC-B1	375	LF	Concrete Curb @ Pathway		

			_____ LF	_____	_____
25CC-B2	211	LF	Flush Concrete Curb @ Basketball Court		

			_____ LF	_____	_____
25CC-B3	250	LF	Concrete Curb at Ashford Avenue Fence		

			_____ LF	_____	_____
39	525	CY	Crushed Stone or Gravel		

			_____ CY	_____	_____
45	165	TON	Binder Course		

			_____ TON	_____	_____
51	2,250	SF	Asphalt Top Course - New 6'-Wide Path		

			_____ SF	_____	_____

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				Extension:	
				Est. Quantity	Times Unit
Item No.	Quantity	Unit	Item with Unit Price Written in Words	Unit Price in Numbers	Price in Numbers
51A	65	TON	Bituminous Top Course - 1½" Thick		

			_____ TON	_____	_____
52	627	SY	Geogrid Base		

			_____ SY	_____	_____
73	20	CY	Control Backfill Material		

			_____ CY	_____	_____
76	1	LS	Maintenance and Protection of Traffic		

			_____ LS	_____	_____
80A	250	LF	4'-High Aluminum Fence		

			_____ LF	_____	_____
87	2	EA	Stationary Benches, 8' Length		

			_____ EA	_____	_____

**VILLAGE OF DOBBS FERRY
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				Extension:	
				Est. Quantity	Times Unit
Item No.	Quantity	Unit	Item with Unit Price Written in Words	Unit Price in Numbers	Price in Numbers
88	2	EA	Trash Receptacles		

			_____ EA	_____	_____
89	2	EA	Recycling Receptacles		

			_____ EA	_____	_____
90	2	EA	Bike Racks		

			_____ EA	_____	_____
91	3	EA	Basketball Hoops		

			_____ EA	_____	_____
102CB	4	EA	Precast Concrete Large Mouth Catch Basins		

			_____ EA	_____	_____
102DI	5	EA	Drain Inlets		

			_____ EA	_____	_____
102MC	3	EA	Precast Concrete Manholes		

			_____ EA	_____	_____

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				Extension:	
				Est. Quantity	Times Unit
Item No.	Quantity	Unit	Item with Unit Price Written in Words	Unit Price in Numbers	Price in Numbers
102CS	1	EA	Control Structure		

			EA	_____	_____
120	100	CY	Remove Existing & Install Structural Soil at Tree Pits		

			CY	_____	_____
150	350	LF	Reflectorized Pavement Markings 12" White Stripe		

			LF	_____	_____
300	26	CY	Stone Retaining Wall		

			CY	_____	_____
400-AF	1	EA	Freeman Maple (2"-2½" caliper)		

			EA	_____	_____
400-AR	2	EA	October Glory (2"-2½" caliper)		

			EA	_____	_____

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				Extension:	
				Est. Quantity	Times Unit
Item No.	Quantity	Unit	Item with Unit Price Written in Words	Unit Price in Numbers	Price in Numbers
400-CC	6	EA	Eastern Redbud (8'-10' ht.)		

			_____ EA	_____	_____
400-CCF	3	EA	Pansy Redbud (8'-9' ht.)		

			_____ EA	_____	_____
400-CV	1	EA	Fringetree (6'-8' ht.)		

			_____ EA	_____	_____
400-UA	5	EA	Princeton Elm (2"-2½" caliper)		

			_____ EA	_____	_____
401-CP	1,150	EA	Oak Sedge (Plugs 5" deep)		

			_____ EA	_____	_____
401-CM	17	EA	Tickseed (1 Gallon)		

			_____ EA	_____	_____
401-DM	90	EA	Wood Fern (Plugs 5" Deep)		

			_____ EA	_____	_____

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				Extension:	
				Est. Quantity	Times Unit
Item No.	Quantity	Unit	Item with Unit Price Written in Words	Unit Price in Numbers	Price in Numbers
401-MC	9	EA	Hair Grass (1 Gallon)		

			_____ EA	_____	_____
402-AP	4	EA	Bottlebush Buckeye (10 Gallon)		

			_____ EA	_____	_____
402-AM	13	EA	Dwarf Blackberry (3 Gallon)		

			_____ EA	_____	_____
402-CA	21	EA	New Jersey Tea (3 Gallon)		

			_____ EA	_____	_____
402-HA	29	EA	Annabelle Hydrangea (5 Gallon)		

			_____ EA	_____	_____
402-HQ	7	EA	Dwarf Oak Leaf Hydrangea (5 Gallon)		

			_____ EA	_____	_____

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				Extension:	
				Est. Quantity	Times Unit
Item No.	Quantity	Unit	Item with Unit Price Written in Words	Unit Price in Numbers	Price in Numbers
402-HQS	3	EA	Snow Queen Oak Leaf Hydrangea (5 Gallon)		

			_____ EA	_____	_____
402-IG	3	EA	Inkberry (24"-30" Ht.)		

			_____ EA	_____	_____
402-IGS	27	EA	Dwarf Inkberry (3 Gallon, 12" ht.)		

			_____ EA	_____	_____
402-PO	27	EA	Dwarf Ninebark (3 Gallon, 12" ht.)		

			_____ EA	_____	_____
403	5	EA	Tree Grates		

			_____ EA	_____	_____
700	100	CY	Select Fill		

			_____ CY	_____	_____

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				Extension: Est. Quantity Times Unit Price in Numbers	
Item No.	Quantity	Unit	Item with Unit Price Written in Words	Unit Price in Numbers	
700A	220	CY	Structural Fill		

			_____CY	_____	_____
701	500	SY	Grass Seed		

			_____SY	_____	_____
702	250	CY	Topsoil		

			_____CY	_____	_____
800	1	LS	Sediment & Erosion Conrol		

			_____LS	_____	_____
845	3	EA	Solar Bollard Lights		

			_____EA	_____	_____
846	1	EA	Mounted Solar Light Pole		

			_____EA	_____	_____

**VILLAGE OF DOBBS FERRY
GOULD PARK IMPROVEMENTS**

BID SHEET

**Note: Unit prices are to be written in both words and numbers.
In case of any discrepancy those prices shown in words shall govern.
All prices will be in dollars and cents.**

				Extension: Est. Quantity Times Unit Price in Numbers	
Item No.	Quantity	Unit	Item with Unit Price Written in Words	Unit Price in Numbers	
900-A	1	LS	Electrical Power Supply & Distrubution		

			_____ LS	_____	_____
900-B	1	LS	Basketball Court Lighting & Foundations		

			_____ LS	_____	_____
902-A	260	LF	Galvinized Steel Decorative Railing with Grid panel & LED Lighting		

			_____ LF	_____	_____
902-B	35	LF	Galvinized Steel Decorative Handrail		

			_____ LF	_____	_____
1000-A	1	LS	Furnish & Install Sportcoat Center Court Logo		

			_____ LS	_____	_____
1000-B	627	SY	Furnish & Install Sportcoat Surfacing for Basketball Court		

			_____ SY	_____	_____

**VILLAGE OF DOBBS FERRY
GOULD PARK IMPROVEMENTS**

BID SHEET

**Note: Unit prices are to be written in both words and numbers.
In case of any discrepancy those prices shown in words shall govern.
All prices will be in dollars and cents.**

				Extension:	
				Est. Quantity	Times Unit
Item No.	Quantity	Unit	Item with Unit Price Written in Words	Unit Price in Numbers	Price in Numbers
2220	1	LS	Demolition, Removals & Site Preparation		

			_____ LS	_____	_____
3000A	245	CY	Cast in Place Concrete Retaining Walls & Footings over 4 ft.		

			_____ CY	_____	_____
3000B	85	CY	Cast in Place Concrete Retaining Walls & Footings for stairs		

			_____ CY	_____	_____
3000C	250	CY	Cast in Place Concrete Retaining Walls & Footings under 4 ft. & ramp		

			_____ CY	_____	_____
				<i>Bid Total</i>	_____

STATE LAWS AND REGULATIONS

GRAND JURY TESTIMONY: Bidders attention is directed to the following clause, Chapter 605 of the New York State Laws of 1959:

"A person who refuses, when called before a grand jury to testify concerning this contract or any transaction in connection therewith, to sign a waiver of immunity against subsequent criminal prosecution or to answer any relevant question concerning this contract or transaction, shall be disqualified from thereafter selling to or submitting bids to or receiving awards from or entering into any contract with any municipal corporation or any public department, agency or official thereof for goods, work, or services, for a period of 5 years after such refusal; and any and all contracts made with any municipal corporation or any public department, agency or official thereof after July 1st, 1959, may be cancelled or terminated by the municipal corporation without incurring any penalty or damages on account of such cancellation or termination; but any money owing to the municipal corporation for goods delivered or work done prior to the cancellation or termination shall be paid."

NON-COLLUSION IN BIDDING: Each bidder shall submit a statement of non-collusion in bidding the work proposed herein. Failure to submit a non-collusive bidding certificate will constitute grounds for the rejection of said bid.

EMPLOYMENT PREFERENCE: The contractor shall comply in all respects with Section 222 of the Labor Law of the State of New York, and agrees that preference shall be given in employment to citizens of the State of New York who have been residents for at least six consecutive months immediately prior to the commencement of their employment, but persons other than citizens of the State of New York who may be employed by the contractor, or by any subcontractor, shall furnish satisfactory proof of residence in accordance with the rules adopted by the Industrial Commissioner of the State of New York. Upon demand of the aforesaid Industrial Commissioner, the contractor shall furnish a list of the names and addresses of all his subcontractors. The contractor and each subcontractor shall keep a list of his employees, stating whether they are citizens of the State of New York, native born citizens or naturalized citizens and, in case of naturalization, the date thereof, and the name of the court in which granted. This contract shall be null and void if the provisions of said Section 222 aforesaid are not complied with.

SALES TAX EXEMPTION: The contractor's attention is directed to the changes made in Section 1115 of the Tax Law of the State of New York by Chapter 513 and 514 of the Laws of 1974. In connection with capital improvement contracts entered into on or after September 1, 1974, all tangible personal property which will become an integral component of a structure, building or real property of New York State, or any of its political subdivisions, including the Village of Dobbs Ferry, is exempt from State and local retail sales tax and compensating use tax. In formulating their proposals, all bidders shall exclude any dollar amounts for the payment of State and local retail sales tax and compensating use tax. The successful bidder shall be obligated to file the required Contractor Exempt Purchase Certificates.

LABOR AND WAGES: A governing provision in the contract will be the rate of wages of all labor applicable to the kind of work, as determined by the New York State Industrial Commissioner pursuant to the Labor Law which states that a schedule of wages so determined by the New York State Industrial Commissioner and the Fiscal Officer be incorporated in the contract by the Village.

The Labor Department Schedule of Hourly Minimum rates of wages when omitted from these specifications are still included even if not received at the time of printing of these specifications. Copies of the labor rates shall be forwarded to the bidders as and when received. Such omission does not vary or affect the obligation of the contractor to comply with the law or his compensation therefor.

The contractor and each and every subcontractor performing work on the site of the project to which this contract relates shall comply with the applicable provisions of the Labor Law, as amended, of the State of New York, and particularly Article 8 thereof. All provisions of Section 220 of the Labor Law shall be deemed a part of this contract.

NON COLLUSIVE BIDDING CERTIFICATION

Made pursuant to Section 103-d of the New York State General Municipal Law, as amended

- a. 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 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; and
 - (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 prior to the opening, directly or indirectly, to any other 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.
- b. A bid shall not be considered for award nor shall any award be made where Sections a. (1), (2), and (3) above have not been complied with, provided, however, that if in any case the bidder cannot make the foregoing certification, the bidder shall so state and shall furnish with the bid a signed statement that sets forth in detail the reasons therefor. Where Sections a.(1), (2), and (3) above have not been complied with, the bid shall not be considered for award nor shall any award be made unless the head of the purchasing unit of the Village of Dobbs Ferry thereof to which the bid is made, or his designee, determines that such disclosure was not made for the purpose of restricting competition.

Dated: _____

(Seal of Corporation)

Legal Name of Person, Firm or Corporation

Address of Person, Firm or Corporation

Signature: _____

Print Name & Title: _____

BID BOND

KNOW ALL MEN BY THESE PRESENTS, that we _____

_____, hereinafter called the Principal. as Principal, and the
_____, of

a corporation duly organized under the laws of the State of _____ hereinafter called the Surety, as
Surety, are held and firmly bound unto

hereinafter called the Obligee in the sum of
_____ Dollars (\$ _____), for
the payment of which sum well and truly to be made, the said Principal and the said Surety, bind ourselves,
our heirs, executors, administrators, successors and assigns, jointly and severally firmly by these presents.

WHEREAS, the Principal has submitted a bid for _____

NOW, THEREFORE, if the Obligee shall accept the bid of the Principal and the Principal shall
enter into a Contract with the Obligee in accordance with the terms of such bid, and give such bond or bond
as may be specified in the bidding or Contract Documents with good and sufficient surety for the faithful
performance of such Contract and for the prompt payment of labor and material furnished in the
prosecution thereof or in the event of the failure of the Principal to enter such contract and give such bond
or bonds, the Principal shall pay to the Obligee the difference not to exceed the penalty hereof between the
amount specified in said bid and such larger amount for which the Obligee may in good faith contract with
another party to perform the work covered by said bid, then this obligation shall be null and void, otherwise
to remain in full force and effect.

SIGNED AND SEALED this _____ day of _____ AD 20_____

In the presence of:

{ _____ (Seal)
PRINCIPAL

WITNESS

{ _____
TITLE

{ _____ (Seal)
SURETY

WITNESS

{ _____
TITLE

STATEMENT OF QUALIFICATIONS

The following is a list of places where we have performed work of similar character and magnitude, together with references:

Location	Description of Work & Date of Completion	Approximate Cost	Name and Phone of Engineer or Owner

The full names and places of residences of all officers and principals in the bidding entity of the foregoing proposal are as follows:

_____	_____
_____	_____
_____	_____
_____	_____

CERTIFICATE OF EQUIPMENT

_____ hereby certify that (he is, they are)
the owner or lessee of the equipment necessary for the execution of this Contract, and
further certify that (he is, they are) fully prepared with the necessary capital, material and
machinery to conduct this work as herein specified. The equipment available for the
execution of this Contract is listed below:

[illegible]

Name of Bidder (typed)

Witness

By _____
Signature

DEFAULT OF PREVIOUS CONTRACTS

Has Bidder defaulted on or failed to complete a contract within 5 years:

☐ NO

☐ YES

Has any officer or principal of the bidding entity been involved with a firm that has defaulted on or failed to complete a contract within 5 years:

☐ NO

☐ YES

If answer to either question is yes, please explain below:

Location	Description of Work	Approximate Cost	Name and Phone of Engineer or Owner	Reason for Default

Certification - The information above is true and complete to the best of my knowledge and belief. A willfully false statement is punishable by law and disqualification of bid. (U.S. Code, Title 18, Section 1001).

(NAME AND TITLE OF SIGNER - PLEASE TYPE)

(SIGNATURE)

(DATE)

CONTRACTOR'S DECLARATION

The names and addresses of all partners, officers, or parties interested in the foregoing bid are as follows:

<u>Full Name</u>	<u>Title of Office Held if Bidder is a Corp.</u>	<u>Address</u>
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

The undersigned bidder hereby designates the address stated below as the place to which all notices and letters may be delivered or mailed.

	_____ Contractor
_____ Witness	By _____ (signature)
	Title _____

The business address of the bidder is:

The above-named bidder is a (corporation)(partnership)(individual) -- strike out designations which do not apply -- in the State of _____.

DATE: _____

CERTIFICATE AS TO CORPORATE PRINCIPAL

I, _____, certify that I am the _____

_____, Secretary of the Corporation named as Principal in the within

bond; that _____

_____, who

signed the said bond on behalf of the Principal was then _____

_____ of said corporation; that I know his

signature thereto is genuine; and that said bond was duly signed, sealed, and attested to

for and in behalf of said corporation by authority of this governing body.

(Corporate Seal)

Title

**CERTIFICATION BY BIDDER REGARDING EQUAL EMPLOYMENT
OPPORTUNITY**

Name of Bidder

INSTRUCTIONS

This certification is required pursuant to Executive Order 11246, Part II, Section 203 (b), (30F.R. 12319-25). Each Bidder is required to state in his bid whether he has participated in any previous contract or subcontract subject to the equal opportunity clause; and, if so, whether he has filed all compliance reports due under applicable filing requirements.

CONTRACTOR'S CERTIFICATION

Contractor's Name: _____

Address: _____

1. Bidder has participated in a previous contract or subcontract subject to the Equal Opportunity Clause. YES ___ NO ___
2. Compliance reports were required to be filed in connection with such contract or subcontract. YES ___ NO ___

If "YES", state what reports were filed and with what agency.

3. Bidder has filed all compliance reports due under applicable instructions, including SF-100. YES ___ NO ___
4. If answer to item is "NO", please explain in detail on reverse side of this certification.

Certification - The information above is true and complete to the best of my knowledge and belief. A willfully false statement is punishable by law. (U.S. Code, Title 18, Section 1001).

(NAME AND TITLE OF SIGNER - PLEASE TYPE)

(SIGNATURE)

(DATE)

CERTIFICATION OF NONSEGREGATED FACILITIES

(Applicable to federally assisted construction contracts and related subcontracts exceeding \$10,000, which are not exempt from the Equal Opportunity clause.)

The federally assisted construction contractor certifies that he does not maintain or provide for his employees any segregated facilities at any of his establishments, and that he does not permit his employees to permit their services at any location, under his control, where segregated facilities are maintained. The federally assisted construction contractor certifies further that he will not maintain or provide for his employees any segregated facilities at any of his establishments and that he will not permit his employees to perform their services at any location, under his control, where segregated facilities are maintained. The federally assisted construction contractor agrees that a breach of this certification is a violation of the Equal Opportunity clause in this contract. As used in this certification, the term 'segregated facilities' means any waiting rooms, work areas, rest rooms and wash rooms, restaurants and other eating areas, time clocks, locker rooms and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing facilities provided for employees which are segregated by explicit directive or are in fact segregated on the basis of race, creed, color, or national origin, because of habit, local custom, or otherwise. The federally assisted construction contractor agrees that (except where he has obtained identical certifications from proposed subcontractors for specific time periods) he will obtain identical certifications from proposed subcontractors prior to the award of subcontracts exceeding \$10,000 which are not exempt from the provisions of the Equal Opportunity clause, and that he will retain such certifications in his files.

Signature

Date

Name and Title of Signer (Please Type)

NOTE: The penalty for making false statements in offers is prescribed in 18 U..C. 1001.

CONTRACTOR'S ACKNOWLEDGMENT

(If Corporation)

STATE OF NEW YORK (SS:
COUNTY OF WESTCHESTER)

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

Notary Public

CONTRACTOR'S ACKNOWLEDGMENT

(If Individual)

On this ____ day of _____, 20____, before me personally came _____, to me known and known to me to be the same person described in and who executed the within instrument and he duly acknowledged to me that he executed the same for the purpose herein mentioned and, if operating under any trade name, that the certificate required by the New York State Penal Law, Sections 440 and 440-b has been filed with the County Clerk of Westchester County.

Notary Public

CONTRACTOR'S ACKNOWLEDGMENT

(If Partnership)

On this ____ day of _____, 20____, before me personally came _____, to me known, and known to me to be a member of the firm of _____ and the person described in and who executed the within instrument in behalf of said firm, and he acknowledged to me that he executed the same in behalf of, and as the act of said firm for the purposes herein mentioned and that the certificate required by the New York State Penal Law, Sections 440 and 440-b has been filed with the County Clerk of Westchester County.

Notary Public

CERTIFICATE OF AUTHORITY

I, _____ certify that
(officer other than officer executing proposal documents) I am the

_____ of _____
(title) (name of contractor)
the "Contractor) a corporation duly organized and in good standing under the law under
which organized, e.g. the New York Business Corp. Law) named in the foregoing
agreement; that _____ (person executing bid
proposal) who signed said agreement on behalf of the Contractor was, at the time of
execution _____ (the "Contractor)of the
Contractor; that said agreement was duly signed for and in behalf of said Contractor by
authority of its Board of Directors, thereunto duly authorized, and that such authority is in
full force and effect at the date hereof.

Date: _____

(Signature)

(Corporate seal)

STATE OF NEW YORK) SS:
COUNTY OF WESTCHESTER)

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

Notary Public

CERTIFICATE OF SURETY

The undersigned hereby certify that they are the duly authorized agents of

duly authorized to do business in the State of New York, and agree to furnish to

surety bonds for the faithful performance of any and all provisions contained in the Specifications and Contract. The maximum amount that we will be surety for on each bond is:

Surety Company or Agent

By _____

The terms of the Surety Company for furnishing the bond are hereby accepted.

Name of Bidder

By _____
(signature)

Witness

Title _____

SECTION D

**INDEMNIFICATION AGREEMENT,
AGREEMENT, PERFORMANCE, AND
LABOR & MATERIAL PAYMENT BOND**

INDEMNIFICATION AGREEMENT

The Contractor agrees to protect, defend, indemnify and hold harmless the **Village of Dobbs Ferry, AI Engineers, Inc., and AI Engineers, Inc. Dolph Rotfeld Engineering Division**, and any agents, officers, employees and consultants of any of them (individually and collectively referred to herein as the "Indemnified Parties"), free from and against any and all losses, penalties, damages, settlements, costs, charges, professional fees, attorneys fees, or other expenses or liabilities of every kind and character arising out of or relating to any and all claims, liens, demands, obligations, judgments, actions, proceedings or causes of action of every kind and character in connection with or arising directly or indirectly out of this agreement and/or the performance hereof (collectively the "Claims") and, without limiting the generality of the foregoing, including but not limited to any and all such Claims relating to personal injury, death, damage to property, defects in materials or workmanship, actual or alleged infringement of any patent, trademark, copyright (or application for any thereof) or of any other tangible or intangible personal or property right, or any actual or alleged violation of any applicable statute, ordinance, administrative order, rule or regulation, decree of any court, shall be included in the indemnity hereunder. The Contractor further agrees to investigate respond to, and provide legal defense, including appeals, with attorneys acceptable to the Indemnified Parties in their sole discretion, to defend any such Claims at Contractor's sole expense and agrees to bear all other costs and expenses related thereto, even such Claims are groundless, false or fraudulent. In any case in which such indemnification would violate Section 5-322.1 of the New York General Obligations Law, or any other applicable legal prohibition, the foregoing provisions concerning indemnification shall not be construed to indemnify the Owner for damage arising out of bodily injury to persons or damage to property caused by or resulting from the sole negligence of the Owner, or its employees.

SIGNED AND SEALED this _____ day of _____ A.D. 20_____

In the presence of: { _____ (Seal)
PRINCIPAL

WITNESS { _____
TITLE

AGREEMENT

THIS AGREEMENT, made this _____ day of _____, 20__, by and between _____, (a corporation organized and existing under the state of

_____)*(a partnership consisting of
_____)*(an individual trading as
_____)*(hereinafter called the “**Contractor**”
and _____ Village of Dobbs Ferry, New York _____ hereinafter called the “**Owner**”

WITNESSETH, that the Contractor and the Owner for the considerations stated herein mutually agree as follows:

Article 1. Statement of Work. The Contractor shall furnish all supervision, technical personnel, labor, materials, machinery, tools, appurtenances, equipment and services, including utility and transportation services and perform and complete all work and required supplemental work for the completion of this Contract in strict accordance with the hereinafter referenced Contract Documents, including all Addenda thereto, numbered _____

Article 2. The Contract Price. The Owner will pay the Contractor for the performance of the Contract in current funds, for the total quantities of work performed at the unit prices stipulated in the bid for the respective items of work completed subject to additions and deduction as provided in the Section-Changes in the work in the General Conditions.

* Strike out the two terms not applicable.

Article 3. Contract Documents. The Contract Documents shall consist of the following (including their attachments and exhibits):

- | | |
|--|---|
| a. This agreement | f. Special Conditions |
| b. Addenda (if any) | g. General Conditions |
| c. Invitation for Bids | h. Technical Specifications |
| d. Instructions to Bidders | i. Drawings (as listed in the Schedule of Drawings) |
| e. Signed copy of Bid, With all attachments required for the Bidding | j. Payment & Performance Bonds |
| | k. Certificates of Insurance |

This Agreement, together with other Documents enumerated in the Article 3, which said other Documents are as fully a part of the Contract as if hereto attached or herein repeated, forms the Contract between the parties hereto. In the event that any provision in any component part of this Contract conflicts with any provision of any other component, the part first enumerated in this Article 3 shall govern, except as otherwise specifically stated.

IN WITNESS WHEREOF, the parties hereto have caused this AGREEMENT to be executed in five (5) original copies on the day and year first above written.

ATTEST: _____
(Contractor)

By: _____
(Name of Contractor)

Title: _____

Village of Dobbs Ferry, New York

By: _____

Title _____

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 the Contractor, and _____

(Here insert the legal title of Surety)

as Surety, hereinafter called Surety, are held and firmly bound unto _____

(Here insert the name and address or legal title of the Owner)

_____ as Oblige 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 agreement dated _____

20____ entered into a Contract with Owner for _____

in accordance with drawings and specifications prepared by _____

(Here insert full name and title)

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, the Contractor shall promptly and faithfully perform said Contract, then this obligation shall be null and void; otherwise shall remain in full force and effect.

- A. The Surety hereby waives notice of any alteration or extension of time made by the Owner.
- B. Whenever Contractor shall be, and declared by Owner to be in default under the Contract, the Owner having performed Owner's obligations thereunder, the Surety may promptly remedy the default, or shall promptly
- C. Complete the Contract in accordance with its terms and conditions, or
 - 1. Obtain a bid or bids for submission to Owner for completing the Contract in accordance with 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 the exceeding, including other costs and damages for which the Surety may be liable hereunder, the amount 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 thereof less the amount properly paid by Owner to Contractor.
 - 2. Any suit under this bond must be instituted before the expiration of two (2) years from the date which final payment under the Contract fails due.
- D. 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 _____ A.D. 20_____

In the presence of: { _____ (Seal)
PRINCIPAL

WITNESS { _____
TITLE

{ _____ (Seal)
SURETY

WITNESS { _____
TITLE

LABOR AND MATERIAL PAYMENT BOND

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 _____

(Here insert the legal title of Surety)

as Surety, hereinafter called Surety, are held and firmly bound unto

(Here insert the name and address or legal title of the Owner)

as Obligee, hereinafter called Owner, for the use and benefit of claimants as herein below defined,

in the amount of _____

_____ Dollars (\$ _____)

for the 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 agreement dated _____,

20____ entered into a contract with Owner for _____

in accordance with the drawings and specifications prepared by _____

(Here insert full name and title)

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 the Principal shall promptly make payment to all claimants as hereinafter defined, for all labor and material used or reasonably 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:

- A. 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.
- B. 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 judgment 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.
- C. No suit or action shall be commenced hereunder by any claimant,
 - 1. 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 material for which said claim is made, stating with substantial accuracy the amount claimed and the name of the part 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 which is 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.
 - 2. After the expiration of one (1) year following the date on which the Principal ceased work on such 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.
 - 3. 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 part 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.

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

SIGNED AND SEALED this _____ day of _____ A.D.20_____

In the presence of:

{ _____ (Seal)
PRINCIPAL

WITNESS

{ _____
TITLE

{ _____ (Seal)
SURETY

WITNESS

{ _____
TITLE

SECTION E

SHOP DRAWING SUBMITTAL FORM,
PAYMENT SUBMISSION FORM
& GENERAL RELEASE

SUBMITTAL FORM

SUBMITTALS:

All submittals prepared by or for the Contractor, shall be thoroughly checked by the Contractor for accuracy and conformance to the intent of the Contract Documents before being submitted to the Engineer and shall bear the Contractor's signature certifying that they have been so checked. Before submitting them to the Engineer, all submittals shall be properly labeled and consecutively numbered. **Contractor shall attach this completed sheet to all submittals.** The Contractor shall note, in writing, if there are any deviations from the Contract drawings and specifications.

CONTRACT NO.: _____ DATE: _____

NAME OF PROJECT: _____

SPECIFICATION SECTION: _____

MANUFACTURER: _____

ITEM/MODEL NO.: _____

This document has been reviewed, coordinated and checked for accuracy of content and for compliance with the Contract Documents. The information contained herein has been coordinated with all other Contract Work.

CONTRACTOR: _____

SIGNATURE: _____

DO NOT WRITE BELOW THIS LINE

☐ **NO EXCEPTION TAKEN**

☐ **MAKE CORRECTIONS NOTED**

☐ **REJECTED**

☐ **REVISE AND RESUBMIT**

Checking is only for general conformance with the design concept of the project and general compliance with the information given in the contract documents. Any action shown is subject to the requirements of the plans and specifications. Contractor is responsible for; dimensions which shall be confirmed and correlated at the job site; Fabrication processes and techniques of construction; Coordination of his work with that of all other trades; and the satisfactory performance of his work.

AI ENGINEERS, INC., DOLPH ROTFELD ENGINEERING DIVISION

DATE _____ BY _____

PAYMENT SUBMISSION FORM

PROJECT: _____

PAYMENT ESTIMATE NO. _____

DATE _____

Work Credited Under Unit Prices	
Change Orders	
Total Work Credited To Date	
5% Retained	
Sub-Total	
PREVIOUS PAYMENTS	
TOTAL DUE THIS PAYMENT	

I have reviewed the estimate and certify that the quantities are correct and that I know that there are no claims for additional work.

(CONTRACTOR)

DATE: _____

I hereby certify that the above is the total amount of work completed, and the foregoing payment is due under the contract.

(RESIDENT ENGINEER)

PROJECT: _____

PAYMENT ESTIMATE NO. _____

DATE OF ESTIMATE _____

FROM _____

PAGE _____ **of** _____

TO _____

ITEM NO.	DESCRIPTION	UNIT	ESTIMATED QUANTITY FROM BID	UNIT PRICE	TOTAL	QUANTITY PRIOR TO THIS ESTIMATE	QUANTITY THIS ESTIMATE	TOTAL QUANTITY TO DATE	TOTAL VALUE OF WORK IN PLACE

GENERAL RELEASE

(TO-BE SUBMITTED WITH REQUISITION FOR FINAL PAYMENT)

KNOW ALL MEN BY THESE PRESENTS, that

Contractor

for and in consideration of the sum of _____

lawful money of the United States of America, to it in hand paid by

(Owner/Contracting Agency)

have remised, released, quit-claimed, and forever discharged, and by these presents do for its successors and assigns remise, release, quit-claim, and forever discharge the said

(Owner/Contracting Agency)

and its successors and assigns and administrators, of and from and all manner of action and actions, caused and causes of action, suits, debts, dues, sum and sums of money, accounts, reckonings, bonds, bills, specialties, covenants, contracts, controversies, agreements, promises, variances, trespasses, damages, judgements, patents, extents, executions, claims and demands whatsoever in law and unity which against the said

(Owner/Contracting Agency)

now have or which heirs, executors, or administrator hereafter can, shall, or may have, for upon or by reason of any matter, cause or thing whatsoever, from the beginning of the world to the day of the date of these presents rising out of the construction, in accordance with contract entered into between parties hereto, dated _____
two thousand and _____, any admittance or supplements thereto.

IN WITNESS WHEREOF, the undersigned corporation has caused this agreement to be signed by its _____ and its corporate seal to be hereto affixed and duly attested by its _____
this _____ day of _____, 20__.

ATTEST:

PRINCIPAL:

SECTION F

MAINTENANCE BOND

MAINTENANCE BOND

KNOW ALL MEN BY THESE PRESENTS:

That We, _____
_____(hereinafter called the Principal)
as Principal and the _____, a _____ Corporation with an
office and place of business for the State of New York at _____, New York,
(hereinafter called the Surety) as Surety, are held and firmly bound unto the _____

(hereinafter called the Obligee) as Obligee in the sum of _____
_____ (\$ _____) DOLLARS,
lawful money of the United States of America, for the payment whereof the Principal and
Surety bind themselves, their successors and assigns, jointly and severally, firmly by
these presents.

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

WHEREAS, the Principal heretofore entered into a written contract with the
Obligee for _____

WHEREAS, said Contract provides that the Principal shall guarantee _____

NOW, THEREFORE, the condition of this obligation is such, that if the above
Principal shall indemnify the Obligee against loss by reason of his failure to make good
at his own expense any defects or deficiencies in materials or workmanship which may
appear in the work under said contract with the period of two (2) years from the date of
acceptance of the work, then this obligation shall be void; otherwise to remain in full
force and effect.

Principal

By: _____

By: _____

MAINTENANCE BOND

STATE OF _____)

COUNTY OF _____)

On this _____ day of _____ 20 _____ before me
personally appeared the within named _____
to me known, and known to me to be _____,
the individual described in and who executed the within bond, and _____
_____ acknowledged to me that he _____
executed the same.

NOTARY PUBLIC

SECTION G

WAGE RATES



Kathy Hochul, Governor

Roberta Reardon, Commissioner

Village of Dobbs Ferry

Anthony Lopane, Associate Engineer
112 Main Street
Dobbs Ferry NY 10522

Schedule Year 2023 through 2024
Date Requested 08/14/2023
PRC# 2023009721

Location Gould Park
Project ID# Gould Park
Project Type Park improvements, including by not limited to; construction of new cast in place concrete retaining walls, stairs and ramp, installation of new sidewalks and curbs, asphalt pathway, construction of

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 Wage Case Number (PRC#) has been assigned to the schedule(s) for your project.

The schedule is effective from July 2023 through June 2024. 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 12226

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.

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 from 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 www.labor.ny.gov.

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 journeyworkers 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 Dobbs Ferry

Anthony Lopane, Associate Engineer
112 Main Street
Dobbs Ferry NY 10522

Schedule Year 2023 through 2024
Date Requested 08/14/2023
PRC# 2023009721

Location Gould Park
Project ID# Gould Park
Project Type Park improvements, including by not limited to; construction of new cast in place concrete retaining walls, stairs and ramp, installation of new sidewalks and curbs, asphalt pathway, construction of

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: ____/____/____	<input type="checkbox"/> (01) General Construction	
Approximate Completion Date: ____/____/____	<input type="checkbox"/> (02) Heating/Ventilation	
	<input type="checkbox"/> (03) Electrical	
	<input type="checkbox"/> (04) Plumbing	
	<input type="checkbox"/> (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.

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/public-work-and-prevailing-wage>

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) 568-5156		

* 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.

Payrolls and Payroll Records

Contractors and subcontractors are required to establish, maintain, and preserve for not less than six (6) years, contemporaneous, true, and accurate payroll records.

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.

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.

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

Westchester County General Construction

Boilermaker	08/01/2023
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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:	07/01/2023	01/01/2024
Boilermaker	\$ 65.88	\$ 67.38
Repairs & Renovations	65.88	67.38

Repairs & Renovation: Includes Repairing, Renovating replacement of parts to an existing unit(s).

SUPPLEMENTAL BENEFITS

Per Hour:

Boilermaker	33.5% of hourly	33.5% of Hourly
Repair \$ Renovations	Wage Paid	Wage Paid
	+ \$ 26.49	+ \$26.85

NOTE: "Hourly Wage Paid" shall include any and all premium(s) pay.

Repairs & Renovation Includes replacement of parts and repairs & renovation of existing unit.

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

Wage per hour:

(1/2) Year Terms at the following percentage of Boilermaker's Wage

1st	2nd	3rd	4th	5th	6th	7th
65%	70%	75%	80%	85%	90%	95%

Supplemental Benefits Per Hour:

Apprentice(s)	33.5% of Hourly Wage Paid Plus Amount Below	33.5% of Hourly Wage Paid Plus Amount Below
1st Term	\$ 20.12	\$ 20.36
2nd Term	21.03	21.28
3rd Term	21.95	22.22
4th Term	22.83	23.12
5th Term	23.76	24.07
6th Term	24.67	25.00
7th Term	25.58	25.93

NOTE: "Hourly Wage Paid" shall include any and all premium(s)

4-5

Carpenter	08/01/2023
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JOB DESCRIPTION Carpenter

DISTRICT 8

ENTIRE COUNTIES

Bronx, Kings, Nassau, New York, Putnam, Queens, Richmond, Rockland, Suffolk, Westchester

WAGES

Per hour: 07/01/2023

Piledriver \$ 59.16
+ 9.79*

Dockbuilder \$ 59.16
+ 9.79*

*This portion is not subject to overtime premiums

SUPPLEMENTAL BENEFITS

Per hour:

Journeyworker \$ 45.34

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
\$25.60	\$31.20	\$39.58	\$47.97
+ 5.30*	+ 5.30*	+ 5.30*	+ 5.30*

*This portion is not subject to overtime premiums

Supplemental benefits per hour:

All Terms: \$ 31.83

8-1556 Db

Carpenter

08/01/2023

JOB DESCRIPTION Carpenter

DISTRICT 8

ENTIRE COUNTIES

Bronx, Kings, Nassau, New York, Queens, Richmond, Rockland, Suffolk, Westchester

WAGES

Per hour: 07/01/2023

Carpet/Resilient

Floor Coverer \$ 55.05
+ 8.25*

*This portion is not subject to overtime premiums

INCLUDES HANDLING & INSTALLATION OF ARTIFICIAL TURF AND SIMILAR TURF INDOORS/OUTDOORS.

SUPPLEMENTAL BENEFITS

Per hour:

\$ 39.45

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
\$ 25.20	\$ 28.20	\$ 32.45	\$ 40.33

+ 1.85* + 2.35* + 2.85* + 3.85*

*This portion is not subject to overtime premiums

Supplemental benefits per hour:

1st	2nd	3rd	4th
\$ 15.22	\$ 16.22	\$ 19.32	\$ 20.32

8-2287

Carpenter**08/01/2023**

JOB DESCRIPTION Carpenter

DISTRICT 8

ENTIRE COUNTIES

Bronx, Dutchess, Kings, Nassau, New York, Orange, Putnam, Queens, Richmond, Rockland, Suffolk, Westchester

WAGES

Per Hour: 07/01/2023

Marine Construction:

Marine Diver \$ 74.03
+ 9.79*

Marine Tender \$ 53.57
+ 9.79*

*This portion is not subject to overtime premiums

SUPPLEMENTAL BENEFITS

Per Hour:

Journeyworker \$ 45.34

OVERTIME PAY

See (B, E, E2, Q) on OVERTIME PAGE

HOLIDAY

Paid: See (18, 19) on HOLIDAY PAGE

Overtime: See (5, 6, 10, 11, 13, 16, 18, 19) on HOLIDAY PAGE

REGISTERED APPRENTICES

Wages per hour:

One (1) year terms.

1st year	\$ 25.60 + 5.30*
2nd year	31.20 + 5.30*
3rd year	39.58 + 5.30*
4th year	47.97 + 5.05*

*This portion is not subject to overtime premiums

Supplemental Benefits

Per Hour:

All terms \$ 31.83

8-1456MC

Carpenter**08/01/2023**

JOB DESCRIPTION Carpenter

DISTRICT 8

ENTIRE COUNTIES

Bronx, Kings, Nassau, New York, Putnam, Queens, Richmond, Rockland, Suffolk, Westchester

WAGES

Per hour: 07/01/2023

Building
Millwright \$ 58.70
 + 12.62*

*This portion is not subject to overtime premiums

SUPPLEMENTAL BENEFITS

Per hour:

Millwright \$ 44.31

OVERTIME PAY

See (B, E, Q) on OVERTIME PAGE

HOLIDAY

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.
\$31.74	\$37.19	\$42.64	\$53.54
+ 6.75*	+ 7.92*	+ 9.09*	+ 11.43*

*This portion is not subject to overtime premiums

Supplemental benefits per hour:

One (1) year terms:

1st.	2nd.	3rd.	4th.
\$29.81	\$32.34	\$35.52	\$39.94

8-740.1

Carpenter

08/01/2023

JOB DESCRIPTION Carpenter

DISTRICT 8

ENTIRE COUNTIES

Bronx, Kings, Nassau, New York, Queens, Richmond, Suffolk, Westchester

WAGES

Per Hour:

07/01/2023

Timberman \$ 54.05
 + 10.26*

*This portion not subject to overtime premiums

SUPPLEMENTAL BENEFITS

Per Hour:

07/01/2023

\$ 44.55

OVERTIME PAY

See (B, E, E2, Q) 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:

One (1) year terms:

1st	2nd	3rd	4th
\$23.42	\$28.53	\$36.18	\$43.84
+ 5.55*	+ 5.55*	+ 5.55*	+ 5.55*

*This portion is not subject to overtime premiums

Supplemental benefits per hour:

All terms \$ 31.54

8-1556 Tm

Carpenter

08/01/2023

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: 07/01/2023

Core Drilling:

Driller \$ 43.88
+ 2.50*

Driller Helper \$ 34.47
+ 2.50*

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 is not subject to overtime premiums

SUPPLEMENTAL BENEFITS

Per hour:

Driller and Helper \$ 28.85

OVERTIME PAY

See (B, G, P) on OVERTIME PAGE

HOLIDAY

Paid: See (5, 6) on HOLIDAY PAGE

Overtime: See (5, 6) on HOLIDAY PAGE

8-1536-CoreDriller

Carpenter - Building / Heavy&Highway

08/01/2023

JOB DESCRIPTION Carpenter - Building / Heavy&Highway

DISTRICT 11

ENTIRE COUNTIES

Putnam, Rockland, Westchester

WAGES

WAGES:(per hour)

Applies to CAPRENTER BUILDING/HEAVY & HIGHWAY/TUNNEL:

	07/01/2023	07/01/2024 Additional	07/01/2025 Additional	07/01/2026 Additional
Base Wage	\$ 39.80 +\$6.71*	\$ 1.25**	\$ 1.25**	\$ 1.25**

*For all hours paid straight or premium.

**To be allocated at a later date.

SHIFT DIFFERENTIAL: When it is mandated by a Government Agency irregular or off shift can be worked. The Carpenter shall receive an additional fifteen percent (15%) of wage plus applicable benefits.

SUPPLEMENTAL BENEFITS

Per hour:

Journeyworker \$ 33.22

OVERTIME PAY

See (B, E, Q) on OVERTIME PAGE

HOLIDAY

BUILDING:

Paid: See (1) on HOLIDAY PAGE.

Overtime: See (5, 6, 16, 25) on HOLIDAY PAGE.

- Holidays that fall on Sunday will be observed Monday.

HEAVY&HIGHWAY/TUNNEL:

Paid: See (5, 6, 25) on HOLIDAY PAGE

Overtime: See (5, 6) on HOLIDAY PAGE

- Holidays that fall on Sunday will be observed Monday

- Must be employed during the five (5) work days immediately preceding a holiday or during the five (5) work days following the paid holiday to receive holiday pay

- If Employee is entitled to a paid holiday, the Employee is paid the Holiday wage and supplemental benefits whether they work or not. If Employee works the Holiday, the Employee will receive holiday pay (including supplemental benefits), plus the applicable premium wage for working the Holiday. If Employee works in excess of 8 hours on Holiday, then benefits will be paid for any hours in excess of 8 hours.

REGISTERED APPRENTICES

1 year terms at the following wage rates:

1st	2nd	3rd	4th	5th
\$ 19.90	\$ 23.88	\$ 25.87	\$ 27.86	\$ 31.84
+3.58*	+3.58*	+3.58*	+3.58*	+3.58*

*For all hours paid straight or premium

SUPPLEMENTAL BENEFITS per hour:

All terms \$ 16.27

11-279.1B/HH

Electrician

08/01/2023

JOB DESCRIPTION Electrician

DISTRICT 9

ENTIRE COUNTIES

Bronx, Kings, New York, Queens, Richmond, Westchester

WAGES

Per hour: 07/01/2023 03/07/2024

Service Technician \$ 36.40 \$ 37.40

Service and Maintenance on Alarm and Security Systems.

Maintenance, repair and /or replacement of defective (or damaged) equipment on, but not limited to, Burglar - Fire - Security - CCTV - Card Access - Life Safety Systems and associated devices. (Whether by service contract of T&M by customer request.)

SUPPLEMENTAL BENEFITS

Per hour:

Journeyworker: \$ 21.07 \$ 21.85

OVERTIME PAY

See (B, E, Q) on OVERTIME PAGE

HOLIDAY

Paid: See (5, 6, 11, 15, 16, 17, 25, 26) on HOLIDAY PAGE

Overtime: See (5, 6, 11, 15, 16, 17, 25, 26) on HOLIDAY PAGE

9-3H

Electrician

08/01/2023

JOB DESCRIPTION Electrician

DISTRICT 8

ENTIRE COUNTIES

Westchester

WAGES

Per hour: 07/01/2023 04/18/2024 04/17/2025

*Electrician/A-Technician \$ 55.75 \$ 56.75 \$ 58.75

Teledata	55.75	56.75	58.75
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*All new installations of wiring, conduit, junction boxes and light fixtures for projects with a base bid of more than \$325,000. For projects with a base bid of \$325,000 or less, see Maintenance and Repair rates.

Note: On a job where employees are required to work on bridges over navigable waters, transmission towers, light poles, bosun chairs, swinging scaffolds, etc. 40 feet or more above the water or ground or under compressed air, or tunnel projects under construction or where assisted breathing apparatus is required, they will be paid at the rate of time and one-half for such work except on normal pole line or building construction work.

SUPPLEMENTAL BENEFITS

Per hour:

Journeyworker	\$ 56.26	\$59.39	\$61.09
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OVERTIME PAY

See (A, G, *J, P) on OVERTIME PAGE

*NOTE: Emergency work on Sunday and Holidays is at the time and one-half overtime rate.

HOLIDAY

Paid: See (1) on HOLIDAY PAGE

Overtime: See (5, 6, 8, 11, 15, 16, 25) on HOLIDAY PAGE

REGISTERED APPRENTICES

(1) year terms at the following wage rates:

	07/01/2023	04/18/2024	04/17/2025
1st term	\$ 16.00	\$16.00	\$16.00
2nd term	17.00	17.00	17.00
3rd term	19.00	19.00	19.00
4th term	21.00	21.00	21.00
MIJ 1-12 months	26.50	26.50	26.50
MIJ 13-18 months	30.00	30.00	30.00

Supplemental Benefits per hour:

	07/01/2023	04/18/2024	04/17/2025
1st term	\$ 11.63	\$ 12.40	\$ 12.72
2nd term	14.30	15.07	15.89
3rd term	15.62	16.40	17.23
4th term	16.95	17.73	18.57
MIJ 1-12 months	13.92	15.72	15.89
MIJ 13-18 months	14.33	16.17	16.29

8-3/W

Electrician

08/01/2023

JOB DESCRIPTION Electrician

DISTRICT 8

ENTIRE COUNTIES

Westchester

WAGES

Per hour

	07/01/2023	04/18/2024	04/17/2025
Electrician -M	\$ 30.00	\$ 30.00	\$ 30.00
H - Telephone	30.00	30.00	30.00

All work with a base bid amount of \$325,000 or less. Including repairs and /or replacement of defective electrical and teledata equipment, all work necessary to retrofit, service, maintain and repair all kinds of lighting fixtures and local lighting controls, and washing and cleaning of foregoing fixtures.

*If the project exceeds \$375,000 due to changes in the scope of work, an Electrician/A Technician must be part of the labor ratio.

SUPPLEMENTAL BENEFITS

	07/01/2023	04/18/2024	04/17/2025
Electrician &			
H - Telephone	\$ 14.33	\$ 16.17	\$ 16.29

OVERTIME PAY

See (B, G, *J, P) on OVERTIME PAGE

*Note: Emergency work on Sunday and Holidays is at the time and one-half overtime rate.

HOLIDAY

Paid: See (1) on HOLIDAY PAGE

Overtime: See (5, 6, 8, 11, 15, 16, 25) on HOLIDAY PAGE

Elevator Constructor

08/01/2023

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:

07/01/2023

Elevator Constructor \$ 77.49

Modernization &
Service/Repair \$ 60.89

NOTE - The 'Employer Registration' (30.1) use of a '4 Day/10 Hour Work schedules' will no longer be accepted or processed. All registered projects prior to June 30,2023 will expire within the granted time frame.

For Pre-Registered Projects Four (4), Ten (10) hour days may be worked at straight time during a week, Monday thru Thursday. Friday may be used as a make-up day. Tuesday thru Friday may be worked with no make-up day. For further clarification contact your local Bureau Office.

SUPPLEMENTAL BENEFITS

Per Hour:

Elevator Constructor \$ 45.574

Modernization &
Service/Repairs 44.412

OVERTIME PAY

Constructor See (D, M, T) on OVERTIME PAGE.

Modern/Service See (B, F, S) 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:

*Note:1st, 2nd, 3rd Terms are based on Average wage of Constructor & Modernization.

Terms 4 thru 9 Based on Journeyman's wage of classification Working in.

6 MONTH TERMS:

1st Term*	2nd & 3rd Term*	4th & 5th Term	6th & 7th Term	8th & 9th Term
50%	50%	55%	65%	75%

SUPPLEMENTAL BENEFITS

Elevator Constructor

1st Term	\$ 0.00
2nd & 3rd Term	36.024
4th & 5th Term	36.943
6th & 7th Term	38.448
8th & 9th Term	39.953

Modernization &
Service/Repair

1st Term	\$ 0.00
2nd & 3rd Term	35.694
4th & 5th Term	36.525
6th & 7th Term	37.948
8th & 9th Term	39.38

Elevator Constructor**08/01/2023**

JOB DESCRIPTION Elevator Constructor**DISTRICT 1****ENTIRE COUNTIES**

Columbia, Dutchess, Greene, Orange, Putnam, Sullivan, Ulster

PARTIAL COUNTIES

Delaware: Towns of Andes, Bovina, Colchester, Davenport, Delhi, Harpersfield, Hemdon, Kortright, Meredith, Middletown, Roxbury, Hancock & Stamford

Rockland: Only the Township of Stony Point.

Westchester: Only the Townships of Bedford, Lewisboro, Cortland, Mt. Kisco, North Salem, Pound Ridge, Somers and Yorktown.

WAGES

Per Hour	07/01/2023	01/01/2024
Mechanic	\$ 67.35	\$ 70.15
Helper	70% of Mechanic Wage Rate	70% of Mechanic Wage Rate

NOTE - The "Employer Registration" (30.1) use of a '4 Day/10 Hour Work schedules' will no longer be accepted or processed. All registered projects prior to June 30, 2023 will expire within the granted time frame.

For Pre-Registered Projects Four (4), Ten (10) hour days may be worked at straight time during a week, Monday thru Thursday. Friday may be used as a make-up day. Tuesday thru Friday may be worked with no make-up day. For further clarification contact your local Bureau Office.

SUPPLEMENTAL BENEFITS

Per hour	07/01/2023	01/01/2024
Journeyman/Helper	\$ 37.335*	\$ 37.885*

(*)Plus 6% of regular hourly if less than 5 years of service. Plus 8% of regular hourly rate if more than 5 years of service.

OVERTIME PAY

See (D, O) on OVERTIME PAGE

HOLIDAY

Paid: See (5, 6, 15, 16) on HOLIDAY PAGE

Overtime: See (5, 6, 15, 16) on HOLIDAY PAGE

Note: When a paid holiday falls on Saturday, it shall be observed on Friday. When a paid holiday falls on Sunday, it shall be observed on Monday.

REGISTERED APPRENTICES

Wages per hour:

0-6 mo*	6-12 mo	2nd yr	3rd yr	4th yr
50 %	55 %	65 %	70 %	80 %

(*)Plus 6% of the hourly rate, no additional supplemental benefits.

Supplemental Benefits per hour worked:

Same as Journeyman/Helper

1-138

Glazier**08/01/2023**

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:	7/01/2023
Glazier & Glass Tinting \$ 61.64	
*Scaffolding	65.64
Window Film	
**Repair & Maintenance	30.76

*Scaffolding includes swing scaffold, 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 \$184,000.

SUPPLEMENTAL BENEFITS

Per hour: 7/01/2023

Glazier & Glass Tinting \$ 40.20

Window Film
Repair & Maintenance 23.19

OVERTIME PAY

See (B, E, Q, V) on OVERTIME PAGE

For 'Repair & Maintenance' see (B, B2, I, S) on overtime page.

HOLIDAY

Paid: See (1) on HOLIDAY PAGE

Overtime: See (4, 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:

7/01/2023

1st term \$ 21.93

2nd term 30.05

3rd term 39.95

4th term 48.97

Supplemental Benefits:

(Per hour)

1st term \$ 18.25

2nd term 25.97

3rd term 31.27

4th term 34.32

8-1087 (DC9 NYC)

Insulator - Heat & Frost

08/01/2023

JOB DESCRIPTION Insulator - Heat & Frost

DISTRICT 8

ENTIRE COUNTIES

Dutchess, Orange, Putnam, Rockland, Westchester

WAGES

Per hour: 07/01/2023 06/01/2024

Insulator \$ 59.25 + \$ 2.50

Discomfort &
Additional Training** 62.31 + \$ 2.50

Fire Stop Work* 31.77 + \$ 2.50

* Applies on all exclusive Fire Stop Work (When contract is for Fire Stop work only). No apprentices on these contracts only.

**Applies to work requiring; garb or equipment worn against the body not customarily worn by insulators; psychological evaluation ;special training, including but not limited to "Yellow Badge" radiation training

Note: Additional \$0.50 per hour for work 30 feet or more above floor or ground level.

SUPPLEMENTAL BENEFITS

Per hour:

Journeyworker \$ 37.35

Discomfort & Additional Training	39.39
Fire Stop Work:	
Journeyworker	19.03

OVERTIME PAY

See (B, E, E2, Q, *T) on OVERTIME PAGE

HOLIDAY

Paid: See (1) on HOLIDAY PAGE

Note: Last working day preceding Christmas and New Years day, workers shall work no later than 12:00 noon and shall receive 8 hrs pay.

Overtime: See (2*, 4, 6, 16, 25) on HOLIDAY PAGE.

*Note: Labor Day triple time if worked.

REGISTERED APPRENTICES

(1) year terms:

Insulator Apprentices:

1st	2nd	3rd	4th
\$ 31.77	\$ 37.26	\$ 42.76	\$ 48.26

Discomfort & Additional Training Apprentices:

1st	2nd	3rd	4th
\$ 33.30	\$ 39.09	\$ 44.90	\$ 50.71

Supplemental Benefits paid per hour:

Insulator Apprentices:

1st term	\$ 19.03
2nd term	22.69
3rd term	26.36
4th term	30.03

Discomfort & Additional Training Apprentices:

1st term	\$ 20.06
2nd term	23.92
3rd term	27.78
4th term	31.66

8-91

Ironworker

08/01/2023

JOB DESCRIPTION Ironworker

DISTRICT 9

ENTIRE COUNTIES

Bronx, Kings, Nassau, New York, Queens, Richmond, Suffolk, Westchester

WAGES

Per Hour:	07/01/2023	01/01/2024
		Additional
Stone Derrickmen Rigger	\$ 72.90	+ \$ 1.64
Stone Handset Derrickman	70.47	+ \$ 1.11

SUPPLEMENTAL BENEFITS

Per hour:

Stone Derrickmen Rigger	\$ 43.10
Stone Handset Derrickman	42.84

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
07/01/2023	\$ 35.90	\$ 51.53	\$ 57.32	\$ 63.11

Supplemental Benefits:

Per hour:

07/01/2023	22.11	32.58	32.58	32.58
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Stone Handset:

1/2 year terms at the following hourly wage rate:

	1st	2nd	3rd	4th
07/01/2023	34.56	49.75	55.33	60.90

Supplemental Benefits:

Per hour:

07/01/2023	22.10	32.46	32.46	32.46
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9-197D/R

Ironworker

08/01/2023

JOB DESCRIPTION Ironworker

DISTRICT 4

ENTIRE COUNTIES

Bronx, Kings, Nassau, New York, Queens, Richmond, Suffolk, Westchester

WAGES

Per Hour: 07/01/2023

Ornamental	\$ 46.90
Chain Link Fence	46.90
Guide Rail	46.90

SUPPLEMENTAL BENEFITS

Per hour:

Journeyworker: \$ 63.04

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

Apprentices Hired after 9/1/18:

1 year terms

	07/01/2023
1st Term	\$ 21.13
2nd Term	24.77
3rd Term	28.40
4th Term	32.06

Supplemental Benefits per hour:

1st Term	\$ 17.90
2nd Term	19.15
3rd Term	20.41
4th Term	21.67

4-580-Or

Ironworker

08/01/2023

JOB DESCRIPTION Ironworker

DISTRICT 4

ENTIRE COUNTIES

Bronx, Kings, Nassau, New York, Queens, Richmond, Suffolk, Westchester

WAGES

PER HOUR:

	07/01/2023	01/01/2024 Additional	07/01/2024 Additional
Ironworker:			
Structural	\$ 57.20	\$ 1.75/Hr.*	\$ 1.75/Hr.*
Bridges			
Machinery			

(*)To be allocated at a later date.

SUPPLEMENTAL BENEFITS

PER HOUR PAID:

Journeyman \$ 87.35

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

WAGES PER HOUR:

6 month terms at the following rate:

1st	\$ 29.73
2nd	30.33
3rd - 6th	30.94

Supplemental Benefits

PER HOUR PAID:

All Terms \$ 60.69

4-40/361-Str

Ironworker

08/01/2023

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: 07/01/2023

Reinforcing &
Metal Lathing \$ 56.95

"Base" Wage \$ 55.20
plus \$ 1.75

"Base" Wage is used to calculate overtime hours only.

SUPPLEMENTAL BENEFITS

Per hour:

Reinforcing &
Metal Lathing \$ 42.72

OVERTIME PAY

See (B, E, Q, *X) on OVERTIME PAGE

*Only \$23.50 per Hour for non worked hours

Supplemental Benefit Premiums for Overtime Hours worked:

Time & One Half \$ 49.47
Double Time \$ 56.22

HOLIDAY

Paid: See (1) on HOLIDAY PAGE

Overtime: See (5, 6, 11, 13, *18, **19, 25) on HOLIDAY PAGE

*Note: Work performed after first 4 Hours.

REGISTERED APPRENTICES

(1) year terms at the following wage rates:

1st term	2nd term	3rd term	4th Term
Wage Per Hour: \$ 22.55	\$ 28.38	\$ 34.68	\$ 37.18
"Base" Wage \$ 21.00	\$ 26.80	\$ 33.10	\$ 35.60
plus \$1.55	plus \$1.58	plus \$1.58	plus \$1.58

"Base" Wage is used to calculate overtime hours ONLY.

SUPPLEMENTAL BENEFITS

Per Hour:

1st term	2nd term	3rd term	4th Term
\$ 18.17	\$ 21.34	\$ 22.00	\$ 22.50

4-46Reinf

Laborer - Building

08/01/2023

JOB DESCRIPTION Laborer - Building

DISTRICT 8

ENTIRE COUNTIES

Putnam, Westchester

WAGES

Per hour	07/01/2023	05/01/2024
Laborer	\$ 40.05 plus \$5.45**	+ \$ 2.00
Laborer - Asbestos & Hazardous Materials Removal	\$ 44.50*	+ \$ 2.00

* Abatement/Removal of:

- Lead based or lead containing paint on materials to be repainted is classified as Painter.
- Asbestos containing roofs and roofing material is classified as Roofer.

** This portion is not subject to overtime premium.

NOTE: Upgrade/Material condition work plan for work performed during non-outage under a wage formula of 90% wage/100% fringe benefits at nuclear power plants.

SUPPLEMENTAL BENEFITS

Per hour: 07/01/2023

Journeyworker \$ 30.50

OVERTIME PAY

See (B, E, E2, Q, *V) on OVERTIME PAGE

*Note: For Sundays and Holidays worked benefits are at the same premium as wages.

HOLIDAY

Paid: See (1) on HOLIDAY PAGE
Overtime: See (5, 6, 16, 25) on HOLIDAY PAGE

REGISTERED APPRENTICES

LABORER ONLY

Hourly terms at the following wage:

Level A 0-1000	Level B 1001-2000	Level C 2001-3000	Level D 3001-4000
\$ 28.08	\$ 31.90	\$ 35.72	\$ 39.54

Supplemental Benefits per hour:

Apprentices
All terms \$ 23.20

8-235/B

Laborer - Heavy&Highway

08/01/2023

JOB DESCRIPTION Laborer - Heavy&Highway

DISTRICT 8

ENTIRE COUNTIES

Putnam, Westchester

WAGES

****PUTNAM: APPLIES TO ALL HEAVY & HIGHWAY WORK EXCLUDING HIGHWAYS, STREETS, AND BRIDGES****

GROUP I: Blaster, Quarry Master, Curbs/Asphalt Screedman, Pipe Jacking and Boring Operations Operator, Qualified Dead Condition Pipe Fuser (B Mechanic)

GROUP II: Burner, Drillers(jumbo, joy, wagon, air track, hydraulic), Drill Operator, Self Contained Rotary Drill, Curbs, Raker, Bar Person, Concrete Finisher.

GROUP III: Pavement Breakers, Jeep Operator, Jack Hammer, Pneumatic Tools (all), Gas Driller, Guniting, Railroad Spike Puller, Pipelayer, Chain Saw, Deck winches on scows, Power Buggy Operator, Power Wheelbarrow Operator, Bar Person Helper, Compressed Air lance, Water Jet Lance.

GROUP IV: Concrete Laborers, Asph. Worker, Rock Scaler, Vibrator Oper., Bit Grinder, Air Tamper, Pumps, Epoxy (adhesives, fillers and troweled on), Barco Rammer, Concrete Grinder, Crack Router Operator, Guide Rail-digging holes and placing concrete and demolition when not to be replaced, distribution of materials and tightening of bolts.

GROUP V: Drillers Helpers, Common Laborer, Mason Tenders, Signal Person, Pit Person, Truck Spotter, Powder Person, Landscape/Nursery Person, Dump Person, Temp. Heat.

GROUP VIA: Asbestos/Toxic Waste Laborer-All removal (Roads, Tunnels, Landfills, etc.) Confined space laborer, Bio-remediation, Phyto-remediation, Lead or Hazardous material, Abatement Laborer.

Wages:(per hour) 07/01/2023

GROUP I	\$ 49.55*
GROUP II	48.20*
GROUP III	47.80*
GROUP IV	47.45*
GROUP V	47.10*
GROUP VIA	49.10*
Operator Qualified	
Gas Mechanic(A Mech)	59.55*
Flagperson	40.75*

*NOTE: To calculate overtime premiums, deduct \$0.10 from above wages

SHIFT WORK: A shift premium will be paid on Public Work contracts for off-shift or irregular shift work when mandated by the NYS D.O.T. or other Governmental Agency contracts. Employees shall receive an additional 15% per hour above current rate for all regular and irregular shift work. Premium pay shall be calculated using the 15% per hour differential as base rate.

SUPPLEMENTAL BENEFITS

Per hour:

Journeyworker:

First 40 Hours	
Per Hour	\$ 26.60
Over 40 Hours	
Per Hour	19.85

OVERTIME PAY

See (B, E, P, R, S) on OVERTIME PAGE

HOLIDAY

Paid: See (5, 6, 8, 15, 25, 26) on HOLIDAY PAGE

Overtime: See (5, 6, 8, 15, 25, 26) on HOLIDAY PAGE

NOTE: For Holiday Overtime: 5, 6 - Code 'S' applies
For Holiday Overtime: 8, 15, 25, 26 - Code 'R' applies

REGISTERED APPRENTICES

	1st term	2nd term	3rd term	4th term
	1-1000hrs	1001-2000hrs	2001-3000hrs	3001-4000hrs
07/01/2023	\$ 27.46	\$ 32.41	\$ 37.12	\$ 41.83

Supplemental Benefits per hour:

1st term	\$ 3.85 - After 40 hours: \$ 3.60
2nd term	\$ 3.95 - After 40 hours: 3.60
3rd term	\$ 4.45 - After 40 hours: 4.00
4th term	\$ 5.00 - After 40 hours: 4.50

8-60H/H

Laborer - Tunnel

08/01/2023

JOB DESCRIPTION Laborer - Tunnel

DISTRICT 11

ENTIRE COUNTIES

Columbia, Dutchess, Greene, Orange, Otsego, Putnam, Rockland, Sullivan, Ulster, Westchester

PARTIAL COUNTIES

Chenango: Townships of Columbus, Sherburne and New Berlin.

Delaware: Townships of Andes, Bovina, Middletown, Roxbury, Franklin, Hamden, Stamford, Delhi, Kortright, Harpersfield, Merideth and Davenport.

WAGES

Class 1: All support laborers/sandhogs working above the shaft or tunnel.

Class 2: All laborers/sandhogs working in the shaft or tunnel.

Class 4: Safety Miners

Class 5: Site work related to Shaft/Tunnel

WAGES: (per hour)

	07/01/2023	06/01/2024	06/01/2025
Class 1	\$ 55.55	\$ 57.05	\$ 58.55
Class 2	57.70	59.20	60.70
Class 4	64.10	65.60	67.10
Class 5	47.65	49.90	51.40

Toxic and hazardous waste, lead abatement and asbestos abatement work will be paid an additional \$ 3.00 an hour.

SHIFT DIFFERENTIAL...On all Government mandated irregular shift work:

- Employee shall be paid at time and one half the regular rate Monday through Friday.
- Saturday shall be paid at 1.65 times the regular rate.
- Sunday shall be paid at 2.15 times the regular rate.

SUPPLEMENTAL BENEFITS

Per hour:

Benefit 1	\$ 35.73	\$ 36.98	\$ 38.23
Benefit 2	51.01	TBD	TBD
Benefit 3	71.28	TBD	TBD

Benefit 1 applies to straight time hours, paid holidays not worked.

Benefit 2 applies to over 8 hours in a day (M-F), irregular shift work hours worked, and Saturday hours worked.

Benefit 3 applies to Sunday and Holiday hours worked.

OVERTIME PAY

See (B, E, Q, X) on OVERTIME PAGE

HOLIDAY

Paid: See (5, 6, 15, 25) on HOLIDAY PAGE

Overtime: See (5, 6, 15, 16, 25) on HOLIDAY PAGE

When a recognized Holidays falls on Saturday or Sunday, holidays falling on Saturday shall be recognized or observed on Friday and holidays falling on Sunday shall be recognized or observed on Monday. Employees ordered to work on the Saturday or Sunday of the holiday or on the recognized or the observed Friday or Monday for those holidays falling on Saturday or Sunday shall receive double time the established rate and benefits for the holiday.

REGISTERED APPRENTICES

FOR APPRENTICE RATES, refer to the appropriate Laborer Heavy & Highway wage rate contained in the wage schedule for the County and location where the work is to be performed.

11-17/60/235/754Tun

Lineman Electrician

08/01/2023

JOB DESCRIPTION Lineman Electrician

DISTRICT 6

ENTIRE COUNTIES

Westchester

WAGES

A Lineman/Technician shall perform all overhead aerial work. A Lineman/Technician on the ground will install all electrical panels, connect all grounds, install and connect all electrical conductors, assembly of all electrical materials, conduit, pipe or raceway; placing of fish wire; pulling of cables, wires or fiber optic cable through such raceways; splicing of conductors; dismantling of such structures, lines or equipment.

A Groundman/Truck Driver shall: Build and set concrete forms, handle steel mesh, set footer cages, transport concrete in a wheelbarrow, hand or machine concrete vibrator, finish concrete footers, mix mortar, grout pole bases, cover and maintain footers while curing in cold weather, operate jack hammer, operate hand pavement breaker, tamper, concrete and other motorized saws, as a drill helper, operate and maintain generators, water pumps, chainsaws, sand blasting, operate mulching and seeding machine, air tools, electric tools, gas tools, load and unload materials, hand shovel and/or broom, prepare and pour mastic and other fillers, assist digger operator equipment/operator in ground excavation and restoration, landscape work and painting. Only when assisting a lineman technician, a groundman/truck driver may assist in installing conduit, pipe, cables and equipment.

Below rates apply to electrical overhead and underground distribution and maintenance work and overhead and underground transmission line work, electrical substations, switching structures, continuous pipe-type underground fluid or gas filled transmission conduit and cable installations, maintenance jobs or projects, railroad catenary installations and maintenance, third rail installations, the bonding of rails and the installation of fiber optic cable. (Ref #14.04.01)

NOTE: Includes Teledata Work within ten (10) feet of High Voltage Transmission Lines. Also includes digging of holes for poles, anchors, footer, and foundations for electrical equipment.

Per hour:	07/01/2023	05/06/2024
Lineman, Tech, Welder	\$ 60.41	\$ 61.91
Crane, Crawler Backhoe	60.41	61.91
Cable Splicer-Pipe Type	66.45	68.10
Digging Mach Operator	54.37	55.72
Cert. Welder-Pipe Type	63.43	65.01
Tractor Trailer Driver	51.35	52.62
Groundman, Truck Driver	48.33	49.53
Equipment Mechanic	48.33	49.53
Flagman	36.25	37.15

Additional \$1.00 per hour for entire crew when a helicopter is used.

NOTE: THE FOLLOWING RATES WILL APPLY ON ALL CONTRACTING AGENCY MANDATED MULTIPLE SHIFTS OF AT LEAST FIVE (5) DAYS DURATION WORKED BETWEEN THE HOURS LISTED BELOW:

1ST SHIFT	8:00 AM TO 4:30 PM REGULAR RATE
2ND SHIFT	4:30 PM TO 1:00 AM REGULAR RATE PLUS 17.3%
3RD SHIFT	12:30 AM TO 9:00 AM REGULAR RATE PLUS 31.4%

NOTE - The "Employer Registration" (30.1) use of a '4 Day/10 Hour Work schedules' will no longer be accepted or processed. All registered projects prior to June 30, 2023 will expire within the granted time frame.

For Pre-Registered Projects Four (4), Ten (10) hour days may be worked at straight time during a week, Monday thru Thursday. Friday may be used as a make-up day. Tuesday thru Friday may be worked with no make-up day. For further clarification contact your local Bureau Office.

SUPPLEMENTAL BENEFITS

Per hour worked (but also required on non-worked holidays):

	07/01/2023	05/06/2024
Lineman, Technician, or Equipment Operators with Crane License	\$ 29.40 *plus 7% of the hourly wage paid	\$ 30.90 *plus 7% of the hourly wage paid
All other Journeyman	\$ 26.40 *plus 7% of the hourly wage paid	\$ 26.90 *plus 7% of the hourly wage paid

*The 7% is based on the hourly wage paid, straight time or premium time.

OVERTIME PAY

See (B, E, Q,) on OVERTIME PAGE. *Note* Double time for emergency work designated by the Dept of Jurisdiction.
NOTE: WAGE CAP - Double the straight time hourly base wage shall be the maximum hourly wage compensation for any hour worked.
Contractor is still responsible to pay the hourly benefit amount for each hour worked.

HOLIDAY

Paid See (5, 6, 8, 13, 25) on HOLIDAY PAGE plus Governor of NYS Election Day.
Overtime See (5, 6, 8, 13, 25) on HOLIDAY PAGE plus Governor of NYS Election Day.

NOTE: All paid holidays falling on Saturday shall be observed on the preceding Friday. All paid holidays falling on Sunday shall be observed on the following Monday. Supplements for holidays paid at straight time.

REGISTERED APPRENTICES

WAGES per hour: 1000 hour terms at the following percentage of the applicable Journeyman Lineman wage.

1st	2nd	3rd	4th	5th	6th	7th
60%	65%	70%	75%	80%	85%	90%

SUPPLEMENTAL BENEFITS per hour:

07/01/2023	05/06/2024
\$ 26.40	\$ 26.90
*plus 7% of the hourly wage paid	*plus 7% of the hourly wage paid

*The 7% is based on the hourly wage paid, straight time or premium time.

6-1249aWest

Lineman Electrician - Teledata

08/01/2023

JOB DESCRIPTION Lineman Electrician - Teledata

DISTRICT 6

ENTIRE COUNTIES

Albany, Allegany, Broome, Cattaraugus, Cayuga, Chautauqua, Chemung, Chenango, Clinton, Columbia, Cortland, Delaware, Dutchess, Erie, Essex, Franklin, Fulton, Genesee, Greene, Hamilton, Herkimer, Jefferson, Lewis, Livingston, Madison, Monroe, Montgomery, Niagara, Oneida, Onondaga, Ontario, Orange, Orleans, Oswego, Otsego, Putnam, Rensselaer, Rockland, Saratoga, Schenectady, Schoharie, Schuyler, Seneca, St. Lawrence, Steuben, Sullivan, Tioga, Tompkins, Ulster, Warren, Washington, Wayne, Westchester, Wyoming, Yates

WAGES

Per hour:

For outside work, stopping at first point of attachment (demarcation).

	07/01/2023	01/01/2024	01/01/2025
Cable Splicer	\$ 37.73	\$ 39.24	\$ 40.81
Installer, Repairman	\$ 35.81	\$ 37.24	\$ 38.73
Teledata Lineman	\$ 35.81	\$ 37.24	\$ 38.73
Tech., Equip. Operator	\$ 35.81	\$ 37.24	\$ 38.73
Groundman	\$ 18.98	\$ 19.74	\$ 20.53

NOTE: EXCLUDES Teledata work within ten (10) feet of High Voltage (600 volts and over) transmission lines. For this work please see LINEMAN.

NOTE: THE FOLLOWING RATES WILL APPLY ON ALL CONTRACTING AGENCY MANDATED MULTIPLE SHIFTS OF AT LEAST FIVE (5) DAYS DURATION WORKED:

1ST SHIFT	REGULAR RATE
2ND SHIFT	REGULAR RATE PLUS 10%
3RD SHIFT	REGULAR RATE PLUS 15%

SUPPLEMENTAL BENEFITS

Per hour:	07/01/2023	01/01/2024	01/01/2025
Journeyman	\$ 5.70	\$ 5.70	\$ 5.70
	*plus 3% of the hourly wage paid	*plus 3% of the hourly wage paid	*plus 3% of the hourly wage paid

*The 3% is based on the hourly wage paid, straight time rate or premium rate.

OVERTIME PAY

See (B, E, Q) on OVERTIME PAGE

NOTE: WAGE CAP - Double the straight time hourly base wage shall be the maximum hourly wage compensation for any hour worked.

Contractor is still responsible to pay the hourly benefit amount for each hour worked.

HOLIDAY

Paid: See (1) on HOLIDAY PAGE

Overtime: See (5, 6, 16) on HOLIDAY PAGE

6-1249LT - Teledata

Lineman Electrician - Traffic Signal, Lighting

08/01/2023

JOB DESCRIPTION Lineman Electrician - Traffic Signal, Lighting

DISTRICT 6

ENTIRE COUNTIES

Westchester

WAGES

Lineman/Technician shall perform all overhead aerial work. A Lineman/Technician on the ground will install all electrical panels, connect all grounds, install and connect all electrical conductors which includes, but is not limited to road loop wires; conduit and plastic or other type pipes that carry conductors, flex cables and connectors, and to oversee the encasement or burial of such conduits or pipes.

A Groundman/Groundman Truck Driver shall: Build and set concrete forms, handle steel mesh, set footer cages, transport concrete in a wheelbarrow, hand or machine concrete vibrator, finish concrete footers, mix mortar, grout pole bases, cover and maintain footers while curing in cold weather, operate jack hammer, operate hand pavement breaker, tamper, concrete and other motorized saws, as a drill helper, operate and maintain generators, water pumps, chainsaws, sand blasting, operate mulching and seeding machine, air tools, electric tools, gas tools, load and unload materials, hand shovel and/or broom, prepare and pour mastic and other fillers, assist digger operator/equipment operator in ground excavation and restoration, landscape work and painting. Only when assisting a lineman technician, a groundman/truck driver may assist in installing conduit, pipe, cables and equipment.

A flagger's duties shall consist of traffic control only.

(Ref #14.01.03)

Per hour:	07/01/2023	05/06/2024
Lineman, Technician	\$ 54.73	\$ 55.95
Crane, Crawler Backhoe	54.73	55.95
Certified Welder	57.47	58.75
Digging Machine	49.26	50.36
Tractor Trailer Driver	46.52	47.56
Groundman, Truck Driver	43.78	44.76
Equipment Mechanic	43.78	44.76
Flagman	32.84	33.57

Above rates are applicable for installation, testing, operation, maintenance and repair on all Traffic Control (Signal) and Illumination (Lighting) projects, Traffic Monitoring Systems, and Road Weather Information Systems. Includes digging of holes for poles, anchors, footer foundations for electrical equipment; assembly of all electrical materials or raceway; placing of fish wire; pulling of cables, wires or fiber optic cable through such raceways; splicing of conductors; dismantling of such structures, lines or equipment.

NOTE: THE FOLLOWING RATES WILL APPLY ON ALL CONTRACTING AGENCY MANDATED MULTIPLE SHIFTS OF AT LEAST FIVE (5) DAYS DURATION WORKED BETWEEN THE HOURS LISTED BELOW:

1ST SHIFT	8:00 AM TO 4:30 PM REGULAR RATE
2ND SHIFT	4:30 PM TO 1:00 AM REGULAR RATE PLUS 17.3%
3RD SHIFT	12:30 AM TO 9:00 AM REGULAR RATE PLUS 31.4%

NOTE - The "Employer Registration" (30.1) use of a '4 Day/10 Hour Work schedules' will no longer be accepted or processed. All registered projects prior to June 30, 2023 will expire within the granted time frame.

For Pre-Registered Projects Four (4), Ten (10) hour days may be worked at straight time during a week, Monday thru Thursday. Friday may be used as a make-up day. Tuesday thru Friday may be worked with no make-up day. For further clarification contact your local Bureau Office.

SUPPLEMENTAL BENEFITS

Per hour worked (but also required on non-worked holidays):

	07/01/2023	05/06/2024
Lineman, Technician,	\$ 29.40	\$ 30.90

or Equipment Operators with Crane License	*plus 7% of the hourly wage paid	*plus 7% of the hourly wage paid
All other Journeyman	\$ 26.40 *plus 7% of the hourly wage paid	\$ 26.90 *plus 7% of the hourly wage paid

*The 7% is based on the hourly wage paid, straight time or premium time.

OVERTIME PAY

See (B, E, Q) on OVERTIME PAGE. *Note* Double time for emergency work designated by the Dept. of Jurisdiction.

NOTE: WAGE CAP - Double the straight time hourly base wage shall be the maximum hourly wage compensation for any hour worked. Contractor is still responsible to pay the hourly benefit amount for each hour worked.

HOLIDAY

Paid: See (5, 6, 8, 13, 25) on HOLIDAY PAGE and Governor of NYS Election Day.

Overtime: See (5, 6, 8, 13, 25) on HOLIDAY PAGE and Governor of NYS Election Day.

NOTE: All paid holidays falling on Saturday shall be observed on the preceding Friday. All paid holidays falling on Sunday shall be observed on the following Monday. Supplements for holidays paid at straight time.

REGISTERED APPRENTICES

WAGES per hour: 1000 hour terms at the following percentage of the applicable Journeyman Lineman wage.

1st 60%	2nd 65%	3rd 70%	4th 75%	5th 80%	6th 85%	7th 90%
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SUPPLEMENTAL BENEFITS per hour:

07/01/2023	05/06/2024
\$ 26.40 *plus 7% of the hourly wage paid	\$ 26.90 *plus 7% of the hourly wage paid

*The 7% is based on the hourly wage paid, straight time or premium time.

6-1249aWestLT

Mason - Building

08/01/2023

JOB DESCRIPTION Mason - Building

DISTRICT 9

ENTIRE COUNTIES

Nassau, Rockland, Suffolk, Westchester

WAGES

Per hour:	07/01/2023	12/04/2023 Additional	06/05/2024 Additional
Tile Setters	\$ 62.98	\$ 0.72	\$ 0.72

SUPPLEMENTAL BENEFITS

Per Hour:	\$ 25.61*
	+ \$10.04

* 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
07/01/2023 \$21.70	\$26.66	\$33.75	\$38.69	\$42.25	\$45.70	\$49.29	\$54.23	\$57.09	\$61.25

Supplemental Benefits per hour:

1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th
07/01/2023 \$12.55* +\$0.73	\$12.55* +\$0.78	\$15.36* +\$0.88	\$15.36* +\$0.88	\$16.36* +\$1.37	\$17.86* +\$1.42	\$18.86* +\$1.83	\$18.86* +\$1.88	\$16.86* +\$6.03	\$22.11* +\$6.61

* This portion of benefits subject to same premium rate as shown for overtime wages.

9-7/52A

Mason - Building	08/01/2023
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JOB DESCRIPTION Mason - Building

DISTRICT 11

ENTIRE COUNTIES

Putnam, Rockland, Westchester

PARTIAL COUNTIES

Orange: Only the Township of Tuxedo.

WAGES

Per hour:

07/01/2023

Bricklayer	\$ 45.89
Cement Mason	45.89
Plasterer/Stone Mason	45.89
Pointer/Caulker	45.89

Additional \$1.00 per hour for power saw work

Additional \$0.50 per hour for swing scaffold or staging work

SHIFT WORK: When shift work or an irregular workday is mandated or required by state, federal, county, local or other governmental agency contracts, the following premiums apply:

Irregular workday requires 15% premium

Second shift an additional 15% of wage plus benefits to be paid

Third shift an additional 25% of wage plus benefits to be paid

SUPPLEMENTAL BENEFITS

Per hour:

Journeyman	\$ 37.95
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OVERTIME PAY

OVERTIME:

Cement Mason See (B, E, Q, W) on OVERTIME PAGE.

All Others See (B, E, Q) on OVERTIME PAGE.

HOLIDAY

Paid: See (1) on HOLIDAY PAGE

Overtime: See (5, 6, 16, 25) on HOLIDAY PAGE

Whenever any of the above holidays fall on Sunday, they will be observed on Monday. Whenever any of the above holidays fall on Saturday, they will be observed on Friday.

REGISTERED APPRENTICES

Wages per hour:

750 hour terms at the following percentage of Journeyman's wage

1st	2nd	3rd	4th	5th	6th	7th	8th
50%	55%	60%	65%	70%	75%	80%	85%

Supplemental Benefits per hour

750 hour terms at the following percentage of journeyman supplements

1st	2nd	3rd	4th	5th	6th	7th	8th
50%	55%	60%	65%	70%	75%	80%	85%

Apprentices indentured before June 1st, 2011 receive full journeyman benefits

11-5wp-b

Mason - Building	08/01/2023
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JOB DESCRIPTION Mason - Building **DISTRICT 9**

ENTIRE COUNTIES
Bronx, Kings, Nassau, New York, Queens, Richmond, Suffolk, Westchester

WAGES

Building	07/01/2023	01/01/2024
Wages per hour:		Additional
Mosaic & Terrazzo Mechanic	\$ 60.65	\$1.06
Mosaic & Terrazzo Finisher	59.04	

SUPPLEMENTAL BENEFITS

Per hour:	
Mosaic & Terrazzo Mechanic	\$ 30.26* + \$9.16
Mosaic & Terrazzo Finisher	\$ 30.26* + \$9.15

*This portion of benefits subject to same premium rate as shown for overtime wages.

OVERTIME PAY

See (A, E, Q) on OVERTIME PAGE
07/01/2023- Deduct \$7.25 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	2nd	3rd	4th	5th	6th
	0-1500	1501-3000	3001-3750	3751-4500	4501-5250	5251-6000
	\$ 25.82	\$ 33.19	\$ 36.39	\$ 40.38	\$ 48.52	\$ 54.59

Supplemental Benefits per hour:

\$6.00*	\$7.72*	\$18.16*	\$23.27*	\$24.21*	\$27.24*
+\$3.21	+\$4.12	+\$5.50	+\$6.41	+\$7.33	+\$8.29

*This portion of benefits subject to same premium rate as shown for overtime wages.

9-7/3

Mason - Building	08/01/2023
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JOB DESCRIPTION Mason - Building **DISTRICT 9**

ENTIRE COUNTIES
Bronx, Kings, Nassau, New York, Queens, Richmond, Suffolk, Westchester

WAGES

Per hour:	07/01/2023	07/03/2023
Building-Marble Restoration:		
Marble, Stone &	\$ 47.22	\$ 47.44

Terrazzo Polisher

SUPPLEMENTAL BENEFITS

Per Hour:

Journeyworker:

Building-Marble Restoration:

Marble, Stone &

Polisher

\$ 30.29

\$ 30.64

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

1ST TERM APPRENTICE GETS PAID FOR ALL OBSERVED HOLIDAYS.

REGISTERED APPRENTICES

WAGES per hour:

900 hour term at the following wage:

1st 1- 900	2nd 901- 1800	3rd 1801- 2700	4th 2701
\$ 33.04	\$ 37.78	\$ 42.49	\$ 47.22

Supplemental Benefits Per Hour:

27.65	28.52	29.41	30.29
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07/03/2023

900 hour term at the following wage:

1st 1- 900	2nd 901- 1800	3rd 1801- 2700	4th 2701
\$ 33.19	\$ 37.95	\$ 42.69	\$ 47.44

Supplemental Benefits Per Hour:

27.99	28.86	29.76	30.64
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9-7/24-MP

Mason - Building

08/01/2023

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:

07/01/2023 7/03/2023

Marble Cutters & Setters

\$ 62.82

\$ 63.12

SUPPLEMENTAL BENEFITS

Per Hour:

Journeyworker

\$ 39.03

\$ 39.34

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:

07/01/2023

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+
\$ 26.42	\$ 39.62	\$ 42.91	\$ 46.22	\$ 49.52	\$ 53.38	\$ 59.67	\$ 62.82
Supplemental Benefits per hour:							
07/01/2023							
1st	2nd	3rd	4th	5th	6th	7th	8th
\$ 25.38	\$ 28.86	\$ 29.74	\$ 30.60	\$ 31.48	\$ 36.44	\$ 38.17	\$ 39.03
07/03/2023							
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+
\$ 26.60	\$ 39.82	\$ 43.13	\$ 46.45	\$ 49.78	\$ 53.64	\$ 59.95	\$ 63.12
Supplemental Benefits Per Hour:							
1st	2nd	3rd	4th	5th	6th	7th	8th
\$ 25.54	\$ 29.09	\$ 29.97	\$ 30.84	\$ 31.72	\$ 36.73	\$ 38.48	\$ 39.34

9-7/4

Mason - Building	08/01/2023
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JOB DESCRIPTION Mason - Building **DISTRICT 9**

ENTIRE COUNTIES
Nassau, Rockland, Suffolk, Westchester

WAGES
Per hour: 07/01/2023 12/04/2023 06/03/2024

Tile Finisher \$ 48.36 Additional \$ 0.59 Additional \$ 0.59

SUPPLEMENTAL BENEFITS
Per Hour:

\$ 22.56*

+ \$9.86

*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 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	08/01/2023
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JOB DESCRIPTION Mason - Building **DISTRICT 9**

ENTIRE COUNTIES
Bronx, Kings, Nassau, New York, Queens, Richmond, Suffolk, Westchester

WAGES
Per hour: 07/01/2023 07/03/2023
Marble, Stone, Maintenance Finishers: \$ 27.26 \$ 27.44

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:	\$ 14.97	\$ 15.20
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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:

	07/01/2023	07/03/2023
0-750	\$ 21.89	\$ 22.04
751-1500	22.60	\$ 22.75
1501-2250	23.32	\$ 23.48
2251-3000	24.04	\$ 24.20
3001-3750	25.11	\$ 25.27
3751-4500	26.54	\$ 26.72
4501+	27.26	\$ 27.44

Supplemental Benefits:

Per hour:

0-750	12.03	\$ 12.24
751-1500	12.43	\$ 12.64
1501-2250	12.82	\$ 13.03
2251-3000	13.21	\$ 13.42
3001-3750	13.80	\$ 14.02
3751-4500	14.58	\$ 14.80
4501+	14.97	\$ 15.20

9-7/24M-MF

Mason - Building / Heavy&Highway

08/01/2023

JOB DESCRIPTION Mason - Building / Heavy&Highway

DISTRICT 9

ENTIRE COUNTIES

Bronx, Kings, Nassau, New York, Queens, Richmond, Suffolk, Westchester

WAGES

Per hour:	07/01/2023	07/03/2023	01/01/2024 Additional
Marble-Finisher	\$ 49.32	\$ 49.65	\$ 0.53

SUPPLEMENTAL BENEFITS

Journeyworker:

Per hour

Marble- Finisher	\$ 36.62	\$ 36.67
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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 - Heavy&Highway

08/01/2023

JOB DESCRIPTION Mason - Heavy&Highway

DISTRICT 11

ENTIRE COUNTIES

Putnam, Rockland, Westchester

PARTIAL COUNTIES

Orange: Only the Township of Tuxedo.

WAGES

Per hour:

07/01/2023

Bricklayer	\$ 46.39
Cement Mason	46.39
Marble/Stone Mason	46.39
Plasterer	46.39
Pointer/Caulker	46.39

Additional \$1.00 per hour for power saw work

Additional \$0.50 per hour for swing scaffold or staging work

SHIFT WORK: When shift work or an irregular workday is mandated or required by state, federal, county, local or other governmental contracts, the following rates apply:

Irregular workday requires 15% premium

Second shift an additional 15% of wage plus benefits to be paid

Third shift an additional 25% of wage plus benefits to be paid

SUPPLEMENTAL BENEFITS

Per hour:

Journeyman	\$ 37.95
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OVERTIME PAY

Cement Mason See (B, E, Q, W)

All Others See (B, E, Q,)

HOLIDAY

Paid: See (5, 6, 16, 25) on HOLIDAY PAGE

Overtime: See (5, 6, 16, 25) on HOLIDAY PAGE

- Whenever any of the above holidays fall on Sunday, they will be observed on Monday. Whenever any of the above holidays fall on Saturday, they will be observed on Friday.

- Supplemental Benefits are not paid for paid Holiday

- If Holiday is worked, Supplemental Benefits are paid for hours worked.

- Whenever an Employee works within three (3) calendar days before a holiday, the Employee shall be paid for the Holiday.

REGISTERED APPRENTICES

Wages per hour:

750 hour terms at the following percentage of Journeyman's wage

1st	2nd	3rd	4th	5th	6th	7th	8th
50%	55%	60%	65%	70%	75%	80%	85%

Supplemental Benefits per hour

750 hour terms at the following percentage of journeyman supplements

1st	2nd	3rd	4th	5th	6th	7th	8th
50%	55%	60%	65%	70%	75%	80%	85%

Apprentices indentured before June 1st, 2011 receive full journeyman benefits

11-5WP-H/H

Operating Engineer - Building

08/01/2023

JOB DESCRIPTION Operating Engineer - Building

DISTRICT 9

ENTIRE COUNTIES

Bronx, Kings, New York, Putnam, Queens, Richmond, Westchester

PARTIAL COUNTIES

Dutchess: that part of Dutchess County lying south of the North City Line of the City of Poughkeepsie.

WAGES

NOTE: Construction surveying

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 assists the Survey Crew

Wages:(Per Hour) 07/01/2023

Building Construction:

Party Chief	\$ 77.39
Instrument Man	61.25
Rodman	41.39

Steel Erection:

Party Chief	80.16
Instrument Man	63.60
Rodman	44.23

Heavy Construction-NYC counties only:
(Foundation, Excavation.)

Party Chief	85.74
Instrument man	64.40
Rodman	54.90

SUPPLEMENTAL BENEFITS

Per Hour: 07/01/2023

Building Construction \$ 28.04* +\$ 7.65

Steel Erection 28.64* +\$ 7.65

Heavy Construction 28.85* +\$ 7.64

* This portion subject to same premium as wages

Non-Worked Holiday Supplemental Benefit:

21.19

OVERTIME PAY

See (A, B, E, Q) on OVERTIME PAGE

Code "A" applies to Building Construction and has double the rate after 7 hours on Saturdays.

Code "B" applies to Heavy Construction and Steel Erection and had double the rate after 8 hours on Saturdays.

HOLIDAY

Paid: See (5, 6, 9, 11, 15, 16, 25) on HOLIDAY PAGE

Overtime: See (5, 6, 9, 11, 15, 16, 25) on HOLIDAY PAGE

9-15Db

Operating Engineer - Building

08/01/2023

JOB DESCRIPTION Operating Engineer - Building

DISTRICT 8

ENTIRE COUNTIES

Putnam, Westchester

PARTIAL COUNTIES

Dutchess: All the counties of Westchester and Putnam and the southern part of Dutchess County defined by the northern boundary line of the City of Poughkeepsie, then due east to Route 115, then north along Route 115 to Bedell Road, then east along Bedell Road to Van Wagner Road, then north along Van Wagner Road to Bower Road, then east along Bower Road to Route 44 and along Route 44 east to Route 343, then along Route 343 east to the northern boundary of Town of Dover Plains and east along the northern boundary of Town of Dover Plains to the border line of the State of Connecticut and bordered on the west by the middle of the Hudson River.

WAGES

GROUP I:

Cranes (All Types up to 49 tons), Boom Trucks, Cherry Pickers (All Types), Clamshell Crane, Derrick (Stone and Steel), Dragline, Franki Pile Rig or similar, High Lift (Lull or similar) with crane attachment and winch used for hoisting or lifting, Hydraulic Cranes, Pile Drivers, Potain and similar.

Cranes (All types 50-99 tons), Drill Rig Casa Grande (CAT or similar), Franki Pile Rig or similar, Hydraulic Cranes (All types including Crawler Cranes- No specific boom length).

Cranes (All types 100 tons and over), All Tower Cranes, All Climbing Cranes irrespective of manufacturer and regardless of how the same is rigged, Franki Pile Rig or similar, Conventional Cranes (All types including Crawler Cranes-No specific boom length), Hydraulic Cranes.

GROUP I-A: Barber Green Loader-Euclid Loader, Bulldozer, Carrier-Trailer Horse, Concrete Cleaning Decontamination Machine Operator, Concrete-Portable Hoist, Conway or Similar Mucking Machines, Elevator & Cage, Excavators all types, Front End Loaders, Gradall, Shovel, Backhoe, etc.(Crawler or Truck), Heavy Equipment Robotics Operator/Mechanic, Hoist Engineer-Material, Hoist Portable Mobile Unit, Hoist(Single, Double or Triple Drum), Horizontal Directional Drill Locator, Horizontal Directional Drill Operator and Jersey Spreader, Letourneau or Tournapull(Scrapers over 20 yards Struck), Lift Slab Console, etc., Lull HiLift or Similar, Master Environmental Maintenance Mechanics, Mucking Machines Operator/Mechanic or Similar Type, Overhead Crane, Pavement Breaker(Air Ram), Paver(Concrete), Post Hole Digger, Power House Plant, Road Boring Machine, Road Mix Machine, Ross Carrier and Similar Machines, Rubber tire double end backhoes and similar machines, Scoopmobile Tractor-Shovel Over 1.5 yards, Shovel (Tunnels), Spreader (Asphalt) Telephie(Cableway), Tractor Type Demolition Equipment, Trenching Machines-Vermeer Concrete Saw Trencher and Similar, Ultra High Pressure Waterjet Cutting Tool System, Vacuum Blasting Machine operator/mechanic, Winch Truck A Frame.

GROUP I-B: Compressor (Steel Erection), Mechanic (Outside All Types), Negative Air Machine (Asbestos Removal), Push Button (Buzz Box) Elevator.

GROUP II: Compactor Self-Propelled, Concrete Pump, Crane Operator in Training (Over 100 Tons), Grader, Machines Pulling Sheep's Foot Roller, Roller (4 ton and over), Scrapers (20 yards Struck and Under), Vibratory Rollers, Welder.

GROUP III-A: Asphalt Plant, Concrete Mixing Plants, Forklift (All power sources), Joy Drill or similar, Tractor Drilling Machine, Loader (1 1/2 yards and under), Portable Asphalt Plant, Portable Batch Plant, Portable Crusher, Skid Steer (Bobcat or similar), Stone Crusher, Well Drilling Machine, Well Point System.

GROUP III-B: Compressor Over 125 cu. Feet, Conveyor Belt Machine regardless of size, Compressor Plant, Ladder Hoist, Stud Machine.

GROUP IV-A: Batch Plant, Concrete Breaker, Concrete Spreader, Curb Cutter Machine, Finishing Machine-Concrete, Fine Grading Machine, Hepa Vac Clean Air Machine, Material Hopper(sand, stone, cement), Mulching Grass Spreader, Pump Gypsum etc, Pump-Plaster-Grout-Fireproofing. Roller(Under 4 Ton),Spreading and Fine Grading Machine, Steel Cutting Machine, Siphon Pump, Tar Joint Machine, Television Cameras for Water, Sewer, Gas etc. Turbo Jet Burner or Similar Equipment, Vibrator (1 to 5).

GROUP IV-B: Compressor (all types), Heater (All Types), Fire Watchman, Lighting Unit (Portable & Generator) Pump, Pump Station(Water, Sewer, Portable, Temporary), Welding Machine (Steel Erection & Excavation).

GROUP V: Mechanics Helper, Motorized Roller (walk behind), Stock Attendant, Welder's Helper, Maintenance Engineer Crane(75 ton and over).

Group VI-A: Welder Certified

GROUP VI-B: Utility Man, Warehouse Man.

WAGES: (per hour)

	07/01/2023	03/04/2024
GROUP I		
Cranes- up to 49 tons	\$ 66.23	\$ 67.43
Cranes- 50 tons to 99 tons	68.53	69.77
Cranes- 100 tons and over	78.21	79.64
GROUP I-A	58.01	59.04
GROUP I-B	53.48	54.41
GROUP II	55.98	56.97
GROUP III-A	53.94	54.88
GROUP III-B	51.35	52.25
GROUP IV-A	53.40	54.33
GROUP IV-B	45.17	45.94
GROUP V	48.69	49.53
Group VI-A	56.96	57.96
GROUP VI-B		
Utility Man	46.21	47.00
Warehouse Man	48.52	49.26

An additional 20% to wage when required to wear protective equipment on hazardous/toxic waste projects.

Engineers operating cranes with booms 100 feet but less than 149 feet in length will be paid an additional \$2.00 per hour.

Engineers operating cranes with booms 149 feet or over in length will be paid an additional \$3.00 per hour.

Loader operators over 5 cubic yard capacity additional .50 per hour.

Shovel operators over 4 cubic yard capacity additional \$1.00 per hour.

SUPPLEMENTAL BENEFITS

Per hour:

Journeyworker \$ 31.57 \$ 32.32

OVERTIME PAY

See (B, E, Q, V) on OVERTIME PAGE

HOLIDAY

Paid: See (5, 6, 8, 15, 25, 26) on HOLIDAY PAGE
Overtime: See (5, 6, 8, 15, 25, 26) on HOLIDAY PAGE

8-137B

Operating Engineer - Heavy&Highway

08/01/2023

JOB DESCRIPTION Operating Engineer - Heavy&Highway

DISTRICT 8

ENTIRE COUNTIES

Putnam, Westchester

PARTIAL COUNTIES

Dutchess: All the counties of Westchester and Putnam and the southern part of Dutchess County defined by the northern boundary line of the City of Poughkeepsie, then due east to Route 115, then north along Route 115 to Bedell Road, then east along Bedell Road to Van Wagner Road, then north along Van Wagner Road to Bower Road, then east along Bower Road to Route 44 and along Route 44 east to Route 343, then along Route 343 east to the northern boundary of Town of Dover Plains and east along the northern boundary of Town of Dover Plains to the border line of the State of Connecticut and bordered on the west by the middle of the Hudson River.

WAGES

GROUP I: Boom Truck, Cherry Picker, Clamshell, Crane, (Crawler, Truck),
Dragline, Drill Rig (Casa Grande, Cat, or Similar), Floating Crane (Crane on Barges) under 100 tons, Gin Pole, Hoist Engineer-Concrete (Crane-Derrick-Mine Hoist), Knuckle Boom Crane, Rough Terrain Crane.

GROUP I-A: Auger (Truck or Truck Mounted), Boat Captain, Bulldozer-All Sizes, Central Mix Plant Operator, Chipper (all types), Close Circuit T.V., Combination Loader/Backhoe, Compactor with Blade, Concrete Finishing Machine, Gradall, Grader (Motor Grader), Elevator & Cage (Materials or Passenger), Excavator (and all attachments), Front End Loaders (1 1/2 yards and over), High Lift Lull and similar, Hoist (Single, Double, Triple Drum), Hoist Portable Mobile Unit, Hoist Engineer (Material), Jack and Bore Machine, Log Skidders, Mill Machines, Mucking Machines, Overhead Crane, Paver (concrete), Post Pounder (of any type), Push Cats, Road Reclaimer, Robot Hammer (Brokk or similar), Robotic Equipment (Scope of Engineer Schedule), Ross Carrier and similar, Scrapers (20 yard struck and over), Side Boom, Slip Form Machine, Spreader (Asphalt), Trenching Machines (Telephies-Vermeer Concrete Saw), Tractor Type Demolition Equipment, Vacuum Truck. Vibratory Roller(Riding) or Roller used in mainline paving operations.

GROUP I-B: Asphalt Mobile Conveyor/Transfer Machine, Road Paver (Asphalt).

GROUP II-A: Ballast Regulators, Compactor Self Propelled, Fusion Machine, Rail Anchor Machines, Roller (4 ton and over), Scrapers (20 yard struck and under).

GROUP II-B: Mechanic (Outside) All Types, Shop Mechanic.

GROUP III: Air Tractor Drill, Asphalt Plant, Batch Plant, Boiler (High Pressure), Concrete Breaker (Track or Rubber Tire), Concrete Pump, Concrete Spreader, Excavator Drill, Farm Tractor, Forklift (all types), Gas Tapping (Live), Hydroseeder, Loader (1 1/2 yards and under), Locomotive (all sizes), Machine Pulling Sheeps Foot Roller, Portable Asphalt Plant, Portable Batch Plant, Portable Crusher (Apprentice), Powerhouse Plant, Roller (under 4 ton), Sheer Excavator, Skid Steer/Bobcat, Stone Crusher, Sweeper (with seat), Well Drilling Machine.

GROUP IV: Service Person (Grease Truck), Deckhand.

GROUP IV-B: Conveyor Belt Machine (Truck Mounted), Heater (all types), Lighting Unit (Portable), Maintenance Engineer (For Crane Only), Mechanics Helper, Pump (Fireproofing), Pumps-Pump Station/Water/Sewer/Gypsum/Plaster, etc., Pump Truck (Sewer Jet or Similar), Welders Helper, Welding Machine (Steel Erection), Well Point System.

GROUP V: All Tower Cranes-All Climbing Cranes and all cranes of 100-ton capacity or greater (3900 Manitowac or similar) irrespective of manufacturer and regardless of how the same is rigged, Hoist Engineer (Steel), Engineer-Pile Driver, Jersey Spreader, Pavement Breaker/Post Hole Digger.

WAGES: Per hour:	07/01/2023	03/04/2024
Group I	\$ 67.27	\$ 68.63
Group I-A	59.26	60.42
Group I-B	62.46	63.70
Group II-A	56.74	57.84
Group II-B	58.52	59.67
Group III	55.74	56.81
Group IV	50.63	51.57
Group IV-B	43.43	44.19
Group V		
Engineer All Tower, Climbing and		

Cranes of 100 Tons	76.24	77.82
Hoist Engineer(Steel)	69.01	70.41
Engineer(Pile Driver)	73.61	75.13
Jersey Spreader, Pavement Breaker (Air Ram)Post Hole Digger	58.06	59.19

SHIFT DIFFERENTIAL:

A 15% premium on all hours paid, including overtime hours for 2nd, 3rd shifts on all government mandated off-shift work

Engineers operating cranes with booms 100 feet but less than 149 feet in length will be paid an additional \$2.00 per hour over the rate listed in the Wage Schedule. Engineers operating cranes with booms 149 feet or over in length will be paid an additional \$3.00 per hour over the rate listed in the Wage Schedule. Loader and Excavator Operators: over 5 cubic yards capacity \$0.50 per hour over the rate listed in the Wage Schedule. Shovel Operators: over 4 cubic yards capacity \$1.00 per hour over the rate listed in the Wage Schedule.

NOTE - The "Employer Registration" (30.1) use of a '4 Day/10 Hour Work schedules' will no longer be accepted or processed. All registered projects prior to June 30,2023 will expire within the granted time frame.

For Pre-Registered Projects Four (4), Ten (10) hour days may be worked at straight time during a week, Monday thru Thursday. Friday may be used as a make-up day. Tuesday thru Friday may be worked with no make-up day. For further clarification contact your local Bureau Office.

SUPPLEMENTAL BENEFITS

Per hour:

Journeyworker:	\$ 33.75 up to 40 Hours	\$ 34.85 up to 40 hours
	After 40 hours \$ 24.50* PLUS \$ 1.25 on all hours worked	After 40 hours \$ 25.55* PLUS \$ 1.25 on all hours worked

*This amount is subject to premium

OVERTIME PAY

See (B, E, P, *R, **U) on OVERTIME PAGE

HOLIDAY

Paid:..... See (5, 6, 8, 15, 25, 26) on HOLIDAY PAGE

Overtime..... See (5, 6, 8, 15, 25, 26) on OVERTIME PAGE

* For Holiday codes 8,15,25,26 code R applies

** For Holiday Codes 5 & 6 code U applies

Note: If employees are required to work on Easter Sunday they shall be paid at the rate of triple time.

REGISTERED APPRENTICES

(1)year terms at the following rate.

1st term	\$ 29.63	\$ 30.21
2nd term	35.56	36.25
3rd term	41.48	42.30
4th term	47.41	48.34
Supplemental Benefits per hour:		
	25.70	26.85

8-137HH

Operating Engineer - Heavy&Highway

08/01/2023

JOB DESCRIPTION Operating Engineer - Heavy&Highway

DISTRICT 9

ENTIRE COUNTIES

Putnam, Westchester

PARTIAL COUNTIES

Dutchess: South of the North city line of Poughkeepsie

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 Crew
Categories cover GPS & Underground Surveying

Per Hour: 07/01/2023

Party Chief \$ 81.72
Instrument Man 61.43
Rodman 52.40

SUPPLEMENTAL BENEFITS

Per Hour: 07/01/2023

All Categories
Straight Time: \$ 25.25* + \$7.64

Premium:
Time & 1/2 \$ 37.88* + \$7.64

Double Time \$ 50.50* + \$7.64

Non-Worked Holiday Supplemental Benefits:
\$ 21.19

OVERTIME PAY

See (B, *E, Q) on OVERTIME PAGE

* Doubletime paid on all hours in excess of 8 hours on Saturday

HOLIDAY

Paid: See (5, 6, 7, 11, 12) on HOLIDAY PAGE
Overtime: See (5, 6, 7, 11, 12) on HOLIDAY PAGE

9-15Dh

Operating Engineer - Heavy&Highway - Tunnel

08/01/2023

JOB DESCRIPTION Operating Engineer - Heavy&Highway - Tunnel

DISTRICT 8

ENTIRE COUNTIES

Putnam, Westchester

PARTIAL COUNTIES

Dutchess: All the counties of Westchester and Putnam and the southern part of Dutchess County defined by the northern boundary line of the City of Poughkeepsie, then due east to Route 115, then north along Route 115 to Bedell Road, then east along Bedell Road to Van Wagner Road, then north along Van Wagner Road to Bower Road, then east along Bower Road to Route 44 and along Route 44 east to Route 343, then along Route 343 east to the northern boundary of Town of Dover Plains and east along the northern boundary of Town of Dover Plains to the border line of the State of Connecticut and bordered on the west by the middle of the Hudson River.

WAGES

GROUP I: Boom Truck, Cherry Picker, Clamshell, Crane(Crawler, Truck), Dragline, Drill Rig Casa Grande(Cat or Similar), Floating Crane(Crane on Barge-Under 100 Tons), Hoist Engineer(Concrete/Crane-Derrick-Mine Hoist), Knuckle Boom Crane, Rough Terrain Crane.

GROUP I-A: Auger(Truck or Truck Mounted), Boat Captain, Bull Dozer-all sizes, Central Mix Plant Operator, Chipper-all types, Close Circuit T.V., Combination Loader/Backhoe, Compactor with Blade, Concrete Finishing Machine, Gradall, Grader(Motor Grader), Elevator & Cage(Materials or Passengers), Excavator(and all attachments), Front End Loaders(1 1/2 yards and over), High Lift Lull, Hoist(Single, Double, Triple Drum), Hoist Portable Mobile Unit, Hoist Engineer(Material), Jack and Bore Machine, Log Skidder, Milling Machine, Moveable Concrete Barrier Transfer & Transport Vehicle, Mucking Machines. Overhead Crane, Paver(Concrete), Post Pounder of any type, Push Cats, Road Reclaimer, Robot Hammer(Brokk or similar), Robotic Equipment(Scope of Engineer Schedule), Ross Carrier and similar machines, Scrapers(20 yards struck and over), Side Boom, Slip Form Machine, Spreader(Asphalt), Trenching Machines, Telephies-Vermeer Concrete Saw, Tractor type demolition equipment, Vacuum Truck, Vibratory Roller (Riding) used in mainline paving operations.

GROUP I-B: Asphalt Mobile Conveyor/Transfer Machine, Road Paver(Asphalt).

GROUP II-A: Ballast Regulators, Compactor(Self-propelled), Fusion Machine, Rail Anchor Machines, Roller(4 ton and over), Scrapers(20 yard struck and under).

GROUP II-B: Mechanic(outside)all types, Shop Mechanic.

GROUP III: Air Tractor Drill, Asphalt Plant, Batch Plant, Boiler(High Pressure), Concrete Breaker(Track or Rubber Tire), Concrete Pump, Concrete Spreader, Excavator Drill, Farm Tractor, Forklift(all types of power), Gas Tapping(Live), Hydroseeder, Loader(1 1/2 yards and under), Locomotive(all sizes), Machine Pulling Sheeps Foot Roller, Portable Asphalt Plant, Portable Batch Plant, Portable Crusher(Apprentice), Powerhouse Plant, Roller(under 4 ton), Sheer Excavator, Skidsteer/Bobcat, Stone Crusher, Sweeper(with seat), Well Drilling Machine.

GROUP IV-A: Service Person(Grease Truck), Deckhand.

GROUP IV-B: Conveyor Belt Machine(Truck Mounted), Heater(all types), Lighting Unit(Portable), Maintenance Engineer(for Crane only), Mechanics Helper, Pump(Fireproofing), Pumps-Pump Station/Water/Sewer/Gypsum/Plaster, etc., Pump Truck(Sewer Jet or similar), Welding Machine(Steel Erection), Welders Helper.

GROUP V-A: Engineer(all Tower Cranes, all Climbing Cranes & all Cranes of 100 ton capacity or greater),Hoist Engineer(Steel-Sub Structure), Engineer-Pile Driver, Jersey-Spreader, Pavement breaker, Post Hole Digger

WAGES: (per hour)

	07/01/2023	03/04/2024
GROUP I	\$ 67.27	\$ 68.63
GROUP I-A	59.26	60.42
GROUP I-B	62.46	63.70
GROUP II-A	56.74	57.84
GROUP II-B	58.52	59.67
GROUP III	55.74	56.81
GROUP IV-A	50.63	51.57
GROUP IV-B	43.43	44.19
GROUP V-A		
Engineer-Cranes	76.24	77.82
Engineer-Pile Driver	73.61	75.13
Hoist Engineer	69.01	70.41
Jersey Spreader/Post Hole Digger	58.06	59.19

SHIFT DIFFERENTIAL:

A 15% premium on all hours paid, including overtime hours for 2nd, 3rd shifts
on all government mandated off-shift work

An additional 20% to wage when required to wear protective equipment on hazardous/toxic waste projects. Operators required to use two buckets pouring concrete on other than road pavement shall receive \$0.50 per hour over scale. Engineers operating cranes with booms 100 feet but less than 149 feet in length will be paid an additional \$2.00 per hour. Engineers operating cranes with booms 149 feet or over in length will be paid an additional \$3.00 per hour. Operators of shovels with a capacity over (4) cubic yards shall be paid an additional \$1.00 per hour. Operators of loaders with a capacity over (5) cubic yards shall be paid an additional \$0.50 per hour.

SUPPLEMENTAL BENEFITS

Per hour:

Journeyworker:

\$ 33.75 up to 40 hours	\$ 34.85 up to 40 hours
After 40 hours	After 40 hours
\$24.50 plus	\$25.55 plus
\$1.25 on all hours worked	\$1.25 on all hours worked

OVERTIME PAY

See (D, O, *U, V) on OVERTIME PAGE

HOLIDAY

Paid: See (5, 6, 8, 15, 25, 26) on HOLIDAY PAGE

Overtime: See (5, 6, 8, 15, 25, 26) on HOLIDAY PAGE

* Note: For Holiday codes 5 & 6, code U applies. For Holiday codes 8, 15, 25, 26, code R applies.

Note: If employees are required to work on Easter Sunday, they shall be paid at the rate of triple time.

REGISTERED APPRENTICES

(1)year terms at the following rates:

1st term	\$ 29.63	\$ 30.21
2nd term	35.56	36.25
3rd term	41.48	42.30
4th term	47.41	48.34

Supplemental Benefits per hour:

All terms	\$ 25.70	\$ 26.85
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8-137Tun

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 wages do not apply to Operating Engineers on land based construction projects. For those projects, please see the Operating Engineer Heavy/Highway Rates. The wage rates below for all equipment and operators are only for marine dredging work in navigable waters found in the counties listed above.

Per Hour:	07/01/2023	10/01/2023
CLASS A1 Deck Captain, Leverman Mechanical Dredge Operator Licensed Tug Operator 1000HP or more.	\$ 43.94	\$ 45.26
CLASS A2 Crane Operator (360 swing)	39.16	40.33
CLASS B Dozer, Front Loader Operator on Land	To conform to Operating Engineer Prevailing Wage in locality where work is being performed including benefits.	
CLASS B1 Derrick Operator (180 swing) Spider/Spill Barge Operator Operator II, Fill Placer, Engineer, Chief Mate, Electrician, Chief Welder, Maintenance Engineer Licensed Boat, Crew Boat Operator	38.00	39.14
CLASS B2 Certified Welder	35.77	36.84
CLASS C1 Drag Barge Operator, Steward, Mate, Assistant Fill Placer	34.79	35.83
CLASS C2 Boat Operator	33.67	34.68
CLASS D Shoreman, Deckhand, Oiler, Rodman, Scowman, Cook, Messman, Porter/Janitor	27.97	28.81

SUPPLEMENTAL BENEFITS

Per Hour:

THE FOLLOWING SUPPLEMENTAL BENEFITS APPLY TO ALL CATEGORIES

All Classes A & B	\$ 11.85 plus 6% of straight time wage, Overtime hours add \$ 0.63	\$ 12.00 plus 6% of straight time wage, Overtime hours add \$ 0.63
All Class C	\$ 11.60 plus 6% of straight time wage, Overtime hours add \$ 0.50	\$ 11.75 plus 6% of straight time wage, Overtime hours add \$ 0.50
All Class D	\$ 11.35 plus 6% of straight time	\$ 11.60 plus 6% of straight time

wage, Overtime hours
add \$ 0.38

wage, Overtime hours
add \$ 0.50

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

08/01/2023

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: 07/01/2023
Survey Classifications

Party Chief	\$ 47.15
Instrument Man	39.30
Rodman	34.35

SUPPLEMENTAL BENEFITS

Per Hour:

All Crew Members: \$ 23.15

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

Painter

08/01/2023

JOB DESCRIPTION Painter

DISTRICT 8

ENTIRE COUNTIES

Bronx, Kings, Nassau, New York, Putnam, Queens, Richmond, Suffolk, Westchester

WAGES

Per hour: 07/01/2023

Brush \$ 51.70*

Abatement/Removal of lead based
or lead containing paint on
materials to be repainted. 51.70*

Spray & Scaffold	\$ 54.70*
Fire Escape	54.70*
Decorator	54.70*
Paperhanger/Wall Coverer	54.48*

*Subtract \$ 0.10 to calculate premium rate.

SUPPLEMENTAL BENEFITS

Per hour:

Paperhanger	\$ 34.60
All others	32.73
Premium	36.70**

**Applies only to "All others" category, not paperhanger journeyworker.

OVERTIME PAY

See (A, H) 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:	07/01/2023
Appr 1st term...	\$ 19.95*
Appr 2nd term...	25.56*
Appr 3rd term...	31.05*
Appr 4th term...	41.62*

*Subtract \$ 0.10 to calculate premium rate.

Supplemental benefits:

Per Hour:	
Appr 1st term...	\$ 16.06
Appr 2nd term...	19.95
Appr 3rd term...	23.02
Appr 4th term...	29.16

8-NYDC9-B/S

Painter

08/01/2023

JOB DESCRIPTION Painter

DISTRICT 8

ENTIRE COUNTIES

Putnam, Suffolk, Westchester

PARTIAL COUNTIES

Nassau: All of Nassau except the areas described below: Atlantic Beach, Ceaderhurst, 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:	07/01/2023
Drywall Taper	\$ 51.45*

*Subtract \$ 0.10 to calculate premium rate.

SUPPLEMENTAL BENEFITS

Per hour:	
Journeyman	\$ 30.88

OVERTIME PAY

See (A, H) 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	\$ 19.95*
2nd term	25.56*
3rd term	31.00*
4th term	41.52*

*Subtract \$ 0.10 to calculate premium rate.

Supplemental Benefits - Per hour:

One year term (1500 hours) at the following dollar amount.

1st year	\$ 15.22
2nd year	18.90
3rd year	21.81
4th year	27.58

8-NYDCT9-DWT

Painter - Bridge & Structural Steel

08/01/2023

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:	07/01/2023	10/01/2023
	\$ 54.50	+ 3.10
	+ 10.10*	

ADDITIONAL \$6.50 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 (no cap).

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:

\$ 11.78
+ 30.85*

* 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 (no 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

1st year	\$ 21.80 + 4.04
2nd year	\$ 32.70 + 6.06
3rd year	\$ 43.60 + 8.08

Supplemental Benefits - Per hour:

1st year	\$.90 + 12.34
2nd year	\$ 7.07 + 18.51
3rd year	\$ 9.42 + 24.68

NOTE: All premium wages are to be calculated on base rate per hour only.

8-DC-9/806/155-BrSS

Painter - Line Striping**08/01/2023**

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):	07/01/2023
Striping-Machine Operator*	\$ 31.53
Linerman Thermoplastic	38.34

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.

NOTE - The "Employer Registration" (30.1) use of a '4 Day/10 Hour Work schedules' will no longer be accepted or processed. All registered projects prior to June 30,2023 will expire within the granted time frame.

For Pre-Registered Projects Four (4), Ten (10) hour days may be worked at straight time during a week, Monday thru Thursday. Friday may be used as a make-up day. Tuesday thru Friday may be worked with no make-up day. For further clarification contact your local Bureau Office.

SUPPLEMENTAL BENEFITS

Per hour paid:

Journeyworker:	
Striping Machine Operator:	\$ 10.03
Linerman Thermoplastic:	10.03

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:

1st Term:	\$ 15.00
2nd Term:	18.92
3rd Term:	25.22

Supplemental Benefits per hour:

1st term:	\$ 9.16
2nd Term:	10.03
3rd Term:	10.03

8-1456-LS

Painter - Metal Polisher**08/01/2023**

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

	07/01/2023
Metal Polisher	\$ 38.18
Metal Polisher*	39.28
Metal Polisher**	42.18

*Note: Applies on New Construction & complete renovation

** Note: Applies when working on scaffolds over 34 feet.

SUPPLEMENTAL BENEFITS

Per Hour: 07/01/2023

Journeyworker:
All classification \$ 12.34

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, 9, 11, 15, 16, 25, 26) on HOLIDAY PAGE

REGISTERED APPRENTICES

Wages per hour:
One (1) year term at the following wage rates:

	07/01/2023
1st year	\$ 16.00
2nd year	17.00
3rd year	18.00
1st year*	\$ 16.39
2nd year*	17.44
3rd year*	18.54
1st year**	\$ 18.50
2nd year**	19.50
3rd year**	20.50

*Note: Applies on New Construction & complete renovation

** Note: Applies when working on scaffolds over 34 feet.

Supplemental benefits:
Per hour:

1st year	\$ 8.69
2nd year	8.69
3rd year	8.69

8-8A/28A-MP

Plumber

08/01/2023

JOB DESCRIPTION Plumber

DISTRICT 8

ENTIRE COUNTIES

Putnam, Westchester

WAGES

Per hour:	07/01/2023
Plumber and Steamfitter	\$ 62.36

SHIFT WORK:

When directly specified in public agency or authority contract documents, shift work outside the regular hours of work shall be comprised of eight (8) hours per shift not including Saturday, Sundays and holidays. One half (1/2) hour shall be allowed for lunch after the first four (4) hours of each shift. Wage and Fringes for shift work shall be straight time plus a shift premium of twenty-five (25%) percent. A minimum of five days Monday through Friday must be worked to establish shift work.

SUPPLEMENTAL BENEFITS

Per hour:

Journeyworker \$ 41.51

OVERTIME PAY

See (B, E, E2, Q, V) on OVERTIME PAGE

OVERTIME:... See on OVERTIME PAGE.

HOLIDAY

Paid: See (1) on HOLIDAY PAGE

Overtime: See (5, 6, 8, 16, 25) on HOLIDAY PAGE

REGISTERED APPRENTICES

(1)year terms at the following wages:

1st Term	\$ 23.20
2nd Term	26.61
3rd Term	30.74
4th Term	43.81
5th Term	46.99

Supplemental Benefits per hour:

1st term	\$ 17.12
2nd term	19.12
3rd term	22.74
4th term	30.02
5th term	31.82

8-21.1-ST

Plumber - HVAC / Service

08/01/2023

JOB DESCRIPTION Plumber - HVAC / Service

DISTRICT 8

ENTIRE COUNTIES

Dutchess, Putnam, Westchester

PARTIAL COUNTIES

Delaware: Only the townships of Middletown and Roxbury

Ulster: Entire County(including Walkill and Shawangunk Prisons) except for remainder of Town of Shawangunk and Towns of Plattekill, Marlboro, and Wawarsing.

WAGES

Per hour: 07/01/2023

HVAC Service \$ 42.68
+ \$ 4.37*

*Note: This portion of wage is not subject to overtime premium.

SUPPLEMENTAL BENEFITS

Per hour:

Journeyworker HVAC Service
\$ 28.99

OVERTIME PAY

See (B, F, R) on OVERTIME PAGE

HOLIDAY

Paid: See (5, 6, 16, 25) on HOLIDAY PAGE

Overtime: See (5, 6, 16, 25) on HOLIDAY PAGE

REGISTERED APPRENTICES

HVAC SERVICE

(1)year terms at the following wages:

1st yr.	2nd yr.	3rd yr.	4th yr.	5th yr.
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\$ 19.32	\$ 22.91	\$ 28.56	\$ 35.13	\$ 38.15
+\$2.39*	+\$2.70*	+\$3.25*	+\$3.88*	+\$4.12*

*Note: This portion of wage is not subject to overtime premium.

Supplemental Benefits per hour:

Apprentices 07/01/2023

1st term	\$ 20.84
2nd term	22.28
3rd term	23.85
4th term	26.01
5th term	27.55

8-21.1&2-SF/Re/AC

Plumber - Jobbing & Alterations**08/01/2023**

JOB DESCRIPTION Plumber - Jobbing & Alterations

DISTRICT 8

ENTIRE COUNTIES

Dutchess, Putnam, Westchester

PARTIAL COUNTIES

Ulster: Entire county (including Wallkill and Shawangunk Prisons in Town of Shawangunk) EXCEPT for remainder of Town of Shawangunk, and Towns of Plattekill, Marlboro, and Wawarsing.

WAGES

Per hour:	07/01/2023
Journeyworker:	\$ 48.51

Repairs, replacements and alteration work is any repair or replacement of a present plumbing system that does not change existing roughing or water supply lines.

SHIFT WORK:

When directly specified in public agency or authority contract documents, shift work outside the regular hours of work shall be comprised of eight (8) hours per shift not including Saturday, Sundays and holidays. One half (1/2) hour shall be allowed for lunch after the first four (4) hours of each shift. Wage and Fringes for shift work shall be straight time plus a shift premium of twenty-five (25%) percent. A minimum of five days Monday through Friday must be worked to establish shift work.

SUPPLEMENTAL BENEFITS

Per hour:

Journeyworker	\$ 34.76
---------------	----------

OVERTIME PAY

See (B, *E, E2, Q, V) on OVERTIME PAGE

*When used as a make-up day, hours after 8 on Saturday shall be paid at time and one half.

HOLIDAY

Paid:	See (1) on HOLIDAY PAGE
Overtime:	See (5, 6, 8, 16, 25) on HOLIDAY PAGE

REGISTERED APPRENTICES

(1) year terms at the following wages:

1st year	\$ 20.92
2nd year	23.24
3rd year	25.29
4th year	35.48
5th year	37.49

Supplemental Benefits per hour:

1st year	\$ 11.45
2nd year	13.46
3rd year	17.51
4th year	23.67
5th year	25.68

8-21.3-J&A

Roofer**08/01/2023**

JOB DESCRIPTION Roofer

DISTRICT 9

ENTIRE COUNTIES

Bronx, Dutchess, Kings, New York, Orange, Putnam, Queens, Richmond, Rockland, Sullivan, Ulster, Westchester

WAGES

Per Hour:	07/01/2023	05/01/2024
		Additional
Roofer/Waterproofer	\$ 46.50	\$2.50
	+ \$7.00*	

* This portion is not subjected to overtime premiums.

Note: Abatement/Removal of Asbestos containing roofs and roofing material is classified as Roofer.

SUPPLEMENTAL BENEFITS

Per Hour: \$ 31.37

OVERTIME PAY

See (B, H) on OVERTIME PAGE

Note: An observed holiday that falls on a Sunday will be observed the following Monday.

HOLIDAY

Paid: See (1) on HOLIDAY PAGE
Overtime: See (5, 6) on HOLIDAY PAGE

REGISTERED APPRENTICES

(1) year term apprentices indentured prior to 01/01/2023

	1st	2nd	3rd	4th
	\$ 16.28	\$ 23.25	\$ 27.90	\$ 34.88
		+ 3.50*	+ 4.20*	+ 5.26*
Supplements:				
	1st	2nd	3rd	4th
	\$ 4.03	\$ 15.85	\$ 18.95	\$ 23.61

* This portion is not subjected to overtime premiums.

(1) year term apprentices indentured after 01/01/2023

	1st	2nd	3rd	4th	5th
	\$ 17.67	\$ 20.93	\$ 23.25	\$ 27.90	\$ 34.88
		+ 3.16*	+ 3.50*	+ 4.20*	+ 5.26
Supplements:					
	1st	2nd	3rd	4th	5th
	\$ 7.61	\$ 14.29	\$ 15.85	\$ 18.95	\$ 23.61

* This portion is not subjected to overtime premiums.

9-8R

Sheetmetal Worker

08/01/2023

JOB DESCRIPTION Sheetmetal Worker

DISTRICT 8

ENTIRE COUNTIES

Dutchess, Orange, Putnam, Rockland, Sullivan, Ulster, Westchester

WAGES

	07/01/2023
SheetMetal Worker	\$ 47.00
	+ 3.60*

*This portion is not subject to overtime premiums.

SHIFT WORK

For all NYS D.O.T. and other Governmental mandated off-shift work:
10% increase for additional shifts for a minimum of five (5) days

SUPPLEMENTAL BENEFITS

Journeyworker \$ 45.62

OVERTIME PAY

OVERTIME:.. See (B, E, Q,) on OVERTIME PAGE.

HOLIDAY

Paid: See (1) on HOLIDAY PAGE
Overtime: See (5, 6, 8, 15, 16, 23) on HOLIDAY PAGE

REGISTERED APPRENTICES

1st	2nd	3rd	4th	5th	6th	7th	8th
\$ 17.50	\$ 19.67	\$ 21.87	\$ 24.05	\$ 26.24	\$ 28.44	\$ 31.10	\$ 33.75
+ 1.44*	+ 1.62*	+ 1.80*	+ 1.98*	+ 2.16*	+ 2.34*	+ 2.52*	+ 2.70*

*This portion is not subject to overtime premiums.

Supplemental Benefits per hour:

Apprentices

1st term	\$ 19.53
2nd term	21.99
3rd term	24.42
4th term	26.88
5th term	29.32
6th term	31.75
7th term	33.72
8th term	35.71

8-38

Sheetmetal Worker

08/01/2023

JOB DESCRIPTION Sheetmetal Worker

DISTRICT 4

ENTIRE COUNTIES

Bronx, Kings, Nassau, New York, Queens, Richmond, Rockland, Suffolk, Westchester

WAGES

Per Hour: 07/01/2023

Sign Erector \$ 56.00

NOTE: Structurally Supported Overhead Highway Signs(See STRUCTURAL IRON WORKER CLASS)

SUPPLEMENTAL BENEFITS

Per Hour: 07/01/2023

Sign Erector \$ 55.66

OVERTIME PAY

See (A, 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:

07/01/2023

1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th
\$ 14.95	\$ 16.95	\$ 18.93	\$ 20.93	\$ 28.56	\$ 31.05	\$ 33.57	\$ 36.05	\$ 38.56	\$ 41.05

4-137-SE

Sprinkler Fitter

08/01/2023

JOB DESCRIPTION Sprinkler Fitter

DISTRICT 1

ENTIRE COUNTIES

Dutchess, Orange, Putnam, Rockland, Sullivan, Ulster, Westchester

WAGES

Per hour 07/01/2023

Sprinkler \$ 50.86

Fitter

SUPPLEMENTAL BENEFITS

Per hour

Journey person \$ 30.19

OVERTIME PAY

See (B, E, Q) on OVERTIME PAGE

HOLIDAY

Paid: See (1) on HOLIDAY PAGE

Overtime: See (5, 6) on HOLIDAY PAGE

Note: When a holiday falls on Sunday, the following Monday shall be considered a holiday and all work performed on either day shall be at the double time rate. When a holiday falls on Saturday, the preceding Friday shall be considered a holiday and all work performed on either day shall be at the double time rate.

REGISTERED APPRENTICES

Wages per hour

One Half Year terms at the following wage.

1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th
\$ 24.77	\$ 27.53	\$ 30.03	\$ 32.78	\$ 35.53	\$ 38.29	\$ 41.04	\$ 43.79	\$ 46.54	\$ 49.30

Supplemental Benefits per hour

1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th
\$ 8.74	\$ 8.74	\$ 20.32	\$ 20.32	\$ 20.57	\$ 20.57	\$ 20.57	\$ 20.57	\$ 20.57	\$ 20.57
									1-669.2

Teamster - Building / Heavy&Highway

08/01/2023

JOB DESCRIPTION Teamster - Building / Heavy&Highway

DISTRICT 8

ENTIRE COUNTIES

Putnam, Westchester

WAGES

GROUP A: Straight Trucks (6-wheeler and 10-wheeler), A-frame, Winch, Dynamite Seeding, Mulching, Agitator, Water, Attenuator, Light Towers, Cement (all types), Suburban, Station Wagons, Cars, Pick Ups, any vehicle carrying materials of any kind.

GROUP AA: Tack Coat

GROUP B: Tractor & Trailers (all types).

GROUP BB: Tri-Axle, 14 Wheeler

GROUP C: Low Boy (carrying equipment).

GROUP D: Fuel Trucks, Tire Trucks.

GROUP E: Off-road Equipment (over 40 tons): Atthey Wagons, Belly Dumps, Articulated Dumps, Trailer Wagons.

GROUP F: Off-road Equipment (over 40 tons) Euclid, DJB.

GROUP G: Off-road Equipment (under 40 tons) Atthey Wagons, Belly Articulated Dumps, Trailer Wagons.

GROUP H: Off-road Equipment (under 40 tons), Euclid.

GROUP HH: Off-road Equipment (under 40 tons) D.J.B.

GROUP I: Off-road Equipment (under 40 tons) Darts.

GROUP II: Off-road Equipment (under 40 tons) RXS.

WAGES:(per hour)

07/01/2023

GROUP A	\$ 46.86*
GROUP AA	49.86*
GROUP B	47.48*
GROUP BB	46.98*
GROUP C	49.61*
GROUP D	47.31*
GROUP E	47.86*
GROUP F	48.86*
GROUP G	47.61*
GROUP H	48.23*
GROUP HH	48.61*
GROUP I	48.36*
GROUP II	48.73*

* To calculate premium wage, subtract \$.10 from the hourly wage.

Note: Fuel truck operators on construction sites addit. \$5.00 per day.
For work on hazardous/toxic waste site addit. 20% of hourly rate.

Shift Differential: When mandated by the contracting agency, DOT, or any governmental agency contracts shall receive a shift differential of fifteen (15%) above the wage rate.

NOTE: The Employer Registration (30.1) use of a '4 Day/10 Hour Work schedules' will no longer be accepted or processed. All registered projects prior to June 30,2023 will expire within the granted time frame.

For Pre-Registered Projects Four (4), Ten (10) hour days may be worked at straight time during a week, Monday thru Thursday. Friday may be used as a make-up day. Tuesday thru Friday may be worked with no make-up day. For further clarification contact your local Bureau Office.

SUPPLEMENTAL BENEFITS

Per hour:

Journeyworker

First 40 hours	\$ 35.58
41st-45th hours	15.73
Over 45 hours	1.60

OVERTIME PAY

See (B, E, P, R) on OVERTIME PAGE

HOLIDAY

Paid: See (5, 6, 8, 9, 15, 25) on HOLIDAY PAGE

Overtime: See (5, 6, 8, 9, 15, 25) on HOLIDAY PAGE

8-456

Welder

08/01/2023

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, Schuylar, Seneca, St. Lawrence, Steuben, Suffolk, Sullivan, Tioga, Tompkins, Ulster, Warren, Washington, Wayne, Westchester, Wyoming, Yates

WAGES

Per hour 07/01/2023

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
- (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) Saturday and 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)

<p>1. Name and complete address <input type="checkbox"/> (Check if new or change)</p> <p>Telephone _____ Fax _____</p> <p>E-Mail: _____</p>	<p>2. NY State Units (see Item 5).</p> <table style="width: 100%;"><tr><td><input type="checkbox"/> 01 DOT</td><td><input type="checkbox"/> 07 City</td></tr><tr><td><input type="checkbox"/> 02 OGS</td><td><input type="checkbox"/> 08 Local School District</td></tr><tr><td><input type="checkbox"/> 03 Dormitory Authority</td><td><input type="checkbox"/> 09 Special Local District, i.e., Fire, Sewer, Water District</td></tr><tr><td><input type="checkbox"/> 04 State University Construction Fund</td><td><input type="checkbox"/> 10 Village</td></tr><tr><td><input type="checkbox"/> 05 Mental Hygiene Facilities Corp.</td><td><input type="checkbox"/> 11 Town</td></tr><tr><td><input type="checkbox"/> 06 OTHER N.Y. STATE UNIT</td><td><input type="checkbox"/> 12 County</td></tr><tr><td></td><td><input type="checkbox"/> 13 Other Non-N.Y. State (Describe)</td></tr></table>	<input type="checkbox"/> 01 DOT	<input type="checkbox"/> 07 City	<input type="checkbox"/> 02 OGS	<input type="checkbox"/> 08 Local School District	<input type="checkbox"/> 03 Dormitory Authority	<input type="checkbox"/> 09 Special Local District, i.e., Fire, Sewer, Water District	<input type="checkbox"/> 04 State University Construction Fund	<input type="checkbox"/> 10 Village	<input type="checkbox"/> 05 Mental Hygiene Facilities Corp.	<input type="checkbox"/> 11 Town	<input type="checkbox"/> 06 OTHER N.Y. STATE UNIT	<input type="checkbox"/> 12 County		<input type="checkbox"/> 13 Other Non-N.Y. State (Describe)
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<p>3. SEND REPLY TO <input type="checkbox"/> (check if new or change) Name and complete address:</p> <p>Telephone _____ Fax _____</p> <p>E-Mail: _____</p>	<p>4. SERVICE REQUIRED. Check appropriate box and provide project information.</p> <p><input type="checkbox"/> New Schedule of Wages and Supplements. APPROXIMATE BID DATE : _____</p> <p><input type="checkbox"/> Additional Occupation and/or Redetermination</p> <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

<p>5. <u>Project Title</u> _____</p> <p><u>Description of Work</u> _____</p> <p>_____</p> <p><u>Contract Identification Number</u> _____</p> <p><u>Note: For NYS units, the OSC Contract No.</u> _____</p>	<p>6. Location of Project: <u>Location on Site</u> _____</p> <p><u>Route No/Street Address</u> _____</p> <p><u>Village or City</u> _____</p> <p><u>Town</u> _____</p> <p><u>County</u> _____</p>																						
<p>7. Nature of Project - Check One:</p> <table style="width: 100%;"><tr><td><input type="checkbox"/> 1. New Building</td></tr><tr><td><input type="checkbox"/> 2. Addition to Existing Structure</td></tr><tr><td><input type="checkbox"/> 3. Heavy and Highway Construction (New and Repair)</td></tr><tr><td><input type="checkbox"/> 4. New Sewer or Waterline</td></tr><tr><td><input type="checkbox"/> 5. Other New Construction (Explain)</td></tr><tr><td><input type="checkbox"/> 6. Other Reconstruction, Maintenance, Repair or Alteration</td></tr><tr><td><input type="checkbox"/> 7. Demolition</td></tr><tr><td><input type="checkbox"/> 8. Building Service Contract</td></tr></table>	<input type="checkbox"/> 1. New Building	<input type="checkbox"/> 2. Addition to Existing Structure	<input type="checkbox"/> 3. Heavy and Highway Construction (New and Repair)	<input type="checkbox"/> 4. New Sewer or Waterline	<input type="checkbox"/> 5. Other New Construction (Explain)	<input type="checkbox"/> 6. Other Reconstruction, Maintenance, Repair or Alteration	<input type="checkbox"/> 7. Demolition	<input type="checkbox"/> 8. Building Service Contract	<p>8. OCCUPATION FOR PROJECT :</p> <table style="width: 100%;"><tr><td><input type="checkbox"/> Construction (Building, Heavy Highway/Sewer/Water)</td><td><input type="checkbox"/> Fuel Delivery</td></tr><tr><td><input type="checkbox"/> Tunnel</td><td><input type="checkbox"/> Guards, Watchmen</td></tr><tr><td><input type="checkbox"/> Residential</td><td><input type="checkbox"/> Janitors, Porters, Cleaners, Elevator Operators</td></tr><tr><td><input type="checkbox"/> Landscape Maintenance</td><td><input type="checkbox"/> Moving furniture and equipment</td></tr><tr><td><input type="checkbox"/> Elevator maintenance</td><td><input type="checkbox"/> Trash and refuse removal</td></tr><tr><td><input type="checkbox"/> Exterminators, Fumigators</td><td><input type="checkbox"/> Window cleaners</td></tr><tr><td><input type="checkbox"/> Fire Safety Director, NYC Only</td><td><input type="checkbox"/> Other (Describe)</td></tr></table>	<input type="checkbox"/> Construction (Building, Heavy Highway/Sewer/Water)	<input type="checkbox"/> Fuel Delivery	<input type="checkbox"/> Tunnel	<input type="checkbox"/> Guards, Watchmen	<input type="checkbox"/> Residential	<input type="checkbox"/> Janitors, Porters, Cleaners, Elevator Operators	<input type="checkbox"/> Landscape Maintenance	<input type="checkbox"/> Moving furniture and equipment	<input type="checkbox"/> Elevator maintenance	<input type="checkbox"/> Trash and refuse removal	<input type="checkbox"/> Exterminators, Fumigators	<input type="checkbox"/> Window cleaners	<input type="checkbox"/> Fire Safety Director, NYC Only	<input type="checkbox"/> 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://applications.labor.ny.gov/EDList/searchPage.do>

For inquiries where WCB is listed as the "Agency", please call 1-866-546-9322

NYSDOL Bureau of Public Work Debarment List 08/01/2023

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	*****4018	ADIRONDACK BUILDING RESTORATION INC.		4156 WILSON ROAD EAST TABERG NY 13471	03/26/2019	03/26/2024
DOL	AG	*****1812	ADVANCED BUILDERS & LAND DEVELOPMENT, INC.		400 OSER AVE #2300HAUPPAUGE NY 11788	09/11/2019	09/11/2024
DOL	DOL	*****1687	ADVANCED SAFETY SPRINKLER INC		261 MILL ROAD P.O BOX 296EAST AURORA NY 14052	05/29/2019	05/29/2024
DOL	NYC		ALL COUNTY SEWER & DRAIN, INC.		7 GREENFIELD DR WARWICK NY 10990	03/25/2022	03/25/2027
DOL	NYC		AMJED PARVEZ		401 HANOVER AVENUE STATEN ISLAND NY 10304	01/11/2021	01/11/2026
DOL	DOL		ANGELO F COKER		2610 SOUTH SALINA STREET SUITE 14SYRACUSE NY 13205	09/17/2020	09/17/2025
DOL	DOL		ANGELO F COKER		2610 SOUTH SALINA STREET SUITE 14SYRACUSE NY 13205	12/04/2018	12/04/2023
DOL	DOL		ANGELO GARCIA		515 WEST AVE UNIT PH 13NORWALK CT 06850	05/12/2021	05/12/2026
DOL	DOL		ANGELO TONDO		449 WEST MOMBSHA ROAD MONROE NY 10950	06/06/2022	06/06/2027
DOL	DOL		ANITA SALERNO		158 SOLAR ST SYRACUSE NY 13204	01/07/2019	01/07/2024
DOL	DOL	*****4231	ANKER'S ELECTRIC SERVICE, INC.		10 SOUTH 5TH ST LOCUST VALLEY NY 11560	09/26/2022	09/26/2027
DOL	NYC		ARADCO CONSTRUCTION CORP		115-46 132RD ST SOUTH OZONE PARK NY 11420	09/17/2020	09/17/2025
DOL	DOL		ARNOLD A. PAOLINI		1250 BROADWAY ST BUFFALO NY 14212	02/03/2020	02/03/2025
DOL	NYC		ARSHAD MEHMOOD		168-42 88TH AVENUE JAMAICA NY 11432	11/20/2019	11/20/2024
DOL	NYC	*****2591	AVI 212 INC.		260 CROPSEY AVENUE APT 11GBROOKLYN NY 11214	10/30/2018	10/30/2023
DOL	NYC		AVM CONSTRUCTION CORP		117-72 123RD ST SOUTH OZONE PARK NY 11420	09/17/2020	09/17/2025
DOL	NYC		AZIDABEGUM		524 MCDONALD AVENUE BROOKLYN NY 11218	09/17/2020	09/17/2025
DOL	DOL	*****8421	B & B DRYWALL, INC		206 WARREN AVE APT 1WHITE PLAINS NY 10603	12/14/2021	12/14/2026
DOL	NYC		BALWINDER SINGH		421 HUDSON ST SUITE C5NEW YORK NY 10014	02/20/2019	02/20/2024
DOL	NYC	*****8416	BEAM CONSTRUCTION, INC.		50 MAIN ST WHITE PLAINS NY 10606	01/04/2019	01/04/2024
DOL	DOL		BERNARD BEGLEY		38 LONG RIDGE ROAD BEDFORD NY 10506	12/18/2019	12/18/2024
DOL	NYC	*****2113	BHW CONTRACTING, INC.		401 HANOVER AVENUE STATEN ISLAND NY 10304	01/11/2021	01/11/2026
DOL	DOL	*****3627	BJB CONSTRUCTION CORP.		38 LONG RIDGE ROAD BEDFORD NY 10506	12/18/2019	12/18/2024
DOL	DOL	*****4512	BOB BRUNO EXCAVATING, INC		5 MORNINGSIDE DR AUBURN NY 13021	05/28/2019	05/28/2024
DOL	DOL		BOGDAN MARKOVSKI		370 W. PLEASANTVIEW AVE SUITE 2.329HACKENSACK NJ 07601	02/11/2019	02/11/2024
DOL	DOL		BRADLEY J SCHUKA		4 BROTHERS ROAD WAPPINGERS FALLS NY 12590	10/20/2020	10/20/2025
DOL	DOL		BRUCE P. NASH JR.		5841 BUTTERNUT ROAD EAST SYRACUSE NY 13057	09/12/2018	09/12/2023
DOL	DOL	*****9383	C.C. PAVING AND EXCAVATING, INC.		2610 SOUTH SALINA ST SUITE 12SYRACUSE NY 13205	09/17/2020	09/17/2025
DOL	DOL	*****9383	C.C. PAVING AND EXCAVATING, INC.		2610 SOUTH SALINA ST SUITE 12SYRACUSE NY 13205	12/04/2018	12/04/2023
DOL	DOL	*****4083	C.P.D. ENTERPRISES, INC		P.O BOX 281 WALDEN NY 12586	03/03/2020	03/03/2025
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	NYC		CALVIN WALTERS		465 EAST THIRD ST MT. VERNON NY 10550	09/09/2019	09/09/2024

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DOL	AG	*****7247	CENTURY CONCRETE CORP		2375 RAYNOR ST RONKONKOMA NY 11779	08/04/2021	08/04/2026
DOL	DOL	*****0026	CHANTICLEER CONSTRUCTION LLC		4 BROTHERS ROAD WAPPINGERS FALLS NY 12590	10/20/2020	10/20/2025
DOL	NYC		CHARLES ZAHRAKKA		863 WASHINGTON STREET FRANKLIN SQUARE NY 11010	03/10/2020	03/10/2025
DOL	DOL		CHRISTOPHER GRECO		26 NORTH MYRTLE AVENUE SPRING VALLEY NY 10956	02/18/2021	02/18/2026
DOL	DOL		CHRISTOPHER J MAINI		19 CAITLIN AVE JAMESTOWN NY 14701	09/17/2018	09/17/2023
DOL	DOL		CHRISTOPHER PAPASTEFANOU A/K/A CHRIS PAPASTEFANOU		1445 COMMERCE AVE BRONX NY 10461	05/30/2019	05/30/2024
DOL	DOL	*****1927	CONSTRUCTION PARTS WAREHOUSE, INC.	CPW	5841 BUTTERNUT ROAD EAST SYRACUSE NY 13057	09/12/2018	09/12/2023
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	*****2524	CSI ELECTRICAL & MECHANICAL INC		42-32 235TH ST DOUGLSTON NY 11363	01/14/2019	01/14/2024
DOL	DOL	*****7619	DANCO CONSTRUCTION UNLIMITED INC.		485 RAFT AVENUE HOLBROOK NY 11741	10/19/2021	10/19/2026
DOL	DOL		DANIEL ROBERT MCNALLY		7 GREENFIELD DRIVE WARWICK NY 10990	03/25/2022	03/25/2027
DOL	DOL		DARIAN L COKER		2610 SOUTH SALINA ST SUITE 2CSYRACUSE NY 13205	09/17/2020	09/17/2025
DOL	DOL		DARIAN L COKER		2610 SOUTH SALINA ST SUITE 2CSYRACUSE NY 13205	12/04/2018	12/04/2023
DOL	NYC		DAVID WEINER		14 NEW DROP LANE 2ND FLOORSTATEN ISLAND NY 10306	11/14/2019	11/14/2024
DOL	DOL		DELPHI PAINTING & DECORATING CO INC		1445 COMMERCE AVE BRONX NY 10461	05/30/2019	05/30/2024
DOL	DOL	*****5175	EAGLE MECHANICAL AND GENERAL CONSTRUCTION LLC		11371 RIDGE RD WOLCOTT NY 14590	02/03/2020	02/03/2025
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	*****0780	EMES HEATING & PLUMBING CONTR		5 EMES LANE MONSEY NY 10952	01/20/2002	01/20/3002
DOL	NYC	*****5917	EPOCH ELECTRICAL, INC		97-18 50TH AVE CORONA NY 11368	04/19/2018	04/19/2024
DOL	DOL		FAIGY LOWINGER		11 MOUNTAIN RD 28 VAN BUREN DRMONROE NY 10950	03/20/2019	03/20/2024
DOL	DOL		FRANK BENEDETTO		19 CATLIN AVE JAMESTOWN NY 14701	09/17/2018	09/17/2023
DOL	DOL	*****4722	FRANK BENEDETTO AND CHRISTOPHER J MAINI	B & M CONCRETE	19 CAITLIN AVE JAMESTOWN NY 14701	09/17/2018	09/17/2023
DOL	DA		FREDERICK HUTZLER		2375 RAYNOR STREET RONKONKOMA NY 11779	08/04/2021	08/04/2026
DOL	NYC	*****6616	G & G MECHANICAL ENTERPRISES, LLC.		1936 HEMPSTEAD TURNPIKE EAST MEDOW NY 11554	11/29/2019	11/29/2024
DOL	DOL		GABRIEL FRASSETTI			04/10/2019	04/10/2024
DOL	NYC		GAYATRI MANGRU		21 DAREWOOD LANE VALLEY STREAM NY 11581	09/17/2020	09/17/2025
DOL	DOL		GEOFF CORLETT		415 FLAGGER AVE #302STUART FL 34994	10/31/2018	10/31/2023
DOL	DA		GEORGE LUCEY		150 KINGS STREET BROOKLYN NY 11231	01/19/1998	01/19/2998
DOL	DOL		GIGI SCHNECKENBURGER		261 MILL RD EAST AURORA NY 14052	05/29/2019	05/29/2024
DOL	DA		GIOVANNA TRAVAJA		3735 9TH ST LONG ISLAND CITY NY 11101	01/05/2023	01/05/2028
DOL	DOL		HANS RATH		24 ELDOR AVENUE NEW CITY NY 10956	02/03/2020	02/03/2025
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

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DOL	DOL		IRENE KASELIS		32 PENNINGTON AVE WALDWICK NJ 07463	05/30/2019	05/30/2024
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	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	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
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	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		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	*****5368	JCH MASONRY & LANDSCAPING INC.		35 CLINTON AVE OSSINING NY 10562	09/12/2018	09/12/2023
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	NYC		JENNIFER GUERRERO		1936 HEMPSTEAD TURNPIKE EAST MEADOW NY 11554	11/29/2019	11/29/2024
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 GOCEK		14B COMMERCIAL AVE ALBANY NY 12065	11/14/2019	11/14/2024
DOL	DOL		JOHN MARKOVIC		47 MANDON TERRACE HAWTHORN NJ 07506	03/29/2021	03/29/2026
DOL	DOL		JOHN WASE		8545 RT 9W ATHENS NY 12015	03/09/2021	03/09/2026
DOL	DOL		JON E DEYOUNG		261 MILL RD P.O BOX 296EAST AURORA NY 14052	05/29/2019	05/29/2024
DOL	DOL		JORGE RAMOS		8970 MIKE GARCIA DR MANASSAS VA 20109	07/16/2021	07/16/2026
DOL	DOL		JORI PEDERSEN		415 FLAGER AVE #302STUART FL 34994	10/31/2018	10/31/2023
DOL	DOL		JOSE CHUCHUCA		35 CLINTON AVE OSSINING NY 10562	09/12/2018	09/12/2023
DOL	DOL		JOSEPH K. SALERNO		1010 TILDEN AVE UTICA NY 13501	07/24/2023	07/24/2028

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DOL	DOL		JOSEPH K. SALERNO II		1010 TILDEN AVE UTICA NY 13501	07/24/2023	07/24/2028
DOL	DOL		JOY MARTIN		2404 DELAWARE AVE NIGARA FALLS NY 14305	09/12/2018	09/12/2023
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
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	*****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		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		JULIUS AND GITA BEHREND		5 EMES LANE MONSEY NY 10952	11/20/2002	11/20/3002
DOL	DOL		KARIN MANGIN		796 PHELPS ROAD FRANKLIN LAKES NJ 07417	12/01/2020	12/01/2025
DOL	DOL		KATE E. CONNOR		7088 INTERSTATE ISLAND RD SYRACUSE NY 13209	03/31/2021	03/31/2026
DOL	DOL	*****2959	KELC DEVELOPMENT, INC		7088 INTERSTATE ISLAND RD SYRACUSE NY 13209	03/31/2021	03/31/2026
DOL	DOL		KIMBERLY F. BAKER		7901 GEE ROAD CANASTOTA NY 13032	08/17/2021	08/17/2026
DOL	DOL	*****3490	L & M CONSTRUCTION/DRYWALL INC.		1079 YONKERS AVE YONKERS NY 10704	08/07/2018	08/07/2023
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	AG	*****3291	LINTECH ELECTRIC, INC.		3006 TILDEN AVE BROOKLYN NY 11226	02/16/2022	02/16/2027
DOL	DA	*****4460	LONG ISLAND GLASS & STOREFRONTS, LLC		4 MANHASSET TRL RIDGE NY 11961	09/06/2018	09/06/2023
DOL	DOL		LOUIS A. CALICCHIA		1223 PARK ST. PEEKSKILL NY 10566	05/17/2021	05/17/2026
DOL	NYC		LUBOMIR PETER SVOBODA		27 HOUSMAN AVE STATEN ISLAND NY 10303	12/26/2019	12/26/2024
DOL	NYC		M & L STEEL & ORNAMENTAL IRON CORP.		27 HOUSMAN AVE STATEN ISLAND NY 10303	12/26/2019	12/26/2024
DOL	DOL	*****2196	MAINSTREAM SPECIALTIES, INC.		11 OLD TOWN RD SELKIRK NY 12158	02/02/2021	02/02/2026
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	NYC		MAREK FABIJANOWSKI		50 MAIN ST WHITE PLAINS NY 10606	01/04/2019	01/04/2024
DOL	NYC		MARIA NUBILE		84-22 GRAND AVENUE ELMHURST NY 11373	03/10/2020	03/10/2025
DOL	DOL		MATTHEW P. KILGORE		4156 WILSON ROAD EAST TABERG NY 13471	03/26/2019	03/26/2024
DOL	DOL		MICHAEL LENIHAN		1079 YONKERS AVE UNIT 4YONKERS NY 10704	08/07/2018	08/07/2023
DOL	DOL	*****4829	MILESTONE ENVIRONMENTAL CORPORATION		704 GINESI DRIVE SUITE 29MORGANVILLE NJ 07751	04/10/2019	04/10/2024
DOL	NYC	*****9926	MILLENNIUM FIRE PROTECTION, LLC		325 W. 38TH STREET SUITE 204NEW YORK NY 10018	11/14/2019	11/14/2024
DOL	NYC	*****0627	MILLENNIUM FIRE SERVICES, LLC		14 NEW DROP LNE 2ND FLOORSTATEN ISLAND NY 10306	11/14/2019	11/14/2024

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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	NYC		MUHAMMED A. HASHEM		524 MCDONALD AVENUE BROOKLYN NY 11218	09/17/2020	09/17/2025
DOL	NYC		NAMOW, INC.		84-22 GRAND AVENUE ELMHURST NY 11373	03/10/2020	03/10/2025
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	DA	*****9786	NATIONAL INSULATION & GC CORP		180 MILLER PLACE HICKSVILLE NY 11801	12/12/2018	12/12/2023
DOL	NYC		NAVIT SINGH		402 JERICHO TURNPIKE NEW HYDE PARK NY 11040	08/10/2022	08/10/2027
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	*****7429	NICOLAE I. BARBIR	BESTUCCO CONSTRUCTION, INC.	444 SCHANTZ ROAD ALLEN TOWN PA 18104	09/17/2020	09/17/2025
DOL	NYC	*****5643	NYC LINE CONTRACTORS, INC.		402 JERICHO TURNPIKE NEW HYDE PARK NY 11040	08/10/2022	08/10/2027
DOL	DOL		PAULINE CHAHALES		935 S LAKE BLVD MAHOPAC NY 10541	03/02/2021	03/02/2026
DOL	DOL		PETER STEVENS		11 OLD TOWN ROAD SELKIRK NY 12158	02/02/2021	02/02/2026
DOL	DOL		PETER STEVENS		8269 21ST ST BELLEROSE NY 11426	12/22/2022	12/22/2027
DOL	DOL	*****0466	PRECISION BUILT FENCES, INC.		1617 MAIN ST PEEKSKILL NY 10566	03/03/2020	03/03/2025
DOL	NYC		RASHEL CONSTRUCTION CORP		524 MCDONALD AVENUE BROOKLYN NY 11218	09/17/2020	09/17/2025
DOL	DOL	*****1068	RATH MECHANICAL CONTRACTORS, INC.		24 ELDOR AVENUE NEW CITY NY 10956	02/03/2020	02/03/2025
DOL	DOL	*****2633	RAW POWER ELECTRIC CORP.		3 PARK CIRCLE MIDDLETOWN NY 10940	07/11/2022	07/11/2027
DOL	DA	*****7559	REGAL CONTRACTING INC.		24 WOODBINE AVE NORTHPORT NY 11768	10/01/2020	10/01/2025
DOL	DOL	*****9148	RICH T CONSTRUCTION		107 WILLOW WOOD LANE CAMILLUS NY 13031	11/13/2018	11/13/2023
DOL	DOL		RICHARD MACONE		8617 THIRD AVE BROOKLYN NY 11209	09/17/2018	09/17/2023
DOL	DOL		RICHARD REGGIO		1617 MAIN ST PEEKSKILL NY 10566	03/03/2020	03/03/2025
DOL	DOL	*****9148	RICHARD TIMIAN	RICH T CONSTRUCTION	108 LAMONT AVE SYRACUSE NY 13209	10/16/2018	10/16/2023
DOL	DOL		RICHARD TIMIAN JR.		108 LAMONT AVE SYRACUSE NY 13209	10/16/2018	10/16/2023
DOL	DOL		RICHARD TIMIAN JR.		108 LAMONT AVE SYRACUSE NY 13209	11/13/2018	11/13/2023
DOL	DOL		ROBBYE BISSEAR		89-51 SPRINGFIELD BLVD QUEENS VILLAGE NY 11427	01/11/2003	01/11/3003
DOL	DOL		ROBERT A. VALERINO		3841 LANYARD COURT NEW PORT RICHEY FL 34652	07/09/2019	07/09/2024
DOL	DOL		ROBERT BRUNO		5 MORNINGSIDE DRIVE AUBURN NY 13021	05/28/2019	05/28/2024
DOL	DOL		ROMEO WARREN		161 ROBYN RD MONROE NY 10950	07/11/2022	07/11/2027
DOL	DOL		RONALD MESSEN		14B COMMERCIAL AVE ALBANY NY 12065	11/14/2019	11/14/2024
DOL	DOL	*****7172	RZ & AL INC.		198 RIDGE AVENUE VALLEY STREAM NY 11581	06/06/2022	06/06/2027
DOL	DOL	*****1365	S & L PAINTING, INC.		11 MOUNTAIN ROAD P.O BOX 408 MONROE NY 10950	03/20/2019	03/20/2024
DOL	DOL	*****7730	S C MARTIN GROUP INC.		2404 DELAWARE AVE NIAGARA FALLS NY 14305	09/12/2018	09/12/2023

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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 RDPOMPEI NY 13138	07/16/2021	07/16/2026
DOL	DOL		SALVATORE A FRESINA A/K/A SAM FRESINA		107 FACTORY AVE P.O BOX 11070SYRACUSE NY 13218	07/16/2021	07/16/2026
DOL	DOL		SAM FRESINA		107 FACTORY AVE P.O BOX 11070SYRACUSE NY 13218	07/16/2021	07/16/2026
DOL	NYC	*****0349	SAM WATERPROOFING INC		168-42 88TH AVENUE APT.1 AJAMAICA NY 11432	11/20/2019	11/20/2024
DOL	DA	*****0476	SAMCO ELECTRIC CORP.		3735 9TH ST LONG ISLAND CITY NY 11101	01/05/2023	01/05/2028
DOL	NYC	*****1130	SCANA CONSTRUCTION CORP.		863 WASHINGTON STREET FRANKLIN SQUARE NY 11010	03/10/2020	03/10/2025
DOL	DOL	*****2045	SCOTT DUFFIE	DUFFIE'S ELECTRIC, INC.	P.O BOX 111 CORNWALL NY 12518	03/03/2020	03/03/2025
DOL	DOL		SCOTT DUFFIE		P.O BOX 111 CORNWALL NY 12518	03/03/2020	03/03/2025
DOL	NYC	*****6597	SHAIRA CONSTRUCTION CORP.		421 HUDSON STREET SUITE C5NEW YORK NY 10014	02/20/2019	02/20/2024
DOL	DOL		SHULEM LOWINGER		11 MOUNTAIN ROAD 28 VAN BUREN DRMONROE NY 10950	03/20/2019	03/20/2024
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		SOMATIE RAMSUNAHAI		115-46 132ND ST SOUTH OZONE PARK NY 11420	09/17/2020	09/17/2025
DOL	DOL	*****2221	SOUTH BUFFALO ELECTRIC, INC.		1250 BROADWAY ST BUFFALO NY 14212	02/03/2020	02/03/2025
DOL	NYC	*****3661	SPANIER BUILDING MAINTENANCE CORP		200 OAK DRIVE SYOSSET NY 11791	03/14/2022	03/14/2027
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	*****6844	STEAM PLANT AND CHX SYSTEMS INC.		14B COMMERCIAL AVENUE ALBANY NY 12065	11/14/2019	11/14/2024
DOL	DOL	*****9933	STEED GENERAL CONTRACTORS, INC.		1445 COMMERCE AVE BRONX NY 10461	05/30/2019	05/30/2024
DOL	DOL	*****9528	STEEL-IT, LLC.		17613 SANTE FE LINE ROAD WAYNESFIELD OH 45896	07/16/2021	07/16/2026
DOL	DOL		STEFANOS PAPASTEFANOU, JR. A/K/A STEVE PAPASTEFANOU, JR.		256 WEST SADDLE RIVER RD UPPER SADDLE RIVER NJ 07458	05/30/2019	05/30/2024
DOL	DOL		STEVE TATE		415 FLAGER AVE #302STUART FL 34994	10/31/2018	10/31/2023
DOL	DOL		STEVEN MARTIN		2404 DELWARE AVE NIAGARA FALLS NY 14305	09/12/2018	09/12/2023
DOL	DOL	*****3800	SUBURBAN RESTORATION CO. INC.		5-10 BANTA PLACE FAIR LAWN PLACE NJ 07410	03/29/2021	03/29/2026
DOL	DOL	*****1060	SUNN ENTERPRISES GROUP, LLC		370 W. PLEASANTVIEW AVE SUITE 2.329HACKENSACK NJ 07601	02/11/2019	02/11/2024
DOL	DOL	*****9150	SURGE INC.		8269 21ST STREET BELLEROSSE NY 11426	12/22/2022	12/22/2027
DOL	DOL		SYED RAZA		198 RIDGE AVENUE NY 11581	06/06/2022	06/06/2027
DOL	DOL	*****8209	SYRACUSE SCALES, INC.		158 SOLAR ST SYRACUSE NY 13204	01/07/2019	01/07/2024
DOL	DOL		TERRY THOMPSON		11371 RIDGE RD WOLCOTT NY 14590	02/03/2020	02/03/2025
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

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DOL	DOL		TERSAL DEVELOPMENT CORP.		1935 TEALL AVENUE SYRACUSE NY 13206	07/16/2021	07/16/2026
DOL	DOL		TEST		P.O BOX 123 ALBANY NY 12204	05/20/2020	05/20/2025
DOL	DOL	*****6789	TEST1000		P.O BOX 123 ALBANY NY 12044	03/01/2021	03/01/2026
DOL	DOL	*****5766	THE COKER CORPORATION	COKER CORPORATION	2610 SOUTH SALINA ST SUITE 14SYRACUSE NY 13205	12/04/2018	12/04/2023
DOL	DOL	*****5766	THE COKER CORPORATION	COKER CORPORATION	2610 SOUTH SALINA ST SUITE 14SYRACUSE NY 13205	09/17/2020	09/17/2025
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	*****8210	UPSTATE CONCRETE & MASONRY CONTRACTING CO INC		449 WEST MOMBSHA ROAD MONROE NY 10950	06/06/2022	06/06/2027
DOL	DOL	*****6392	V.M.K CORP.		8617 THIRD AVE BROOKLYN NY 11209	09/17/2018	09/17/2023
DOL	DOL	*****6418	VALHALLA CONSTRUCTION, LLC.		796 PHLEPS ROAD FRANKLIN LAKES NJ 07417	12/01/2020	12/01/2025
DOL	NYC	*****2426	VICKRAM MANGRU	VICK CONSTRUCTION	21 DAREWOOD LANE VALLEY STREAM NY 11581	09/17/2020	09/17/2025
DOL	NYC		VICKRAM MANGRU		21 DAREWOOD LANE VALLEY STREAM NY 11581	09/17/2020	09/17/2025
DOL	DOL		VICTOR ALICANTI		42-32 235TH ST DOUGLASTON NY 11363	01/14/2019	01/14/2024
DOL	NYC		VIKTAR PATONICH		2630 CROSEY AVE BROOKLYN NY 11214	10/30/2018	10/30/2023
DOL	DOL		VIKTORIA RATH		24 ELDOR AVENUE NEW CITY NY 10956	02/03/2020	02/03/2025
DOL	NYC	*****3673	WALTERS AND WALTERS, INC.		465 EAST AND THIRD ST MT. VERNON NY 10550	09/09/2019	09/09/2024
DOL	DOL	*****3296	WESTERN NEW YORK CONTRACTORS, INC.		3841 LAYNARD COURT NEW PORT RICHEY FL 34652	07/09/2019	07/09/2024
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 G. PROERFRIEDT		85 SPRUCEWOOD ROAD WEST BABYLON NY 11704	01/19/2021	01/19/2026
DOL	DOL	*****5924	WILLIAM G. PROPHY, LLC	WGP CONTRACTING, INC.	54 PENTAQUIT AVE BAYSHORE NY 11706	01/19/2021	01/19/2026
DOL	DOL	*****4730	XGD SYSTEMS, LLC	TDI GOLF	415 GLAGE AVE #302STUART FL 34994	10/31/2018	10/31/2023

SECTION H

GENERAL CONDITIONS

GENERAL CONDITIONS

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NOTE: The headings of the articles herein are intended for the convenience of reference only and shall not be considered as having any bearing on their interpretation.

GENERAL CONDITIONS

PART I

101. DEFINITIONS

Whenever used in any of the Contract Documents, the following meanings shall be given to the terms herein defined:

- a. The term "Contract" means the Contract executed by the Owner and the Contractor.
- b. The term "Owner" means the **Village of Dobbs Ferry**, which is authorized to undertake this Contract.
- c. The term "Contractor" means the person, firm or corporation entering into the Contract with the Owner to perform and complete the work involved in this Contract.
- d. The term "Subcontractor" means a person, firm or corporation supplying labor for work at the site of the project for and under separate contract or agreement with the Contractor.
- e. The term "Project Area" means the area shown on the drawing in the immediate vicinity of the work, unless otherwise defined in the Special Conditions.
- f. The term "Engineer" means the Engineer of the Project, or such of his subordinates or assistants as have Project Engineer status; or if a Consulting Engineer is employed to perform construction management and inspection, then this term shall apply to said Consulting Engineer and those subordinates and assistants that have Project Engineer status. A list of authorized Project Engineers will be furnished to the Contractor on request.
- g. The term "**Village**" means the **Village of Dobbs Ferry** within which the Project Area is situated.
- h. The term "Contract Documents" means and shall include the Documents listed in Article 3 of the Agreement.
- i. The term "Drawings" or "Contract Drawings" means the drawings listed in the Schedule of Drawings.
- j. The term "Technical Specifications" or "Supplemental Technical Specifications" means that part of the Contract Documents which describes, outlines and stipulates, the quality of materials to be furnished; the quality of workmanship required; measurement and payment.
- k. The term "Addendum" or "Addenda" means any changes, revisions or clarifications of the Contract Documents which have been duly issued by the Owner to prospective Bidders prior to the time of receiving Bids.

102. SUPERINTENDENCE BY CONTRACTOR

- a. Except where the Contractor is an individual and gives his personal superintendence to the work, the Contractor shall provide a competent superintendent, satisfactory to the Owner, for the work at all times during working hours with full authority to act for him. The Contractor

shall also provide an adequate staff for the proper coordination and expediting of his work. Should, in the opinion of the Owner, any language barrier exist between the superintendent and the Owner, the Contractor shall furnish a qualified interpreter.

- b. The Contractor shall layout his work including all survey required and he shall be responsible for all work executed by him under the Contract. He shall verify all figures, elevations, etc. before proceeding with the work and will be held responsible for any error resulting from his failure to do so.

103. SUBCONTRACTS

- a. The Contractor shall not execute an agreement with any Subcontractor or permit any Subcontractor to perform any work included in this Contract until he has received written approval of such Subcontractor from the Owner.
- b. The Contractor shall be as fully responsible to the Owner for the acts and omissions of his Subcontractors, and of persons either directly or indirectly employed by them, as he is for the acts and omissions of persons directly employed by him. All subcontractors must have adequate superintendence on the work site when they are performing work.
- c. The Contractor shall cause appropriate provision to be inserted in all Subcontracts relative to the work to require compliance by each subcontractor with the applicable provisions of the Contract for the work embraced in this Contract.
- d. Nothing contained in the Contract shall create any contractual relation between any Subcontractor and the Owner.
- e. The Contractor shall not subcontract more than 50% of the total work of this contract. Any material purchased by the Contractor and not used by him in his work shall be considered a Subcontract.

104. OTHER CONTRACTS

The Owner reserves the right to let other Contracts in connection with this work or to perform work related to this project with his own forces. The Contractor shall offer other Contractors and the Owner reasonable opportunity for the introduction and storage of their materials and the execution of their work, and shall properly connect and/or coordinate his work with theirs. The Contractor shall cooperate fully with such other Contractors, by scheduling his own work with that to be performed under other Contracts as may be directed by the Owner. The Contractor shall not permit or commit any act, which will interfere with the performance of work by any other Contractor as scheduled.

Wherever work being done by the Owner or its forces, or other Contractors, is contiguous to work covered by this contract, the respective rights of the various interests involved shall be established by the Owner, to secure the completion of the various portions of the work in general harmony.

If any part of the Contractor's work depends for proper execution or results upon the work of others, the Contractor shall inspect and promptly report to the Engineer in writing any defects or deficiencies in such work that render it unsuitable for such proper execution and results.

105. RESPONSIBILITIES OF CONTRACTOR

Except as otherwise specifically stated in the Contract Documents, the Contractor shall provide and pay for all materials, labor, tools equipment, water light, heat, power, transportation, superintendence, temporary construction of every nature, charges, levies, fees or other expenses and all other services and facilities of every nature whatsoever necessary for the performance of the Contract and to complete this Contract in every respect within the specified time.

106. FITTING AND COORDINATION OF THE WORK

The Contractor shall be responsible for the proper fitting of all work and for the coordination of the operations of all trades, Subcontractors or Suppliers engaged upon this Contract. He shall be prepared to guarantee to each of the Subcontractors, the locations and measurements that they may require for the fitting of their work to all surrounding work. The Contractor shall, at his own expense, effect all cutting, fitting, or patching of his work required to make the same conform to the Contract Drawings and specifications and except with the consent of the Owner, not to cut or otherwise alter the work of any other Contractor.

107. MUTUAL RESPONSIBILITY OF CONTRACTOR

If, through acts or neglect on the part of the Contractor, any other Contractor or Subcontractor shall suffer loss or damage on the work, the Contractor shall settle with such other Contractor or Subcontractor by agreement or arbitration, if such other Contractor or Subcontractor will so settle. If such other Contractor or Subcontractor shall assert any claim against the Owner on account of any damage alleged to have been so sustained, the Owner will notify the Contractor, who shall defend at his own expense any suit based upon such claim, and, in any judgment or claims against the owner shall pay or satisfy such judgment or claim and pay all costs and expenses in connection therewith and will in all other respects, including, but not limited to attorney's fees and court costs, hold harmless the Owner and Engineer.

108. ASSIGNMENT OR NOVATION

The Contractor shall not assign or transfer, whether by an assignment or novation, any of its rights, duties, benefits, obligations, liabilities, or responsibilities under this Contract without the written consent of the Owner; provided, however, that assignments to banks, trust companies, or other financial institutions may be made without the consent of the Owner.

No assignment of any of the Contractor's rights or benefits under the Contract is subject to a prior lien for labor performed, services rendered and materials, tools and equipment supplied for the performance of the work under this Contract in favor of all persons, firms or corporations rendering such labor or services or supplying such materials, tools or equipment.

109. PROGRESS SCHEDULE

The Contractor shall submit within seven (7) calendar days after award a carefully prepared realistic Progress Schedule showing the proposed dates of starting and completing of each and every item of work on each and every section of work in accordance with these Specifications if applicable to this specific Contract. The Progress Schedule shall include as a minimum:

- a. The project name, number and geographic location.
- b. The contract time, contract beginning date, and ending date.

- c. The time of beginning and completion of each significant phase of this contract.

The initial requisition will not be approved for payment until said schedule is submitted. Said schedule will be revised or updated monthly unless otherwise permitted by the Owner. No monthly payments will be approved without a revised/updated monthly Progress Schedule approved by the Owner.

The Progress Schedule shall show the plan of construction and the proposed method of carrying out this work including a full statement of the equipment to be used.

110. COMMUNICATIONS

- a. All notices, demands, requests, instructions, approvals, proposals and claims must be in writing.
- b. Any notice to or demand upon the Contractor shall be sufficiently given if delivered at the office of the Contractor stated on the signature page of the Agreement (or at such other office as the Contractor may from time to time designate) in a sealed, postage-prepaid envelope or delivered with charges prepaid to any telegraph company for transmission, in each case addressed to such office.
- c. All papers required to be delivered to the Owner shall, unless otherwise specified in writing to the Contractor, be delivered to the Village of Dobbs Ferry Village Hall, and any notice to or demand upon Owner shall be sufficiently given if so delivered, or if deposited in the United States mail in a sealed, postage- prepaid envelope or delivered with charges prepaid to any telegraph company for transmission to said Owner at such address, or to such other representatives of the Owner or to such other address as the may subsequently specify in writing to the Contractor for such purpose.
- d. Any such notice shall be deemed to have been given as of the time of actual delivery or (in case of mailing), when the same should have been received in due course of post, or in the case of telegrams, at the time of actual receipt, as the case may be.

111. PAYMENTS TO CONTRACTOR

- a. Partial Payments
 - 1. The Engineer shall prepare an estimate of the work performed for partial payment as of a mutually agreed upon date at least 30 days after the beginning of work, and approximately every 30 days thereafter. The amount of the payment due the Contractor shall be determined by adding the total value of work completed to date and deducting (1) five percent (5%) of the total amount, to be retained until final payment and (2) the amount of all previous payments. The total value of work completed to date shall be based on the estimated quantities of work completed and on the unit prices, if any, contained in the Agreement.

There will be no payments or partial payments to the Contractor for materials purchased and stored/stockpiled on the project site.
 - 2. Monthly or partial payments made by the Owner to the Contractor are monies advanced for the purpose of assisting the Contractor to expedite the work of construction. All material and completed work covered by such monthly or partial payments shall remain the property of the Contractor, and he shall be responsible for the care and protection of

all materials and work upon which payments have been made. Such payments shall not constitute a waiver of the right of the Owner to require the fulfillment of all terms of the Contract and the delivery of all improvements embraced in this Contract complete and satisfactory to the Owner in all details.

b. Final Payment

1. After final inspection and acceptance by the Owner of all work under the Contract, the Contractor shall prepare his requisition for final payment which shall be based upon the carefully measured or computed quantity of each item of work at the applicable unit prices stipulated in the Agreement. The total amount of the final payment due the Contractor under this Contract shall be the amount computed without retainage less all previous payments. Final payment to the Contractor shall be made subject to his furnishing the Owner with a release in satisfactory form of all claims against the Owner, arising under and by virtue of his Contract, other than such claims, if any as may be specifically excepted by the Contractor from the operation of the release as provided elsewhere herein.
2. The Owner, before paying the final estimate, may require the Contractor to furnish releases or receipts from all subcontractors having performed any work and all persons having supplied materials, equipment (installed on the Project) and services to the Contractor, if the Owner deems the same necessary in order to protect its interest. The Owner, however, may if it deems such action advisable, make payment in part or in full to the Contractor without requiring the furnishing of such releases or receipts of any payment so made shall in no way impair the obligations of any surety or sureties furnished under this Contract.
3. If it was necessary for the Owner to expend money for labor, materials or equipment on this project because the Contractor failed to perform satisfactorily or promptly, and a bill for such sum remains unpaid, the Owner may deduct this sum from partial payments or the final payment. Furthermore, if the specifications provide for certain work to be done by the Owner with the fee or cost to be borne by the Contractor, and a bill for such services remains unpaid, the Owner may deduct this sum from the partial or the final payment.
4. Withholding of any amount due the Owner under the section entitled "LIQUIDATED DAMAGES" shall be deducted from the final payment due the Contractor. At the Owner's option, liquidated damages may be deducted from any partial payment.

c. Withholding Payments

Notwithstanding the above, the Owner may withhold from any payment otherwise due the Contractor so much as may be necessary to protect the Owner and if it so elects may also withhold any amounts due from the Contractor to any Subcontractors or material dealers, for work performed or material furnished by them. The foregoing provisions shall be construed solely for the benefit of the Owner and will not require the Owner to determine or adjust any claims or disputes between the Contractor and his Subcontractors or material dealers, or to withhold any monies for their protection unless the Owner elects to do so. The failure or refusal of the Owner to withhold any monies from the Contractor shall in no way impair the obligations of any surety or sureties under any bond or bonds furnished under this Contract.

d. Payments Subject to Submission of Certificates

Each payment to the Contractor by the Owner shall be made subject to submission by the Contractor of all written certifications required of him and his Sub-contractors by the Section entitled, CONTRACTOR'S CERTIFICATES under the GENERAL CONDITIONS.

112. CHANGES IN THE WORK

- a. The Owner may make changes in the work required to be performed by the Contractor under the Contract by making additions thereto, or by omitting work therefrom, without invalidating the Contract.
- b. Except for the purpose of affording protection against any emergency endangering life or property, the Contractor shall make no change in the materials used or in the specified manner of construction and/or installing the improvements or supply additional labor, services or materials beyond that actually required for the execution of the Contract, unless in pursuance of a written order from the Owner, authorizing the Contractor to proceed with the change. No claim for an adjustment of the Contract price will be valid unless so ordered.
- c. The Contractor agrees to perform any of the aforementioned changed work, along with all other required work found under the Contract, without delay and in accordance with good construction practices.
- d. These changes outlined above may be made without relieving or releasing the Contractor from any of his obligations under the Contract provisions, and without affecting the validity of the guaranty bonds, and without relieving or releasing the surety or sureties of said bonds. All such work shall be executed under the terms of the original Contract unless it is provided otherwise.
- e. All adjustments to the Contract payment provisions will be made in accordance with the following paragraphs.
- f. If applicable unit prices are contained in the Agreement (established as a result of either a Unit Price Bid or a Supplemental Schedule of Unit Prices), the Owner may order the Contractor to proceed with desired changes in the work, the value of such changes to be determined by the measured quantities involved in the applicable unit prices specified in the Contract.
- g. If applicable unit prices are not contained in the Agreement, the Owner shall, before ordering the Contractor to proceed with desired changes, request an itemized proposal from him covering the work involved in the change after which the procedure shall be as follows:
 1. If the change in the work involves additional work, the procedure shall be as follows:
 - (a) If the proposal is acceptable, the Owner will prepare the Change Order in accordance therewith for acceptance by the Contractor; or
 - (b) If the proposal is not acceptable and prompt agreement between the two parties cannot be reached, the Owner may order the Contractor to proceed with the work on a Cost-Plus Basis. A Cost-Plus Basis is defined as the net cost of the work to the Contractor plus an allowance to cover overhead and profit as stipulated below:

"Net cost of the work" is defined as (1) gross cost of labor plus (2) net cost of materials plus (3) gross cost of equipment.

- (1) "Gross cost of labor" is defined as the cost of labor plus fringe benefits.

"Cost of labor" is defined as the cost of required labor based on the prevailing rates established by the New York State Department of Labor and stated in the Contract Document. No part of any salary for employees above the grade of foreman, and having general supervision of this work, will be included in this item.

"Fringe benefits" are defined as all insurance's, taxes and other benefits for the employee required by law or by union contract. The actual value of such fringe benefits shall be as listed in the New York State Department of Labor for each individual employee used in the work.

- (2) "Net cost of materials" shall be defined as the cost of all materials incorporated in the work, including delivery charges, less any allowable cash discounts, as shown by receipted bills.

- (3) "Gross cost of equipment" is defined as the "net cost of equipment" plus an escalation allowance from date of signing of the contract for increase in established cost of fuel and lubricants in the work area.

"Net cost of equipment" shall be defined as a rental rate, which is reasonable and based on rental rates prevailing in the area where the work is to be done. Such rental rate shall be based on the rates published in the "Rental Rate Blue Book" and shall be agreed upon in writing before the work is begun.

The cost of furnishing small tools and accessories and materials used for construction but not incorporated in the work shall be considered as part of the Contractor's overhead, and shall not be included in the "net cost of the work".

The Contractor must provide a certified copy of payroll on a monthly basis.

An allowance of 20% will be added for overhead and profit to "gross cost of labor" and "Net Cost of Materials" and is hereby stipulated to be in lieu of an actual determination of overhead and profit. The Contractor in submitting his bid agrees that this allowance shall be used, regardless of whether actual overhead and profit is more or less than this amount.

No percentage for overhead and profit shall be added to the amounts of equipment rental prices agreed upon, but the price agreed upon shall be the total compensation allows for use of such equipment.

2. If the change in the work requires a reduction in the work involved, the procedure shall be as follows:

- (a) If the proposal is acceptable, the Owner will prepare the Change Order in accordance therewith for acceptance by the Contractor; or
- (b) If the proposal is not acceptable and prompt agreement between the two parties cannot be reached, the Engineer shall fix the cost value of the credit. The Owner may then order the Contractor to proceed with the work. Should the Contractor disagree with the cost value of the credit as fixed by the Engineer, he may appeal

the same in accordance with the procedures outlined in the GENERAL CONDITIONS.

- h. Each Change Order shall include in its final form:
 - 1. A detailed description of the change in the work.
 - 2. The Contractor's proposal (if any) or a confirmed copy thereof.
 - 3. Definite statements as to the resulting change in the Contract price and/or time.
 - 4. The statement that the Change Order is subject to the approval of the Owner.
- i. Any error or discrepancy in or between any of the Contract Documents shall be immediately reported to the Engineer who shall make such corrections and interpretations as may be deemed necessary for the completion of the work in a satisfactory and acceptable manner.
- j. Change Orders shall in general be in writing. If a Contractor claims that a change order was given to him orally, his claim shall be invalid unless such oral change order was given by an authorized Engineer as defined in Section 101.f of this Contract, and further unless such oral change order was confirmed in writing within 24 hours of the giving of the alleged oral change order.
- k. When change orders, or claims involve a subcontractor, no surcharge will be allowed the Contractor for handling, processing, supervision, or coordination.

113. CLAIMS FOR EXTRA COST

- a. All claims between parties, including all claims for additional compensation and/or additional time, arising out of, or in any way related to this Contract and/or the performance of the same, or its interpretation shall within ten (10) days of the event or action giving rise to the claim be presented to the Engineer. All papers pertaining to claims shall be filed in quadruplicate. Such notice need not detail the amount of the claim but shall state the facts surrounding the claim in sufficient detail to identify the claim, together with its character and scope. In the meantime, the Contractor shall proceed with the work as directed. Any claim not presented within the time limit specified in this paragraph shall be deemed to have been waived, except that if the claim is of a continuing character and notice of the claim is not given within ten (10) days prior to the receipt by the Engineer of notice thereof. The Contractor shall in no case allow any claim or dispute to delay the work.
- b. As soon as practicable after the final submission of all information the Owner shall make a determination of any claim. Said decision of the Owner shall be a condition precedent to any further action on the claim. However, upon certification in writing by the claimant the Owner shall be obliged to render a decision on said claim within sixty (60) days of the date of said certification. Should the Owner fail to render its decision within the aforementioned sixty-(60) day period, its decision will not be a condition precedent to any further action on the part of the claimant.
- c. There shall be no added compensation paid for delay to the Contractor unless the Owner causes said delay by a material breach of this Contract, and compliance with the foregoing notice provisions shall be a condition precedent to the prosecution of any such claim. In any claim for delay except for "Excusable Delays and Extensions of Time" as defined in the GENERAL CONDITIONS SECTION "TERMINATION"; "DELAYS AND

EXTENSIONS"; "LIQUIDATED DAMAGES" wherein it is alleged that the Contractor's equipment was caused to remain idle, only one half of the prevailing rental rates for use of said equipment will be considered as damages for idled equipment in order to allow for the absence of fair wear and tear, which is allowed for in prevailing rental rates for equipment usage.

- d. Claims for additional compensation for extra work, due to alleged errors in ground elevations, contour lines, or bench marks, will not be considered unless accompanied by certified survey data, made prior to the time the original ground was disturbed, clearly showing that errors exist which resulted, or would result, in handling more material, or performing more work, than would be reasonably estimated from the Drawings and maps issued.
- e. If, on the basis of the available evidence, the Owner determines that an adjustment of the Contract Price and/or Time is justifiable, the procedure shall be as provided in Sections - "CHANGES IN THE WORK" or "TERMINATIONS; DELAYS AND EXTENSIONS; LIQUIDATED DAMAGES" of the GENERAL CONDITIONS.
- f. In the event of an unfavorable decision by the Owner, the Contractor shall have the right to contest said decision as provided for under the provisions of this Contract.

114. NO OPTIONS PAID

It shall be clearly understood that there will be no payment for materials incorporated into the work (other than that shown on the Contract Drawings or specified) unless ordered by the Engineer.

115. TIME AND MATERIALS WORK NOTIFICATION

Should the Contractor perform work in accordance with the General Conditions, "CHANGES IN THE WORK", he shall give a minimum of 24 hours advance written notice prior to his anticipated beginning any work on a Cost-Plus Basis, to the Owner.

116. TERMINATION; DELAYS AND EXTENSIONS; LIQUIDATED DAMAGES

- a. Termination of Contract for Convenience: For its own convenience the Owner may, at any time prior to the issuance of a Notice to Proceed, void the Contract by giving unequivocal and unconditional written notice of such avoidance to the Contractor and in the event of such avoidance the Owner will not be liable to the Contractor for any claims or losses, including anticipation of performance under the Contract.

At any time subsequent to the Notice to Proceed the Owner, may at its own convenience, terminate the Contract by giving unequivocal and unconditional written notice of such termination to the Contractor. In the event of such termination by the Owner, the Owner shall be responsible to the Contractor for the following monies only, which monies shall be subject to legitimate changes of the Owner against the Contractor:

- 1. All reasonable costs incurred by the Contractor in performance of or in anticipation of performance of the Contract provided the Contractor shall take all reasonable steps to mitigate such damages including the return and/or resale of materials ordered; and
- 2. On Lump Sum projects, a mark-up of 10% for profit and 10% for overhead on the reasonable cost of the work that is completed and in place in accordance with the Contract Drawings and Specifications will be allowed. On unit price contracts,

allowances for profit and overhead shall be considered to have been included in each of the Contractor's original unit prices bid. The Contractor shall remain responsible for the work completed, in accordance with the Contract provisions.

Should any work under this contract be subject to, or terminated by the action of any third party, governmental unit or court due to any ecological or other reason the rights of the Contractor to recover from the Owner shall be determined as set forth above.

- b. Termination of Contract for Cause: In addition, the Owner may give notice in writing to the Contractor and his Surety of any material breach of the Contract by the Contractor to include but not be limited to any of the following:
1. Failure to begin the work under the Contract within the time specified.
 2. Failure to perform the work with sufficient workmen, equipment or materials to insure the prompt completion of said work.
 3. Unsuitable performance of the work or failure to perform anew such work as shall be rejected as defective and unsuitable.
 4. Neglecting or refusing to remove material rejected as defective and unsuitable.
 5. Discontinuing the suitable prosecution of the work for a period of 72 hours, excluding Sundays and holidays without written authorization of the Engineer.
 6. Failure to commence discontinued work within 48 hours after notice to resume (excluding Sundays and holidays).
 7. Becoming insolvent or declared bankrupt, or commits any act of bankruptcy or insolvency.
 8. Allowing any final judgment to stand against him unsatisfied for a period of ten (10) calendar days.
 9. Making any assignment for the benefit of creditors.
 10. Violating any covenants contained in the Contract Documents.
 11. Failure to eliminate unsafe conditions within 12 hours.

The Contractor or Surety within a period of ten (10) calendar days after such notice shall take all practical action to correct said material breach. Should said action fail to meet with the approval of the Owner, the Owner, may at its discretion, order the Surety to complete the work or, without violating the Contract, take the prosecution of the work out of the hands of said Contractor and Surety.

The Owner may appropriate or use any or all materials and equipment on the ground as may be suitable and acceptable and may enter into an agreement, either by negotiation or public letting, for the completion of said Contract according to the terms and provisions thereof, or use such other methods or combinations thereof, as in its opinion shall be required or desirable for the completion of said Contract in an acceptable manner. All costs and charges incurred by the Owner together with the cost of completing the work under Contract shall be deducted from monies due or which may become due said Contractor. In case such expense shall exceed the

sum which would have been payable under the Contract, then the Contractor and the Surety shall be liable and shall pay to the Owner the amount of said excess.

- c. Excusable Delays and Extensions of Time. The right of the Contractor to proceed shall not be terminated nor shall the Contractor be charged with liquidated damages for any delays in the completion of the work due:

1. To any acts of the Government, including controls or requisitioning of materials, equipment, tools, or by labor by reason of war, National Defense, or any other national emergency.
2. To any acts of the Owner caused by an injunction or litigation against said Owner, by a third party.
3. To causes not reasonably foreseeable by the parties to this Contract at the time of the execution of the Contract which are beyond the control and without the fault or negligence of the Contractor, including, but not restricted to, acts of God or of the public enemy, acts of another Contractor in performance of some other Contract with the Owner, fires, floods, epidemics, quarantine, restrictions, strikes, freight embargoes, and weather of unusual severity such as hurricanes, tornadoes, cyclones and other extreme weather conditions; and
4. To any delay of any Subcontractor occasioned by any of the causes specified in subparagraphs 1, 2 and 3 of this paragraph "c".

Provided, however, that the Contractor promptly notify the Owner within ten (10) days in writing of the cause of the delay. Upon receipt of such notification, the Owner shall ascertain the facts and the cause and the extent of delay. If, upon the basis of the facts and the terms of this Contract, the delay is properly excusable, the Owner shall extend the time for completing the work for a period of time commensurate with the period of excusable delay.

No claim for damages or any claim other than for an extension of time as herein provided shall be made or asserted against the Owner by reason of any delay.

- d. Liquidated Damages for Delay. If the work is not completed within the time stipulated in Section - TIME OF COMPLETION under SPECIAL CONDITIONS, including any extensions of time for excusable delays as herein provided, the Contractor shall pay to the Owner as fixed agreed, and as liquidated damages (it being impossible to determine the actual damages occasioned by the delay) for each calendar day of delay, until the work is completed, the amount as set forth in Section - LIQUIDATED DAMAGES under SPECIAL CONDITIONS and the Contractor and his sureties shall be liable to the Owner for the amount thereof. Neither permission given by the Owner for the Contractor to continue the work after the time fixed for completion, nor the inspection and acceptance of such work, shall be deemed a waiver on the part of the Owner of any of his rights under this Contract.

117. ENGINEER'S AUTHORITY

The Engineer will decide all questions, which may arise in the relation to the work and the construction thereof. The Engineer's estimates and decisions shall be final and conclusive, except as herein otherwise expressly provided. In case any question shall arise between the parties hereto relative to said Contract, the determination or decision of the Engineer shall be a condition

precedent to the right of the Contractor to receive any money or payment for work under this Contract affected in any manner or to any extent by such question.

118. TECHNICAL SPECIFICATIONS AND CONTRACT DRAWINGS

Anything mentioned in the Technical Specifications and not shown on the Contract Drawings and not mentioned in the Technical Specifications shall be of like effect as if shown on or mentioned in both. In case of difference between the Contract Drawings and Technical Specifications, the Technical Specifications shall govern. In case of any discrepancy within the Contract Drawings or within the Technical specifications, the matter shall be immediately submitted to the Owner without whose decision said discrepancy shall not be adjusted by the Contractor, save only at his own risk and expense.

119. REQUESTS FOR SUPPLEMENTARY INFORMATION

It shall be the responsibility of the Contractor to make timely request of the Owner for any additional information not already in his possession which should be furnished by the Owner under the terms of this Contract, and which he will require in the planning and execution of the work. Such requests may be submitted from time to time as the need is approached, but each shall be filed in ample time to permit appropriate action to be taken by all parties involved so as to avoid delay. Each request shall be in writing, and list the various items and latest date by which each will be required by the Contractor. The first list shall be submitted within two (2) weeks after Contract award and shall be as complete as possible at that time. The Contractor shall, if requested, furnish promptly any assistance and information the Engineer may require in responding to these requests of the Contractor. The Contractor shall be fully responsible for any delay in his work or to others arising from his failure to comply fully with the provisions of this Section.

120. SHOP DRAWINGS

Shop drawings are required for all manufactured items. In the case of reinforced concrete, details of reinforcing bars and form construction and materials shall be submitted in the same manner as shop drawings.

- a. All required shop drawings, machinery details, layout drawings, working drawings, material and equipment descriptions, etc., shall be submitted to the Engineer in three (3) copies for review sufficiently in advance of requirements to afford ample time for checking, including time for correcting, resubmitting and rechecking if necessary. THE CONTRACTOR SHALL SIGN AND APPROVE ALL SHOP DRAWINGS PRIOR TO SUBMITTAL TO THE ENGINEER. Two (2) weeks should be allowed for checking from the date of receipt by the Engineer. The Contractor, with the approval of the Engineer, may submit manufacturer's literature as a substitute for, or supplement to, the shop drawings, etc. The minimum size for any submission shall be 8 1/2" x 11 and the maximum size shall be 24" x 36".
- b. No construction, purchases, delivery, installation or work shall be done or made on any part or feature of this Contract which is dependent upon shop drawing review, until such review has been received from the Engineer. If the Contractor proceeds without reviewed shop drawings, it shall be at his own risk. No claim by the Contractor, for extension of the Contract time will be granted by reason of his failure in this respect.
- c. Shop drawings, etc., or printed matter shall give all dimensions, sizes, etc., to enable the Engineer to determine suitability of the construction, installation, material or layout for the purposes intended. Where needed for clarity, the drawings shall include outline, sectional

views and detailed working dimensions and designations of the kind of material, machine work, finish, etc., required. The drawings to be submitted shall be coordinated by the Contractor with any other drawings previously reviewed, with the design and function of any equipment or structure and the Contract Drawings.

- d. By submitting shop drawings, etc., the Contractor thereby represents that he has determined and verified all field measurements, field construction criteria, materials, catalog numbers and similar data, or will do so and that he has checked and coordinated each shop drawing, etc., with the requirements of the work and of the Contract Documents.
- e. If any drawings show variations from the requirements of the Contract because of standard shop practice and or other reasons, the Contractor shall make specific mention of such variation in his letter of transmittal in order that, if acceptable, suitable action may be taken for proper adjustment of the contract price and/or time; otherwise, the Contractor will not be relieved of the responsibility for executing the work in accordance with the Contract even though the drawings have been reviewed.
- f. After review, the submittals will be stamped "Approved", "Approved as Noted", "Resubmit" or "Disapproved". Two (2) prints of "Approved" or "Approved as Noted" drawings will be returned to the Contractor for his use and distribution to his suppliers and/or Subcontractors. In the case of those stamped "Resubmit" or "Disapproved" two (2) prints will be returned to the Contractor who shall make all indicated corrections and resubmit (3) prints.
- g. In any submission that is noted as "Approved" or "Approved as Noted", the review shall not extend to details or dimensions and shall not relieve the Contractor from his responsibility for compliance with the Contract Drawings and specifications.
- h. When the Contractor proposes a revision to a previously submitted shop drawing, etc., three (3) copies shall be resubmitted for review. This re-submittal shall clearly indicate, in a revision block, the date, description and location of the revision. The letter of transmittal shall state the reasons for the revision.
- i. The contractor shall furnish as many copies of the submittals as is necessary for the proper coordination of the work, and shall maintain a complete set of the reviewed submissions at the site of the work at all times.
- j. Upon the final acceptance of the project, the Contractor shall, on request, furnish the Owner with a complete set of shop drawing tracings or reproducible cloth reproductions of the shop drawing tracings.
- k. There will be no direct payment made for any of the above submittals, or reproducible drawings if required, but the cost thereof shall be considered as included in the general cost of the work.

121. SAMPLES, CERTIFICATES AND TESTS

The Contractor shall submit all samples, materials, certified test reports, materials certificates, certificates of compliance, affidavits, etc., as called for in the Contract Documents or required by the Engineer, promptly after award of the Contract and acceptance of the Contractor's bonds. No such materials and/or equipment, etc., shall be manufactured or delivered to the site, except at the Contractor's own risk, until the required samples/certificates/tests/etc., have been approved in writing by the Owner. Any delay in the work caused by late or improper submission of the above for approval shall not be considered just cause for an extension of the Contract time.

- a. **Samples.** Unless otherwise specified, the Contractor shall furnish the required samples without charge, and shall provide every facility for the securing of material samples. He shall provide means and assist in the verification of all scales, measures and other devices, which he operates. Samples to be submitted shall be taken by the Engineer or a laboratory approved by the Owner, unless otherwise specified. All materials being used shall be subject to re-sampling and testing at any time during their preparation and/or use.

All samples submitted by the Contractor shall be properly identified to include, but not be limited to, the project name, project number, item number and description of material, name of the producer, place of origin, and other detailed information which will assist the Engineer passing upon the acceptability of the sample. Certified test reports, materials certificates and/or certificates of compliance required to be submitted with the samples or if permitted in lieu of samples, shall conform to the requirements stated hereafter.

- b. **Certified Test Report.** A certified test report shall be a document containing a list of the dimensional, chemical, metallurgical, electrical and physical results obtained from an actual test of the materials involved, and shall certify that the materials meet the requirements of the Contract drawings and specifications, and shall also include the following information:

1. Item number and description of material;
2. Date of manufacture;
3. Date of testing;
4. Name or organization to whom the material is consigned.
5. Quantity of material represented, such as batch, lot, group, etc.;
6. Means of identifying the consignment, such as label, marking, lot number, etc.;
7. Date and method of shipment;
8. Name of organization performing tests.

The certified test report shall be signed by an authorized and responsible agent for the organization manufacturing the material, and it shall be notarized.

- c. **Materials Certificate.** A materials certificate shall be a document certifying that the materials, components and equipment furnished, conform to all requirements of the Contract Drawings and specifications. The document shall also include the following information:

1. Project to which the material is consigned.
2. Name of Contractor to whom material is supplied.
3. Item number and description of material.
4. Quantity of material represented by the certificate.
5. Means of identifying the consignment, such as label, marking, lot numbers, etc.
6. Date and method of shipment.

The materials certificate shall be signed by an authorized and responsible agent for the organization supplying the material, and it shall be notarized.

- d. Certificate of Compliance. A certificate of compliance shall be a document certifying that the materials, components and equipment covered by the previously submitted certified test report and materials certificate, have been installed in the work and that conform to all the requirements of the Contract Drawings and specifications. The following information shall also be required on the document:

1. Project number;
2. Item number and description of material;
3. Quantity represented by the certificate;
4. Name of manufacturer.

The certificate of compliance shall be signed by an authorized responsible agent for the prime Contractor, and shall be notarized.

- e. Tests. Tests as required by the Specifications will be made in accordance with the latest revision to the standard method in effect at the time of bidding of the American Society of Testing Materials, the New York State Dept. of Transportation, the American Water Works Association, the American Association of State Highway and Transportation Officials or any other organization that is recognized as an authority on a particular material unless otherwise specified on the Contract Drawings or Special Conditions. Representative preliminary samples of the material proposed for use shall be submitted, without charge, by the Contractor or producer for examination and tested in accordance with specified methods. All materials being used are subject to test or rejection at any time during their preparation and use.

The Engineer will reject materials whenever, in his judgment, they fail to meet the requirements of the specifications.

The Owner reserves the right to re-test all materials, which have been tested and accepted at the source of supply. After the same have been delivered, and to reject all materials which, when re-tested, do not meet the requirements of the specifications.

- f. Approval/Acceptance. Approval of any materials shall be general only and shall not constitute a waiver of the Owner's right to demand full compliance with Contract Requirements. After actual deliveries, the Engineer will have such check tests made as he deems necessary in each instance and may reject materials and equipment and accessories for cause, even though such materials and articles have been given general approval. If materials, equipment or accessories which fail to meet check tests have been incorporated in the work, the Engineer will have the right to cause their removal and replacement by proper materials or to demand and secure such reparation by the Contractor as is equitable.

The Engineer may accept a material or combination of materials and, therefore, waive non-complying test results provided that all of the following conditions are met:

1. Results of prior and subsequent series of tests of the material or material from the same sources are found satisfactory.

2. The incidence and degree of nonconformance with the specification requirements are, in the Engineer's judgment, within reasonable and practical limits.
3. The Contractor has diligently exercised material controls consistent with good practices in the Engineer's judgment.
4. No adverse effect on the value or serviceability of the completed work could result.

The Engineer may at his discretion waive testing of extremely minor quantities of material when such material is obtained from sources that are prevalently on test.

- g. Costs. Except as otherwise specifically stated in the Contract, the costs of sampling and testing will be divided as follows:
 1. The Contractor shall furnish without extra cost, including packing and delivery charges, all samples required for testing purposes, including those samples taken on the project by the Engineer. The Owner shall pay all other testing costs of said samples.
 2. The Contractor shall assume all costs of re-testing materials, which fail to meet Contract requirements.
 3. The Contractor shall assume all costs of testing materials offered in substitution for those found deficient or for those specified.

122. MATERIALS AND WORKMANSHIP

- a. Unless otherwise specifically provided for in the Technical Specifications, all workmanship, equipment, materials and articles incorporated in the work shall be new and the best grade of the respective kinds for the purpose. Where equipment, materials, articles or workmanship are referred to in the Technical Specifications as "equal to" any particular standard, the Engineer shall decide the question of equality.
- b. All work performed and all materials furnished shall be, in conformity with the lines, grades, cross sections, dimensions and material requirements, including tolerances shown on the Contract Drawings or indicated in the Specifications.
- c. The Contractor shall furnish to the Owner for approval the manufacturer's detailed specifications for all machinery, mechanical and other special equipment, which he contemplates installing together with full information as to type, performance characteristics and all other pertinent information as required, and shall likewise submit for approval as required full information concerning all other materials or articles which he proposes to incorporate in the work. See Section - SAMPLES, CERTIFICATES AND TESTS.
- d. Machinery, mechanical and other equipment, materials or articles installed or used without such prior approval shall be at the risk of subsequent rejection.
- e. Materials specified by reference to the number or symbol of a specific standard, such as an ASTM Standard, a Federal Specification or other similar standard, shall comply with requirements in the latest revision thereof and any amendment or supplement thereto in effect on the date of the Invitation for Bids, except as limited to type, class or grade, or modified in such reference. The standards referred to, except as modified in the Technical Specifications, shall have full force and effect as though printed therein.

- f. The Contractor shall employ only competent and skillful men to do the work and whenever the Engineer shall notify the Contractor, in writing, that any man on the work is, in his opinion, incompetent or disorderly, the Contractor shall forthwith remove such person and shall not again employ him on any part of the work without the written consent of the Engineer.
- g. The Owner may stop any worker, any part of the work under the Contract if the methods or conditions are such that unsatisfactory work might result, if improper materials or workmanship is being used, or unsafe conditions exist. Any action by the Owner under this provision shall not be deemed a cause of delay and no extensions of permitted time will be granted because of such action.
- h. In the event the materials furnished or the work performed deviates from the requirements of the Contract Drawings and Specifications, but, in the opinion of the Owner, constitutes substantial performance, the Owner may accept the same. Should the deviation in question result in a savings to the Contractor the Owner will be entitled to a credit in the full amount of said savings. Should the deviation in question result in an additional cost to the Contractor, the Owner will not be liable to the Contractor for such additional cost.

If the materials or the finished product in which the materials are used or the work performed are not in conformity with the Contract Drawings and Specifications and have resulted in an inferior or unsatisfactory product, the work and materials shall be removed and replaced or otherwise corrected by and at the expense of the Contractor.

123. PERMITS AND CODES

- a. The Contractor shall give all notices required by and shall observe and comply with all Federal and State laws and Local by-laws, ordinances and regulations in any manner affecting the conduct of the work, and all such orders or decrees as may exist at present and those which may be enacted later, of bodies or tribunals having any jurisdiction or authority over the work. The Contractor shall indemnify and save harmless the Owner and Engineer and all of its officers, agents and servants against any claim or liability arising from or based on the violation of any such law, bylaw, ordinance, regulation, order or decree, whether by himself or his employees. All construction, work and/or utility installations shall comply with all applicable ordinances and/or codes including any and all written waivers thereto.

Before commencing any work, the Contractor shall examine the Contract Drawings and Specifications for compliance with applicable ordinances, codes, etc. and shall immediately report any discrepancy to the Owner. Where the requirements of the Contract Drawings and Specifications fail to comply with such applicable ordinances, codes, etc., the Owner will adjust the Contract by Change Order to conform to such ordinances, codes, etc., (unless waivers in writing covering the differences have been granted by the governing body or department) and make appropriate adjustment in the Contract Price.

Should the Contractor fail to observe the foregoing provisions and proceed with the construction or work and/or install any utility at variance with any applicable ordinance, code, etc., including any written waivers (notwithstanding the fact that such installation is in compliance with the Contract Drawings and Specifications), the Contractor shall remove such work without cost to the Owner, but a Change Order will be issued to cover only the excess cost the Contractor would have been entitled to receive if the change had been made before the Contractor commenced work on the items involved.

- b. Unless otherwise specified, the Contractor shall at his own expense, secure and pay to the appropriate department of the Local/State/Federal Government the fees or charges for all permits including but not limited to those required for the making of water taps and the supplying of any equipment required by the regulations of the water district or company, Electrical Underwriters permits, and any other permits required by the regulatory body or any of its agencies.
- c. The Contractor shall comply with applicable Local/State/Federal laws, ordinances, codes, etc., governing noise, the disposal of surplus excavation, materials, debris and rubbish on or off the Project Area and commit no trespass on any public or private property in any operation due to or connected with the work under this Contract.

124. CARE OF WORK

- a. The Contractor shall be responsible for the proper care and protection of all materials delivered and work performed until completion and final acceptance, whether or not the same has been covered in whole or in part by payments made by the Owner.

Materials shall be stored so as to insure the preservation of their quality and fitness for the work and shall be located so as to facilitate prompt inspection. When considered necessary, they shall be placed on wooden platforms or other hard, clean surfaces and not on the ground, and when directed, shall be placed in weatherproof buildings.

Stored materials, even though approved before storage, shall be inspected prior to their use in the work and shall meet the requirements of the specifications at the time it is proposed to use them.

- b. The Contractor shall at his sole expense and without any additional cost to the Owner provide watchmen and/or other security measures as may be reasonably required to properly protect and care for materials and work completed, and to otherwise prevent property damage and/or personal injury.
- c. In an emergency affecting the safety of life or property, including adjoining property, the Contractor, without special instructions or authorization from the Owner, is authorized to act at his discretion to prevent such threatened loss or injury, and he shall so act. He shall likewise act if instructed to do so by the Owner. Any compensation claimed by the Contractor on account of such emergency work will be reviewed by the Owner to determine its validity. If compensation is determined to be valid, then it will be determined by the Owner as provided in the Section -CHANGES IN THE WORK under GENERAL CONDITIONS.
- d. The Contractor shall avoid damage as a result of his operations to existing sidewalks, streets, curbs, pavements, utilities (except those which are to be replaced or removed), adjoining property, etc., and he shall at his own expense completely repair any damage thereto caused by his operations. If any damage is not repaired or acceptable arrangements for repair are not made within a reasonable period of time, the Owner may act to repair such damage by utilizing its own forces or using another contractor employed for that purpose, and the costs of such repair shall be deducted from any payments due the Contractor. If a damage claim has been referred by the Contractor to his insurance company, such referral shall in no way relieve the Contractor of his responsibilities.
- e. The Contractor shall shore-up, brace, underpin, secure and protect as may be necessary, all foundations and other parts of existing structures adjacent to, adjoining, and in the vicinity of

the site, which may be in any way affected by the excavations or other operations connected with the construction of this Contract. The Contractor shall be responsible for the giving of any and all required notices to any adjoining or adjacent property owner or other party before the commencement of any work. The Contractor shall indemnify and save harmless the Owner and the Engineer from any damages on account of settlements or the loss of lateral support of adjoining property and from all loss or expense and all damages for which the Owner and the Engineer may become liable in consequence of such injury or damage to the work or adjoining and adjacent structures and/or their premises.

125. ACCIDENT PREVENTION

- a. The Contractor shall exercise proper precautions and safety measures at all times for the protection of persons and/or property and shall be responsible for all injuries and/or damages to all persons and/or property, either on or off the site, which occur as a result of his prosecution of the work under this Contract. The safety provisions of all applicable Local/State/Federal laws and building and construction codes shall be observed and the Contractor shall take or cause to be taken such additional safety and health measures as the Owner may determine to be reasonably necessary.

Machinery, equipment and trucks shall be properly guarded, and operational hazards shall be eliminated in accordance with the provisions and intent of the latest rules and regulations of OSHA, to the extent that such provisions are not in contravention of applicable law. The Contractor's attention is also called to the Section - SAFETY PROVISIONS of the GENERAL CONDITIONS.

- b. The Contractor shall maintain an accurate record of all cases of death, occupational disease, and injury requiring medical attention or causing loss of time from work, arising out of and in the course of employment of the work under this Contract in accordance with the requirements of the applicable State/Local/Federal regulations. The Contractor shall promptly furnish the Owner with reports concerning these matters.
- c. The Contractor shall indemnify and save harmless the Owner, AI Engineers, Inc., Dolph Rotfeld Engineering Division, 570 Taxter Road, Elmsford, NY 10523 (the Engineer) and their consultants from any and all claims for damages resulting from personal injury, death and/or property damage, suffered or alleged to have been suffered, by any person as a result of any work conducted under this Contract. See also the Section INDEMNITY CLAUSE of the GENERAL CONDITIONS.

126. USE OF PREMISES

- a. The Contractor shall confine his equipment, storage of materials, and construction operations to the Contract Limits as shown on the Drawings and as prescribed by ordinances or permits, or as may be desired by the Owner, and shall not unreasonably encumber the site or public rights of way with his materials and construction equipment.
- b. The Contractor shall comply with all instructions of the Owner, Engineer and the ordinances, codes, etc., of the Local/State/Federal Government, regarding signs, advertising, traffic, fires, explosives, danger signals, barricades, etc.

127. REMOVAL OF DEBRIS, CLEANING, ETC.

The Contractor shall, periodically or as directed during the progress of the work, keep the Project Area and public rights of way reasonably clear. Upon completion of the work, prior to final

inspection, he shall remove all temporary construction facilities, debris and unused materials provided for the work, and restore the whole site of the work to a condition satisfactory to the Engineer. The cost of all required clean-up shall be included in the various prices bid under this Contract.

128. LAYOUT OF WORK

The Contractor shall perform all layout work necessary for the satisfactory execution of the construction as shown on the Contract Drawings and all costs in connection therewith shall be included in the contract price.

The Contractor shall employ competent personnel and all work shall be subject to the approval of the Engineer.

The Contractor shall be held responsible for the protecting and safeguarding of all control points and bench marks set by the Engineer and his own forces. Any replacement or re-establishment of control points or benchmarks by the Engineer shall be at the expense of the Contractor.

The required horizontal and vertical control necessary to perform this work is furnished on the Contract Drawings.

129. INSPECTION/ACCEPTANCE OF THE WORK

All materials and workmanship shall be subject to inspection, examination or test by the Owner and the Engineer to determine the acceptability of the work at any and all times during manufacture or construction and at any and all places where such manufacture or construction is carried on and the Contractor shall provide proper facilities for such access and inspection. The Owner or Engineer shall have the right to reject defective material and workmanship or require its correction. The Owner or Engineer shall have the right to reject materials, which have not been approved prior to incorporation in the work, and the right to reject work that has been performed without inspection. Rejected materials shall be removed and replaced without charge. Rejected workmanship shall be corrected if possible to the Engineer's satisfaction without additional charge. If in the opinion of the Engineer correction is not feasible, or if correction has been attempted but is not satisfactory to the Engineer, the work must be removed and replaced without additional charge. If the Contractor fails to proceed at once with the correction or replacement of rejected workmanship or defective material, the Owner may by contract or otherwise have the defects remedied or rejected materials removed from the Project Area and charge the cost of the same against any monies which are due or may become due the Contractor, without prejudice to any rights or remedies of the Owner.

Neither inspection, testing, approval nor acceptance of the work in whole or in part by the Owner or its agents shall relieve the Contractor or his sureties of the full responsibility for materials furnished or work performed not in strict accordance with the Contract.

The assignment of a part-time or full-time inspector to this project will in no way relieve the Contractor of the requirement to comply with all of the specifications.

Where the Contractor has been directed by the Owner or Engineer to leave certain items of work exposed for inspection, and he fails to do so, he will be required to uncover such work, at his own expense.

130. FINAL INSPECTION

When the improvements embraced in this Contract are substantially completed, The Contractor shall notify the Owner in writing that the work will be ready for final inspection on a definite date which shall be stated in the notice. The notice will be given at least ten (10) days prior to the date stated for final inspection, and bear the signed concurrence of the representative of the Owner having charge of inspection. If the Owner determines that the status of the improvements is as represented, he will make the arrangements necessary to have final inspection commenced on the date stated in the notice, or as soon thereafter as is practicable. The inspection party may also include the representative of the Village of Dobbs Ferry having charge of improvements of like character when such improvements are later to be accepted by the Village.

131. INSURANCE

The insurance requirements for this contract are specified in the Insurance Section of this document.

132. WARRANTY OF TITLE

No material, supplies or equipment, incorporated or to be incorporated in the work shall be purchased subject to any chattel mortgage or under a conditional sale or other agreement by which an interest therein or in any part thereof is retained by the seller or supplier. The Contractor shall warrant good title to all materials, supplies and equipment installed or incorporated in the work and upon completion of all work, shall deliver the same together with all improvements and appurtenances constructed or placed thereon by him to the Owner free from any claims, liens or charges. Neither the Contractor nor any person, firm or corporation furnishing any material or labor for any work covered by this Contract shall have any right to a lien upon any improvement or appurtenance thereon. Nothing contained in this paragraph, however, shall defeat or impair the right of person furnishing materials or labor to recover under any law permitting such persons to look to funds due the Contractor in the hands of the Owner. The provisions of this paragraph shall be inserted in all subcontracts and material contracts and notice of its provisions shall be given to all persons furnishing materials for the work when no formal contract is entered into for such materials.

133. GENERAL GUARANTEE

Neither the final certificate of payment nor any provisions in the Contract nor partial or entire use of the improvements embraced in this Contract by the Owner or the public shall constitute an acceptance of work done in accordance with the Contract or relieve the Contractor of liability in respect to any express warranties or responsibility for faulty materials and workmanship. The Contractor shall promptly remedy any defects in the work and pay for any damage to other work resulting therefrom, which shall appear within a period of one year from the date of final payment.

134. NO ARBITRATION

All claims, counterclaims, disputes and other matters in question between the Owner and the Contractor, not otherwise resolved, arising out of or relating to this agreement or its breach shall be decided in a court of competent jurisdiction. The Owner and the Contractor hereby agree that there shall be no requirement for arbitration of any controversies or disputes hereunder, all such matters to be resolved at law.

135. RISK OF LOSS

The Owner assumes no responsibility for the condition of existing buildings and structures and other property on the Project Area not for their continuance in the condition existing at the time of issuance of the Invitation for Bids or thereafter. No adjustment of Contract Price or allowance for any change in conditions which may occur after the Invitation for Bids has been issued will be made except as provided for herein.

136. REQUIRED PROVISIONS DEEMED INSERTED

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

137. CORRECTIONS

The Engineer shall have the right to correct any errors or omissions in the Contract, specifications or Contract Drawings when such corrections are necessary for the proper expression of their intent.

Such corrections shall take effect from the time that the Engineer gives notice thereof, and any alterations in the work rendered necessary thereby shall be made as corrected. Any conflict between the approved Contract Drawings and specifications, or any disagreement in measurements upon the Contract Drawings must be submitted to the Engineer before construction of the work.

138. SAFETY PROVISIONS

The safety provisions of applicable laws, building and construction codes and the safety codes approved by the Owner shall be observed.

The provisions of the Federal Occupational Safety and Health Administration's "Occupational Safety and Health Standards" and "Safety and Health Regulations for Construction" shall be observed.

Should at any time during the work under this Contract any Local/State/Federal safety inspector visit the site for the purpose of a safety inspection, the Contractor shall immediately notify the Engineer's representative on the job site.

139. CONNECTING TO EXISTING WORK

The Contractor shall remove such existing masonry, concrete, equipment and piping as is necessary, in order to make the proper connections to the existing work at the locations shown. Also, he shall make the necessary pipe line, roadway and other connections at the several points in order than on completion of this Contract, water, sewage, or storm water, as the case may be, will flow through the several pipe lines and structures. Unless otherwise specified herein, no extra payment will be made for this work, but the entire cost of the same shall be included in the unit or lump sum prices bid for the various items of the work to be done under this Contract.

140. EXISTING IMPROVEMENTS

The Contractor shall conduct his work so as to minimize damage to existing improvements, except where specifically stated otherwise in the specifications or drawings; it will be the responsibility of the Contractor to restore, as nearly as practical, to their original conditions all improvements on public or private property damaged by his operations.

141. ACCESS TO SITE

All costs of the removal and restoration to original condition of walls, fences, structures, utility lines, poles, guy wires and anchors, and other improvements required for passage of the Contractor's equipment shall be borne by the Contractor. The Contractor shall notify the proper authorities of the Village of Dobbs Ferry and the Owner and all utilities of any intended modification or disruption to their property prior to the start of construction and shall cooperate with them in the scheduling and performance of his operation.

The Contractor shall be responsible for and reimburse the Owner and others for any and all losses, damage or expense which the Owner and/or Local Government or those others may suffer, either directly or indirectly or through any claims of any person or party, for any trespass outside the spaces provided by the Owner to the Contractor or any violation or disregard of the terms and conditions established for the use or occupancy of those rights or for negligence in the exercise of those rights.

The Owner may retain or deduct from any sum or sums due or to become due to the Contractor such amount or amounts as may be proper to insure the Owner against loss or expense by reason of the failure of the Contractor to observe the limits and conditions of the rights-of-way, rights-of-access, etc., provided by the Owner.

142. INDEMNITY CLAUSE

The Contractor shall sign and be held to Indemnification Agreement in Section D of this document.

143. DISPUTES

- a. All disputes arising between the parties arising out of, or in any way related to this Contract and/or the performance of the same, or its interpretation, shall within ten (10) days of the event or action giving rise to the dispute be presented to the Engineer. All papers pertaining to the dispute shall be filed in quadruplicate. Such notice shall state the facts surrounding the dispute in sufficient detail to identify the dispute, together with its character and scope. In the meantime, the Contractor shall proceed with the work under this Contract as directed. Any dispute not presented within the time limit specified in this paragraph shall be deemed to have been waived, except that if the dispute is of a continuing character and notice of the dispute is not given within ten (10) days of its commencement, the dispute will be considered only for a period commencing ten (10) days prior to the receipt by the Engineer of notice thereof. The Contractor shall in no case allow any dispute to delay the work under this Contract.
- b. As soon as practicable after the final submission of all information the Owner shall make a determination of the dispute. Said decision of the Owner shall be a condition precedent to any further action on the dispute. However, upon certification in writing by the claimant that the dispute has been submitted in its final form the Owner shall be obliged to render a decision on said dispute within sixty (60) days of the date of said certification. Should the

Owner fail to render its decision within the aforementioned sixty- (60) day period, its decision will not be a condition precedent to any further action on the part of the claimant.

- c. Each decision by the Owner will be in writing and will be mailed to the Contractor by registered or certified mail, return receipt requested, directed to his last known address.
- d. In the event of an unfavorable decision by the Owner, the Contractor shall have the right to contest said decision as provided for under the provisions of this Contract. The Contractor shall in no case allow the dispute or decision to delay any work but shall notify the Owner promptly that he is proceeding with the work under protest and he may then except the matter in question from the final release.

144. "OR EQUAL" CLAUSE, UNLESS OTHERWISE SPECIFIED:

Whenever a material, article or piece of equipment other than the pumps and VSD units, is identified on the Contract Drawings or in the specifications by reference to manufacturers' or vendors' names, trade names, catalog numbers, etc., the intent is to establish a standard. Any material, article, or equipment of other manufacturers and vendors of equally high quality (particularly with regard to points specified in the specifications) which will perform equivalently within the design ranges specified will be equally acceptable provided that the material, article or equipment so proposed is, in the opinion of the Engineer, of equal substance and function. Further the manufacturer must agree to comply fully with the warranty requirements of the specifications. The Contractor may not assume that the Engineer will approve substitute equipment and non-approval of said equipment will form no basis for a claim for additional compensation by the Contractor. No substitute equipment shall be purchased or installed by the Contractor without the Engineer's written approval. If the Engineer's approval is obtained for alternate equipment, the Contractor shall, at his own expense, make any changes in the structures, building, piping or electrical necessary to accommodate the equipment and if engineering is required due to substitution of other material the Contractor shall reimburse the owner for the engineering service. The Contractor must pay for any laboratory testing required to establish the equality of his proposal.

145. CONSTRUCTION, EXCAVATION AND DEMOLITION OPERATIONS AT OR NEAR UNDERGROUND FACILITIES

The Contractor's attention is directed to the State of New York, Department of Labor, Board of Standards and Appeals Industrial Code Rule 753 - "Construction, Excavation and Demolition Operations at or near Underground Facilities" effective April 1, 1975 and any amendments thereto.

The Contractor will be required to comply with all applicable requirements of Industrial Code Rule 53.

Requests for copies by mail should be directed to the State of New York, Department of Labor, Office of Public Information, State Office Building Campus, Albany, New York 12201; or, single copies may be obtained by applying in person at the Department's office in Albany or in New York City at the Department of Labor, Two World Trade Center, New York, New York 10047.

146. REVIEW BY OWNER

The Owner, its authorized representatives and agents shall, at all times have access to and be permitted to observe and review all work, materials, equipment, payrolls, personnel records, employment conditions, material invoices and other relevant data and records pertaining to this

Contract, provided, however, that all instructions and approval with respect to the work will be given to the Contractor only by the Owner through its authorized representatives or agents.

147. DEDUCTIONS FOR UNCORRECTED WORK

If the Owner deems it not expedient to require the Contractor to correct work not done in accordance with the Contract Documents, an equitable deduction from the Contract Price will be made by agreement between the Contractor and the Owner and subject to settlement, in case of dispute, as herein provided.

148. PATENTS

The Contractor shall hold and save the Owner and Engineer, their officers, and employees, harmless from liability of any nature or kind, including but not limited to court costs and attorney's fees, for or on account of, any patented or unpatented invention, process, article or appliance manufactured or used in the performance of the Contract, which has been recommended by the Contractor, including its use by the Owner, unless otherwise specifically stipulated in the Technical Specifications.

149. INFORMATION FROM OWNER

In addition to showing the construction under this Contract, the drawings may show certain information obtained by the Owner regarding conditions and features, which exist at the site of the work, both at and below the surface of the ground. The Owner and the Engineer expressly disclaim any responsibility for the accuracy or completeness of the information given on the drawings with regard to the existing conditions and features and the Contractor will not be entitled to any extra compensation on account of inaccuracy or incompleteness of such information. The information, which is shown, is only for the convenience of the Contractor, who must verify this information to his own satisfaction.

150. EXISTING UTILITIES, STRUCTURES AND FIXTURES

The Contractor will be required, at no additional expense to the Owner, to do everything necessary to support, protect and sustain all sewer, water, gas mains or service pipes; electric light, power poles, telephone or telegraph poles, manholes, valve boxes, concrete gutters, guide rails conduits and any and all utilities, structures or fixtures laid across or along the site of the work. In case any of the said utilities, structures or fixtures are damaged by the Contractor, they shall be repaired by the Contractor at his own expense, or by the authorities having control of the same and the expense of said repairs shall be deducted from the monies due or to become due the Contractor under this Contract.

If the Contractor desires temporary changes of location for his convenience for any reason whatsoever, of water lines, gas lines, sewer lines, wire lines, service connections, water and gas meter boxes, valve boxes, light standards, cableways, signals and any other utilities, structures or fixtures, he shall satisfy the Engineer and Owner that the proposed relocation does not interfere with his or other Contractor's operations, or the requirements of the Contract Drawings and does not cause an obstruction or a hazard to traffic. The Contractor shall make his own request to the utility companies, pipe owners or other parties affected for such relocation work. Such relocation work for the convenience of the Contractor shall be made solely at the Contractor's expense.

The Contractor shall not remove or relocate any utility, structure or fixture without the written approval of the owner of that utility, structure or fixture unless otherwise shown on the Contract Drawings, specifications or ordered by the Engineer.

151. HOURS OF WORK

No work shall be done on the job before 8:00 a.m. nor after 5:00 p.m. unless the Owner is notified, nor shall any work be done on Saturdays, Sundays, or legal holidays unless Contractor shall have given Owner written request at least forty-eight (48) hours in advance. Owner will make no additional payment for overtime work under any circumstances unless the Engineer has given a prior written order. The Contractor shall comply with the any municipal Noise Ordinance.

152. EMERGENCY WORK

If in the opinion of the Owner the work is carried on in such fashion that the public safety, private property, or utilities are endangered, or that the work is carried on in such a manner as to create unnecessary inconvenience to the public, the Owner shall, immediately upon giving notice, be authorized to undertake such corrective measures as he may deem to be necessary. The cost of such work shall be deducted from payments due the Contractor under this contract.

153. PROTECTION

The Contractor shall protect and maintain all property, structures and utilities, public or private and shall provide whatever means are required to do so, as part of this contract

154. PAYMENT FOR GENERAL CONDITIONS

The cost of the performance of any work required by these General Conditions shall be considered to be a part of the Contractor's Base Bid if the contract is a Lump Sum Contract, and spread out among all the unit prices if the contract is a Unit Price Contract. There will be no additional payment for work required by these General Conditions.

155. DAMAGE TO PRIVATE PROPERTY

If the Contractor damages private property or facilities outside the designated work area (which work area is to be restored under the restoration provisions of the contract), he shall restore the private property or facilities promptly and completely in the same manner as specified under the restoration provisions of these specifications. If he does not do so within a reasonable period of time, as determined by the Owner, the Owner may retain or deduct from any sum or sums due to the Contractor such amount or amounts as are necessary to correct the condition and employ its own forces or another contractor to do the corrective work. The fact that the Contractor has referred damage claim to his insurance carrier shall not relieve him of liability for prompt and full restoration of damage. For purposes of this section of the contract, the Owner will treat what are essentially private facilities within a public right-of-way (including but not limited to mailboxes, shrubs, flowers and other plantings, walls, light poles, etc.) in the same manner as described above for private property.

156. RESTORATION

All man-made and natural features in the construction site disturbed or removed for the proper completion of the work shall be reset or replaced. All man-made or natural features damaged or destroyed shall be repaired or restored to a condition equal to or better than that existing at the start of the work, with materials equal to or better than the original ones.

In cases where it is impossible to replace an item with an equivalent item the Contractor may, subject to the approval of the Engineer, substitute other similar items whose total value shall equal that of the destroyed one.

If the contract documents contain more detailed or more stringent specifications for restoration than in this section, the more detailed or stringent specifications shall take precedence over this section. If the contract documents do not contain detailed specifications for restoration, then this section expresses the intent of the Owner; all published specifications of the Owner containing details of construction applicable to items of restoration (e.g. grass, pavement, etc.) shall be deemed included in these contract documents as if set forth in full, if not actually printed herein.

If the contract documents contain a specific payment clause for restoration, then that clause shall apply; otherwise, payment for restoration shall be as described in Section 165.

SECTION I

INSURANCE

INSURANCE

1. The Contractor, prior to signing of the contract, shall provide to the **Village of Dobbs Ferry** and maintain throughout the life of the contract, at his own cost and expense, proof of the following insurance by insurance companies licensed in the State of New York.
 - a. Workmen's Compensation. The Contractor shall take out and maintain during the life of this contract the statutory Workmen's Compensation, Disability, and Employer's Liability insurance for all of his employees to be engaged in work on the project under this Contract, and, in case any such work is sublet, the Contractor shall require the Subcontractor similarly to provide Workmen's Compensation, Disability, and Employer's Liability Insurance for all of the latter's employees to be engaged in such work.
 - b. Public Liability Insurance with a single limit of liability per occurrence for bodily injury and property damage of \$1,000,000. The Certificate of Insurance shall indicate the following coverage:
 - (1) Premises - Operations;
 - (2) Any deductibles shall not be the liability of the **Village of Dobbs Ferry, New York**.
 - c. Automobile Liability Insurance with the single limit of liability per occurrence for bodily injury and per occurrence for property damage at \$1,000,000. This insurance shall include coverage for:
 - (1) Owned automobiles;
 - (2) Hired automobiles;
 - (3) Non-owned automobiles.
 - d. Owners and Contractors Protective Liability Policy - \$1,000,000 single limit endorsed that the **Village of Dobbs Ferry** is not responsible for the premium.
 - e. Property Damage - Property Damage Insurance shall include the legal liability of its Contractor for loss or damage to property of the **Village of Dobbs Ferry**.
 - f. Unemployment Insurance - The Contractor for the agreed consideration, promises and agrees to pay the contributions measured by the wages of his employees required by State Unemployment Insurance Law and all amendments thereto, and to accept the account of any contribution measured by the wages as aforesaid of employees of the Contractor and his subcontractors assessed against the Owner under the authority of said law.

2. The Contractor shall obtain and maintain in full force and effect all of his insurance policies with a reputable insurer licensed to do business in the State of New York with at least an A Best rating.
3. All policies and certificates of the Contractor shall contain clauses as follows:
 - a. The insurance companies issuing the policy or policies shall have no recourse against the **Village of Dobbs Ferry, New York** for payment of any premium or for assessments under any form of policy.
 - b. Any and all deductibles in the above described insurance policies shall be assumed by and be for the account of, and at the sole risk of the Contractor.
 - c. In case of cancellation or material change in any of the policies, thirty (30) days notice shall be given to the **Village of Dobbs Ferry, New York**, by registered mail, return receipt requested.
4. All property losses shall be made payable to and adjusted with the **Village of Dobbs Ferry**.
5. All policies of insurance shall be acceptable to and approved by the Department of Law prior to the inception of any work.
6. Other coverages may be required by the **Village of Dobbs Ferry** based on specific need.
7. If, at any time, any of the said policies shall be or become unsatisfactory to the **Village of Dobbs Ferry**, as to form or substance, or if a company issuing such a policy shall be or become unsatisfactory to the **Village of Dobbs Ferry** the Contractor shall promptly obtain a new policy, submit same to the **Village of Dobbs Ferry**, for approval and submit a certificate thereof as hereinafter provided. Upon failure of the Contractor to furnish, deliver and maintain such insurance as above provide, this Contract, at the election of the **Village of Dobbs Ferry**, may be forthwith declared suspended, discontinued or terminated. Failure of the Contractor to take out and/or to maintain or the taking out and/or maintenance of any required insurance, shall not relieve the Contractor for any liability under the contract, nor shall the insurance requirements be construed to conflict with the obligations of the Contractor.
8. In the event that claims in excess of these amounts are filed by reason of any operations under the contract, the amounts of excess of such claims, or any portion thereof, may be withheld from payment due or to become due the Contractor until such time as the Contractor shall furnish additional security covering such claims.
9. The Insurance Policy shall be endorsed to name the **Village of Dobbs Ferry, AI Engineers, Inc., Dolph Rotfeld Engineering Division, 570 Taxter Road, Elmsford, NY 10523**, and any directors, officers, employees, subsidiaries, and affiliates, as additional insured on all policies and Hold Harmless documents, and shall stipulate that this insurance is primary, that any other insurance or self-insurance maintained by

the **Village of Dobbs Ferry and AI Engineers, Inc., Dolph Rotfeld Engineering Division, 570 Taxter Road, Elmsford, NY 10523**, shall be excess only and shall not be called upon to contribute with this insurance. ISO Additional Insured Endorsement form number CG2010 1185 under GL. Contractors Form B must be utilized and accompany the Certificate of Insurance.

10. Copies of the insurance policies shall be submitted to the **Village of Dobbs Ferry attorney and AI Engineers, Inc., Dolph Rotfeld Engineering Division, 570 Taxter Road, Elmsford, NY 10523**, for approval prior to the signing of the Contract.

SECTION J

SPECIAL CONDITIONS

SPECIAL CONDITIONS

SCOPE:

Park improvements, including by not limited to; construction of new cast in place concrete retaining walls, stairs and ramp, installation of new sidewalks and curbs, asphalt pathway, construction of basketball court, drainage improvements, lighting improvements, plantings and other appurtenant work as necessary, all in accordance with Village specifications and requirements.

The Contractor shall be responsible for coordinating the adjustment of the gas and water valve boxes with Con Edison and the Dobbs Ferry DPW, as well as obtaining all work permits that may be required. The Contractor shall have no claim whatever against the Owner, Engineer or other parties due to delays or other reasons caused by the work of others or his failure to coordinate such work.

Any work that is necessary to complete the project, but is not included as a specific item, will be considered as incidental work and no direct payment will be made.

Items of work which are considered incidental include, but are not limited to stakeout and surveying, clean-up, obtaining and complying with permits and codes, coordination with other contractors, governmental agencies and utility companies. Payment for these and other incidental work items will be included in the Contractor's bid price.

TIME OF COMPLETION:

The Contractor shall provide the required bonds, insurance and other documents as may be required to complete this agreement and sign the Contract within ten (10) business days of notice of award. Work shall commence within ten (10) days after the signing of the contract, and shall be conducted in such a manner as to be completely finished on or before the expiration of two hundred ten (210) consecutive calendar days. In the event that any portion of the contract is stopped by the Engineer due to inclement weather, or any other good and sufficient reason, the contractor will be granted an extension of time equal to the number of working days thereby.

PROJECT SCHEDULE:

Within 7 days after receiving the Notice of Award, the Contractor shall submit to the Owner a reasonable project schedule. The project schedule shall include the time to obtain all materials necessary to perform the project and identify a schedule date for the commencement of equipment installation and shall consist of a detailed bar graph with time frames specified for each phase of the construction, including locations.

SUBMISSION OF PAYMENT REQUISITION

The Contractors shall submit AIA Form G702 and necessary attachments as well as payment submission forms located in Section E of this contract with Payment Requisitions.

COORDINATION OF WORK

It shall be the responsibility of each Contractor to coordinate his work under this Contract with any work being done by others in the vicinity, as well as with the private utilities and the Village of Dobbs Ferry in order that the construction may proceed in an efficient and logical manner. The Contractor shall have no claim whatever against the Owner, Engineer or other parties due to delays or other reasons caused by the work of others or his failure to coordinate such work.

Additionally, the Contractor shall ensure that the project work schedule and operations are coordinated to ensure that no contract work will interfere with the public opening and seasonal use of the Gould Park Swimming Pool, starting May 24, 2024 (Memorial Day weekend).

LIQUIDATED DAMAGES:

The Contractor and his Sureties shall be liable for and shall pay to the Owner the sum of \$900.00 (Nine Hundred Dollars) as fixed, agreed and liquidated damages for each calendar day of delay from the above stipulated completion, or as modified in accordance with the GENERAL CONDITIONS, until such work is satisfactorily completed and accepted.

NO SUBSTITUTIONS:

The Contractor shall bid the project as specified within this document. The Contractor shall not substitute materials, equipment or procedures from those identified in the specification document.

CONTRACTOR TO CHECK DIMENSIONS AND SCHEDULES:

The Contractor will be required to check all dimensions and quantities shown on the schedules given to him by the Owner, and shall notify the Owner of all errors therein which he may discover by examining and checking the same. The Contractor shall not take advantage of any error or omission in these specifications and schedules. The Owner will furnish all instructions should such error or omission be discovered, and the Contractor shall carry out such instructions as if originally specified.

EXCAVATION OPERATIONS AT OR NEAR UNDERGROUND FACILITIES:

The Contractor's attention is directed to the State of New York, Department of Labor, Board of Standards and Appeals Industrial Code Rule 753 - "Construction, Excavation and Demolition Operations at or near Underground Facilities" effective April 1, 1975 and any amendments thereto.

CLEANING FINISHED WORK:

After the work is completed, all above grade and below grade structures shall be carefully cleaned free of dirt, broken masonry, mortar, construction and other debris and left in first class condition ready for use. All temporary or excess material shall be disposed of and the work left broom-clean to the satisfaction of the Owner.

LAYOUT OF WORK:

The Contractor shall perform all layout work necessary for the satisfactory execution of the construction as shown on the contract Drawings and all costs in connection therewith shall be included in the contract price.

WORK BY OTHERS:

It shall be the responsibility of the Contractor to coordinate his work under this Contract with any work being done by others in the vicinity, as well as with the private utilities and the Dobbs Ferry DPW, in order that the construction may proceed in an efficient and logical manner. The Contractor shall have no claim whatever against the Owner, Engineer or other parties due to delays or other reasons caused by the work of others or his failure to coordinate such work.

INTENT OF TECHNICAL SPECIFICATIONS:

The Technical Specifications included in this Contract indicate the general requirements for the type and quality of material to be furnished and installed, and work to be performed. The Contractor shall apply the general standards to the specific installations shown on the Contract Drawings. The Contractor shall adhere to the standards indicated in the Technical Specifications, and as ordered by the Engineer.

OSHA REQUIREMENTS:

The Contractor shall comply with the latest OSHA confined space entry requirements (29 CFR Part 1910).

The Contractor shall comply with the latest revised OSHA sheeting requirements (29 CFR Part 1926.650, 651, 652).

SHOP DRAWING SUBMITTALS

All shop drawings submitted to the engineer shall be accompanied by the submittal form included in Section E of this document completely filled out and signed by the Contractor. The contractor shall note, in writing, if there are any deviations from the Contract drawings and specifications.

MAINTENANCE OF FLOWS:

During the construction of all proposed work, the Contractor shall take every precaution and do the necessary work to maintain the flow of storm drainage, sanitary sewage and natural flows through the working areas. The Contractor is solely responsible for providing his flow control system and there shall be no separate payment for the required work. The contractor shall bear full responsibility and liability for any and all damages that are the result of any flooding and damages caused by contractor's failure to maintain the existing flows. The contractor shall make such provisions as may be required by the local, state or federal health officers or any other public bodies with jurisdiction over the flow of storm drainage, sanitary

seepage and natural flows. The cost for providing by-pass pumping shall be deemed included in the bid price for this contract. No separate payment will be made for this work.

In the event the contractor uses water from natural water sources for his operations, intake method shall be such as to create no harmful effects; and where water is taken from a stream, reasonable flow downstream from the intake shall be maintained.

EMERGENCY TELEPHONE LIST

The Contractor shall provide to the Owner three-(3) telephone numbers which grant 24-hour, 7 day a week contact with a principal within the Contractor's company. The telephone numbers shall be utilized by the Owner in the event of an emergency situation arising during non-working hours.

PROTECTION OF EXISTING STRUCTURES AND FOUNDATIONS

During construction the Contractor shall be responsible to protect the existing utility poles, buildings, structures, walls, and foundations from damage and or collapse. All costs for this shall be deemed included in all items being bid, there shall not be any separate payment. The Contractor shall be responsible for supporting utility poles in compliance with Consolidated Edison and/or other utility companies requirements. The Contractor shall be responsible for any and all damages due to service interruptions.

SECTION K

TECHNICAL SPECIFICATIONS

ITEM 1M - MISCELLANEOUS ADDITIONAL WORK

1M.1. WORK INCLUDED:

- A. Under this item, the contractor shall furnish all labor, material and equipment required to accomplish miscellaneous additional work, necessitated by having encountered, during the course, field conditions of a nature not determinable during design, or for which no unit prices are applicable.

1M.2. MEASUREMENT

- A. Only that miscellaneous additional work shall be performed by the contractor and will be paid as has been authorized by the Engineer in writing, prior to its commencement.
- B. General Conditions, section 112 entitled "CHANGES IN THE WORK" will still apply regarding that the work under the contract may be increased or decreased.

1M.3. PAYMENT:

- A. The total amount paid to the contractor will be determined in accordance with the provisions of Section 112 of the General Conditions, entitled "CHANGES IN THE WORK", and such payment will include only that overhead and profit that is applicable to the work performed under this item.
- B. The Contractor shall include in his Total Bid price the unit price provided in the bid sheet opposite this item. This amount is given for the purpose of canvas, and any bid other than the specified amount will be considered informal.

* * *

ITEM 1S - STORAGE OF MATERIAL

1S.1. WORK INCLUDED:

- A. Under this item the Contractor will be required to store and protect materials in accordance with manufacturer's recommendations and requirements of Specifications.

1S.2. METHOD:

- A. The Contractor shall make all arrangements and provisions necessary for the storage of materials and equipment. All excavated materials, construction equipment, and materials and equipment to be incorporated into 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 and compactly stored in locations that will cause a minimum of inconvenience to other contractors, public travel, adjoining owners, tenants and occupants. Arrange storage in a manner to provide easy access for inspection.
- B. Areas available on the construction site for storage of material and equipment shall be approved by the Engineer and Owner.
- C. Lawn, grass plots or other private property shall not be used for storage purposes without written permission of the Owner or other person in possession or control of such premises.
- D. The Contractor shall be fully responsible for loss or damage to stored materials and equipment.
- E. Uncovered Storage
 - 1. The following types of materials may be stored out-of-doors without cover:
 - (a) Precast Concrete items.
 - (b) Castings
 - (c) Pavers
 - 2. Store the above materials on wood blocking so there is no contact with the ground.
 - 3. Stored items shall be secured so as not to roll or move unless removal is by Contractor.

F. Restroom facility:

1. Provide and properly maintain so as not to cause a health hazard temporary toilet facilities such as are approved by the Westchester County Department of Health and the Engineer. Such facilities shall be located in the storage area or other site readily accessible to the work area but secured to prevent damage or vandalism. Units shall be locked during non work hours and shall be periodically maintained to avoid offensive odors.

G. Maintain periodic system of inspection of stored products on scheduled basis to assure that:

1. State of storage facilities is adequate to provide required conditions.
2. Required environmental conditions are maintained on continuing basis.
3. Products exposed to elements are not adversely affected.

H. Upon completion of work, all storage areas shall be restored in accordance with Item 127 - Restoration and to the satisfaction of the property Owner, Village and/or Engineer.

1S.3. PAYMENT:

- A. Payment for this work will be deemed included in all other items being bid and shall include the cost of furnishing all labor, materials and equipment necessary to erect, maintain and dismantle the required equipment.

* * *

ITEM 2 - GRADING

2.1. WORK INCLUDED:

- A. Under this item the Contractor will be required to furnish all labor, materials and equipment for the grading, moving of earthwork, cut, fill, compaction and borrow required for the grading of the area to the required grades, and the trimming and raking of all finished slopes, all as shown on the plans. The contractor shall cut and place embankments, cut ditches and side slopes and grade the entire area to the required lines, grades and contours; and shall remove spongy material or any other material which is unsatisfactory from the subgrade to the depths as directed by the Engineer.

2.2. PROCEDURE:

A. General

1. Grading operations shall not be started until the Engineer is satisfied that sufficient equipment is available to perform the work properly.
2. Where ground has become frozen, all fill operations shall be discontinued until all frost and moisture have disappeared for the full depth to which frost has penetrated and resumption of filling ordered by the Engineer.

B. Topsoil

1. All topsoil in the area to be graded shall be carefully stripped and stored as directed by the Engineer or as shown on the plans. After the compaction of embankments, the topsoil shall be spread in 4" layer from the stockpile where directed by the Engineer. This final layer shall bring the area to the finished grade. Additional topsoil required shall be paid for under item 702 Furnish & Install Topsoil.

C. Unsuitable Materials

1. Unsuitable material shall include sod or other vegetable matter, rubbish, muck, clay, spongy material, or any other material which cannot be readily and suitably compacted. All unsuitable material excavated during the grading operations shall be removed from the site of the work immediately upon being excavated except as otherwise noted on the plans or instructed by the Engineer. The Contractor shall provide, as part of this item, dumping places off the site for such material.
2. All unsuitable material in fill locations shall be first excavated before any new fill is placed. All unsuitable material in cut locations shall be undercut and replaced with acceptable fill to the proper grade.

D. Rock Excavation

1. Where rock excavation is encountered, the Contractor shall strip the surface of the rock first, so that accurate cross- sections can be prepared prior to rock removal. The Contractor shall have the cross-sections prepared by a surveyor, licensed in the State of New York. The cross-sections shall be submitted to the Engineer for review. Rock shall be removed to a depth of one foot below the bottom of all proposed asphalt courses, and as ordered by the Engineer on slopes and shoulders. Rock removed under this item will be paid at the agreed, stipulated price. This price includes the cost of a licensed surveyor.

E. Compaction

1. Fill that may be under pavement or shoulders shall be compacted to a minimum dry density of 95% of the maximum density. Other embankments shall be compacted to 90% of maximum density. The Contractor shall add water, or aerate the soil and roll as is necessary, to secure the required density.
2. The maximum density is defined as the maximum dry weight density in pounds per cubic foot, as determined by the AASHTO. standard density test, modified to require the use of all materials passing the 3/4 inch square sieve.
3. Fill shall be placed in successive uniform layers not exceeding eight (8") inches in thickness, loose measure, and each layer shall be thoroughly rolled over its entire area as described herein:
 - (a) A minimum of six (6) passes will be required by any of the following types of equipment; Sheepsfoot rollers of the type exerting between 200 and 450 pounds of foot pressure per square inch; pneumatic tired rollers having operating weights of between 1000 and 7,500 pounds per tire; or smooth wheel rollers with a minimum weight of ten (10) tons. In all cases, loads shall be adjusted to give the most suitable rolling results as directed by the Engineer.

F. Subgrade

1. The subgrade, defined as being the grade under areas to be paved, shall be formed in accordance with the widths, line and grades as established on the plans.
2. The subgrade shall be rolled with a ten (10) ton roller and trimmed and shaped with a template. This process of rolling and shaping shall be continued until the subgrade is thoroughly compacted and of the required contour. After subgrade is formed it shall be protected from damage until the pavement is placed.

G. Shoulders

1. Shoulders of the required dimensions shall be formed along the edges of the proposed pavement before pavement is placed. They shall be formed of carefully selected material from the excavation, or from borrow material if necessary.
2. Upon completion of the pavement of the shoulders shall be rolled with a three (3) ton roller until compact and of the required contour.

H. Embankment

1. Embankment shall be formed of suitable material taken from the excavation. Where embankments are to be placed over existing pavements or side hill slopes the original surface shall be broken up by plowing or other means before any material is placed thereon.
2. The Contractor shall schedule his work in such a manner that all deep fills are made first in order that they may be afforded a maximum time for settlement.

I. Borrow

1. If the excavation does not provide sufficient material to make the embankments, the necessary additional suitable material shall be obtained from borrow pits furnished by the Contractor and approved by the Engineer, located beyond the limits of the work. The Contractor shall notify the Engineer at least seven days in advance of the opening of any borrow pit so that necessary inspection may be made. The Contractor shall find borrow pits that will meet the approval of the Engineer. Borrow pits shall be trimmed and left in a neat and orderly condition upon completion of the work.

J. Excess Material

1. The Contractor shall remove from the site and dispose of all earth work not required in the grading operations. No material shall be removed from the site without prior approval of the Engineer. If the Engineer so orders, excess materials may be used to flatten out embankment slopes.

K. Existing Roadways and Driveways

1. Included under this item shall be the grading of existing roadways and driveways, as required to meet the new elevations as shown on plans. When existing roadways or driveways are to be raised, the existing pavements shall be broken up, if asphalt, or removed if concrete, before any new fill is placed.

L. Drainage

1. The Contractor shall maintain and keep open all required ditches and waterways and do such pumping and bailing as will keep all portions of the work free from the accumulation of water.

M. Trimming

1. Upon completion of the work all side slopes, ditches, shoulder and graded areas shall be trimmed to the widths and lines as established on the plans. All surfaces shall be raked free of all loose stones. The faces of all rock cuts shall have a fairly even uniform surface, free from all loose stone or shattered edges or other conditions that will render them unsafe.

N. Unclassified Excavation

1. All excavation is unclassified and no separate payment will be made for the excavation of any particular material.

2.3. PAYMENT:

- A. The payment shall be at the unit price per cubic yard. This price shall include, but not limited to, all labor, materials and equipment required or necessary, for the grading, moving of earthwork, cut, fill, compaction and borrow required for the grading of the area to the required grades, and the trimming and raking of all finished slopes, all as shown on the plans. Item includes all work associated with preparing basketball court subgrade, and all grading of all disturbed areas, in accordance with the plans. and as specified or directed by the Engineer.

* * *

ITEM 2M - MISCELLANEOUS EARTH EXCAVATION

2M.1. WORK INCLUDED:

- A. Under this item the Contractor shall do all excavation not specifically included in other items and necessary for the completion of the work including test pits, extra width of trench, extra depth of trench, or other miscellaneous excavation, but only where such excavation is done at the direction of the Engineer.

2M.2. METHOD:

- A. Such excavation shall be made and be subject to the same conditions and requirements as specified under the trench excavation paragraph of the appropriate item of construction in these specifications. Hand excavation shall be employed wherever, in the opinion of the Engineer, it is necessary for the protection of existing utilities, trees, pavements or other structures, at no additional cost.
- B. When test pits are directed to be excavated within the trench lines and ordered to be backfilled before the pipe is laid or structure is placed, such excavation will be included for payment under this item. If the test pit is dug and is used in the normal procedure of the work for installation of pipes or structure before final backfilling there shall be no payment under this item. Test pits may be dug by the Contractor, without being directed to do so along the lines of the trenches, in advance of the regular excavation, for the purpose of satisfying himself as to the location of underground obstructions or conditions, at the Contractor's own expense.
- C. Miscellaneous Excavation shall consist of any excavation and disposal of all materials in or outside the payment limits or scope of work of other items being bid under this contract. Such excavation shall only be made under the specific direction of the Engineer.

2M.3. MEASUREMENT AND PAYMENT:

- A. Payment will only be made under this item when additional excavation is made at the specific direction of the Engineer.
- B. The quantity of earth to be paid for under this item shall be the cubic yards of earth excavated in accordance with orders, or within the payment limit lines set forth below.
- C. Measurement of test pits shall be the size and depth directed by the Engineer. When, during the progress of the work, the trench lines are relocated at the direction of the Engineer, without abandoning any trench already excavated, the revised trench lines will constitute the trench payment lines referred to herein, and no additional payment will be made under this item. If, however, the relocation

of the trench lines results in the abandoning of trench already excavated, such excavation within the abandoned trench payment lines and outside of the relocated trench payment lines will be included for payment under this item.

- D. Payment for this item will be made only for excavation made outside the following limits and only as ordered by the Engineer:
1. Vertical planes twelve (12) inches outside any structure or pipe, or in the case of a combined trench, twelve (12) inches outside the exterior pipes.
 2. A horizontal plane one foot below the pipe invert shown on the drawings or six inches below the bottom of the structure shown on the drawings; or when specific invert elevations are not shown, but a 4 foot minimum cover is stated, a horizontal plane seven (7) feet below original grade. No payment under this item will be made for any excavation within the above limits.
- E. Payment for this item shall be at the unit price bid per cubic yard for this item. This price shall include, but not limited to, the cost of furnishing all labor, materials and equipment necessary to complete all miscellaneous earth excavation as directed by the Engineer.

* * *

ITEM 10 - STORMWATER DRAIN LINE

10.1. WORK INCLUDED:

- A. Under this item the Contractor shall furnish all labor, materials and equipment necessary to furnish and install pipe of various diameters and end sections in accordance with the plans. Contractor shall excavate and maintain the trench, properly install the pipe, connect the pipe to any and all structures as required or directed by the Engineer and backfill as hereinafter specified.

10.2. MATERIALS:

- A. Piping material shall be as specified on the Contract Drawings and Documents and as directed by the Engineer and shall meet the following specifications:

1. Corrugated Metal Pipe and Accessories

- (a) Corrugated metal pipe shall conform to the requirements of AASHTO Designation M-274-801. Pipe shall be helically corrugated with all pipe seams continuously welded. On each end of the pipe there shall be rolled, annular corrugations to facilitate band connection. Connecting bands shall have a minimum of eight (8) annular corrugations. Flat bands, dimple bands, etc., will not be permitted. All pipe shall be "ALUMINIZED STEEL Type 2", or equal. Connecting bands shall be minimum one-gauge lighter than the pipe, and fully aluminum coated. Units, on which the coating has been burned by welding or otherwise damaged in fabrication or in handling and delivery, shall not be permitted to be installed.
- (b) The pipe used shall be of a gauge, as shown on the plan, and/or herein specified; and as manufactured by Contech Construction Inc. or approved equal.

Pipe Diameter	Gauge
12" - 18"	14
24" - 36"	12
42" - 72"	10

2. Corrugated High Density Polyethylene Pipe (HDPE) and Fittings

- (a) Shall conform to AASHTO M-252 (4 to 10-inch diameter) or AASHTO M-294 (12 to 36-inch diameter).
- (1) Coefficient of Roughness (interior pipe surface): 0.020 maximum (Manning formula).

(2) Classification: Type C.

(3) Design Strength (all sizes): 50 feet allowable height of cover.

(4) Joint Couplings: Polyethylene Couplers; snap-on type or split collar through 24-inch diameter; screw-on type where applicable.

(5) Material Properties: High density polyethylene meeting the requirements of ASTM D 3350, Cell Classification 324420C; or ASTM 1248, Type III, Class C, Category 4, Grade P33.

(b) Fittings:

(1) High density polyethylene meeting the properties specified for the pipe.

(2) Either molded or fabricated.

(3) Designed specifically for the pipe furnished and manufactured by the pipe manufacturer.

(4) Joint shall be watertight according to the laboratory requirements of ASTM D3212.

(c) Perforated Pipe: Conform to AASHTO M-252 or AASHTO M-294, Type SP with Class I perforations.

(d) HDPE pipe and accessories shall be manufactured by Advanced Drainage Systems, Inc., 3300 Riverside Dr., Columbus, OH 43221; (614) 457-3051 or approved equal.

3. Reinforced Concrete Pipe

(a) All reinforced concrete pipe shall meet all requirements of Section 706-12 "Reinforced Concrete Pipe" of the New York State Department of Transportation Standard Specifications, latest revision. All pipe shall be Class IV.

(b) No "mortar joint" pipe is allowed. Pipe shall have a gasket sealing the joint made of natural rubber having a texture to assure a watertight and permanent seal and shall be the product of a manufacturer having at least five years' experience in the manufacture of rubber gaskets for pipe joints. The gasket shall be a continuous ring, of suitable cross-section and of such size as to fill the groove on the spigot ring when the pipes are laid. The rubber gasket shall be the sole element depended upon to make the joint watertight and shall have smooth surfaces free from pitting blisters, porosity and other imperfections. Cement mortar or other plastic materials used to finish the joint shall not be depended upon for watertightness.

10.3. INSTALLATION:

A. Cutting Pavement

1. Before making any excavation, the Contractor shall cut the edge of the trench. Ripping of pavement by means of excavating equipment will not be permitted. In case of asphalt pavement, initial cutting of the edge shall be done by means of pneumatic drill with spade-shaped bit or by saw, at Contractor's option. Cuts in asphalt pavement for final permanent pavement must be made by a concrete saw. Concrete pavement may initially be cut by pneumatic drill or by concrete saw. Cuts in concrete pavement for final permanent pavement must be made by a concrete saw.

B. Excavation of Trench

1. The Contractor shall excavate a trench to the depth shown on the profiles and to a width of one (1) foot on each side of the outside of the pipe. Enlargements shall be made at the joints to permit proper installation. The Contractor shall not use equipment, which will excavate a trench wider than that specified. Hand excavation shall be employed wherever, in the opinion of the Engineer, it is necessary for the protection of existing utilities, trees, pavements or other structures, at no additional cost.
2. All excavation shall be by open cut method unless tunneling is required or authorized by the Engineer. Such tunneling shall be at the same unit price unless a separate bid item is provided therefore.
3. Excavation of the trench under this item shall include all necessary removal and replacement of curbs, gutters, walks and driveways and the cutting and removing of existing pavement.
4. The Contractor shall keep the trenches free from water. This shall be done as part of this item.
5. At least 20 feet of trench shall be excavated in front of the previously laid pipe. Trench shall not remain open overnight without the express approval of the Engineer. The Contractor may plate the trench under the provision that all plates are secured with spikes and blacktop wedges.
6. Additional depth of trench shall be excavated as required to clear obstructions not shown on the plans. Measurement for this extra excavation shall be from a point one (1) foot below the designated invert of the pipe to the bottom of the excavation. There shall be no payment for the first foot of extra depth under the Miscellaneous Earth Excavation item. Payment for the first foot shall be included as part of this item.

C. Sheeting and Bracing

1. Trenches shall be properly sheeted, shored and braced as necessary to prevent shifting of materials, to prevent damage to structures, pavement and pipes and to provide safe working conditions. The Contractor shall be responsible for providing, installation of and for the adequacy of all sheeting and bracing used and for all damage resulting from its failure or from placing, maintaining and removing it. No payment will be made for sheeting and bracing if it is removed, or if it is left in place for the Contractor's convenience. If the sheeting and bracing is ordered to be left in place by the Engineer after having been constructed, the Contractor shall be entitled to the cost of materials so left in place.
2. If there is a space between the sheeting and the side of the trench, the space shall be backfilled with suitable material thoroughly compacted in place. Where adjacent structures, pavement or pipes may be damaged by the removal of sheeting, the Contractor shall not remove the sheeting. All sheeting left in place shall be cut off at least two (2) feet below the surface of the ground. Where sheeting or shoring is to be removed, the removal shall be in such a manner as to prevent loss of ground.
3. The Contractor's attention is drawn to the NYS Department of Labor Industrial Code Rule #753 and O.S.H.A. regulations, which must be strictly adhered to. Prefabricated sheeting boxes may be used only with the approval of the Engineer as to the box itself and the method of use.

D. Handling of Pipe

1. All pipe shall be handled in a manner such that it will not be damaged or overstressed. Properly designed lifting apparatus shall be used in loading, unloading and lowering pipe into place for laying. Any type of mishandling or damage to the pipe during any phase of the work will be cause for rejection by the Engineer.

E. Pipe Foundation

1. The pipe shall rest on suitable material and a stable bottom. If the soil encountered at the invert is unsuitable (i.e. soft, spongy, etc.) it shall be excavated and removed. Excavation shall be for a width of one (1) foot on each side of pipe and to a depth as called for by the Engineer. The pipe shall then receive a foundation of crushed stone. The cost of this crushed stone shall be paid for under it's own Item, and will include the cost for proper disposal of the unsuitable material.
2. Excavation of the unstable bottom below the designed invert shall be under the Miscellaneous Earth Excavation item.

F. Laying of Pipe

1. The pipe shall be laid in the trench to conform accurately to the line and grade as called for by the contract drawings. The method of setting line and grade must meet the approval of the Engineer. Each pipe shall be laid on undisturbed ground supported throughout and the entire barrel or pipe shall have a uniform bearing from end to end. The use of blocks shall be strictly forbidden, except upon the express approval of the Engineer.
2. Where excavation has been made below the required grade, such areas shall be backfilled with suitable select backfill material free from stones in excess of 1 1/2" in any dimension and compacted at the expense of the Contractor. All loose or unsuitable materials shall be removed from the trench bottom.
3. Where a line goes from one condition of bearing to another, as from rock cut to earth, or from concrete mattress to gravel bed, special care is to be exercised to see that the less firm bearing ground is tamped and secured.

G. Backfilling

1. After the pipe has been properly laid and inspected as required the space between the pipe and the sides of the trench shall be filled to the middle of the pipe with selected materials free from stones and carefully rammed under and around the pipe to give it a firm foundation. At this point the Engineer will be notified and he shall inspect the pipes. Pipes, which in the opinion of the Engineer have deformed or joints which have opened shall be excavated and satisfactorily repaired or replaced at no additional payments by the Owner. Then the trench shall be filled to a point at least one (1) foot above the pipe with earth free from stones, and carefully rammed so as not to disturb the pipe to a compaction at least equal to the surrounding earth. The earth above this point shall be backfilled and compacted in nine (9) inch layers and addition of water may be required by the Engineer to achieve the required compaction. No stones larger than two (2) cubic feet shall be allowed in trench backfill within three (3) feet of the pipe.
2. Unsuitable materials excavated from the trench shall not be allowed as backfill and shall be replaced by suitable material, as approved by the Engineer, under this item. No separate payment shall be made for removal and disposal of unsuitable material. Unsuitable material shall be as determined by the Engineer and shall include, but not be limited to such materials as organic materials, roots, stumps, rocks or bony backfill, clay, silt, mud, wood, concrete slabs, or frozen soil.
3. Excess material and unsuitable material, excavated from the trench, shall be removed from the site as part of this item.
4. If any contaminated soil is encountered, it shall be removed and disposed of as specified in the Special Conditions section of the Contract.

H. Interfering Structures

1. The Contractor shall, under this contract, and as called for in the General Conditions sustain and protect from direct or indirect injury all pipes, poles, conduits, walls, buildings, roadways and other structures, utilities and property in the vicinity of his work. Such sustaining and supporting shall be carefully done by the Contractor and as required by the Company or party owning the structure. The Contractor shall take all risks attending their presence and he shall be responsible for all damage and assume all expense for direct /or indirect injury caused by his work, to any of them or to any person or property by reason of injury to them whether such structures are or are not shown on the drawings.
2. Should the position of any pipe, conduit, pole or other structure, except structures and pipe specifically shown to be removed, be such as in the opinion of the Engineer to require its removal, realignment or change such work will be done by the Owner of the obstruction, without cost to the Contractor but the Contractor shall uncover and support the structures, at his own expense, before and after such removal, realignment or change, as part of this contract, and the Contractor shall not be entitled to any claim for damage or extra compensation resulting from any delay in the removal or rearrangement of the same. Wherever so directed, the Contractor shall excavate test pits to locate subsurface obstructions or pipes.

I. Inspections

1. Pipes, which in the opinion of the Engineer have deformed, or joints which have opened, shall be excavated and satisfactorily repaired or replaced at no additional cost to the Owner.

J. Cleaning Pipes

1. The Contractor shall prevent earth, stone, sand, or debris of any nature from entering the lines. Should any material enter the line, the line shall be flushed, or dragged until satisfactorily cleaned, and provision shall be made to catch all such matter before it can enter any drain lines.

10.4. MEASUREMENT:

- A. The quantity of pipe to be paid for under this item shall be the actual number of linear feet of pipe line, regardless of the sizes or types laid by the Contractor, as measured along the center line of the pipe from inside face to inside face of structures without regard to the lengths of the individual pieces of pipe or cuts, or joints required.

10.5. PAYMENT:

- A. The payment for this item shall be on a linear foot basis at the unit price bid and shall include, but limited to, all materials, labor and equipment and other miscellaneous expenses; for excavation, backfill and disposal of excess material, maintaining and

sheeting the trench, for furnishing and laying of the pipe, end sections and for connecting the pipe to all structures as required, as per plans and details.

B. Payment shall be made under the following items:

Item No.	Description	Units
10HDPE-6"	6" HDPE Stormwater Drain Line	per LF
10HDPE-12"	12" HDPE Stormwater Drain Line	per LF
10HDPE-24"	24" HDPE Stormwater Drain Line	per LF
10HDPE-36"	36" HDPE Stormwater Drain Line	per LF
10RCP-54"	54" RCP Stormwater Drain Line	per LF
10HDPE-60"	60" HDPE Stormwater Drain Line	per LF

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ITEM 11P-4 UNDERDRAIN PIPE AND FILTER MATERIAL

11P.1. WORK INCLUDED:

- A. Under this item the Contractor shall furnish all materials, labor and equipment necessary to furnish and install perforated PVC underdrain pipe and underdrain filter material in accordance with the plans and specifications and as directed by the Engineer.

11P.2. MATERIALS:

- A. Perforated PVC pipe and Fittings for Underdrains and Discharge Lines shall conform to the requirements of:
 - 1. Pipe Classification: ASTM D 2729.
 - 2. Material Classification: ASTM D 1784.
 - 3. Property Description: Cell Class 12454B, 12454C, or 13343C.
 - 4. Pipe Size: 4 inches diameter unless otherwise indicated.
 - 5. Perforation Size: 1/2 inch diameter on 3 inch centers, 3 rows.
 - 6. Joints: Solvent cement or elastomeric gasket.
 - 7. Acceptable Manufacturer: National Pipe Co., 3421 Vestal Road, Vestal, NY 13850, (607) 729-9381
- B. Pipe shall have a full circular cross-section, with an outer corrugated pipe wall and a smooth inner wall. Corrugations may be annular or spiral. Connecting bands and fittings shall not reduce or impair the function of the pipeline. Only fittings supplied or recommended by the manufacturer shall be used.
- C. Geotextile: The filter fabric shall be a nonwoven geotextile composed of polypropylene fibers, which are formed into a stable network such that the fibers retain their relative position. The filter fabric shall be inert to biological degradation and resist naturally encountered chemicals, alkalis, and acids. The filter fabric shall be Mirafi 140N
- D. The underdrain filter material shall conform to New York State Department of Transportation Primary Stone Size No. 1 as indicated in Table 703-4, latest revision.

11P.3. INSTALLATION:

- A. All pipe shall be laid to line and grade and shall have a full, firm and even bearing at each joint and along the entire length of the pipe. The pipe shall be handled and assembled in accordance with the manufacturer's instructions.
- B. Pipe with longitudinal seams shall be placed with the seams at the sides. Circumferential seams with laps shall be placed as directed with the laps in the downstream direction so flow of water is directed over instead of under each succeeding downstream section.
- C. Field connection joints shall consist of corrugated bands, so constructed as to lap on equal portions of each culvert section to be connected. All connections shall be fabricated and installed so that a secure and firm pipe connection may be readily made in the field. The underdrain pipe shall be placed with the perforations down.
- D. Place and overlap filter fabric in accordance with the manufacturer's installation instructions, unless otherwise shown. Backfill over fabric in accordance with the manufacturer's instructions and in a manner to prevent damage to the fabric.
- E. After the pipe installation has been inspected and approved, underdrain filter material shall be hand shoveled around and over the pipe to a level of 12" above the underdrain pipe and 6" on each side of the pipe. At this stage the surface of the underdrain filter shall be compacted by three passes of a vibrating pad or drum type compactor. Special care shall be taken to ensure that neither the alignment nor the grade of the pipe is disturbed. Any pipe which, in the opinion of the Engineer, is damaged or disturbed for any reason shall be replaced as directed by the Engineer at no additional cost to the Owner.
- F. The underdrain pipe shall be connected to existing catch basins as shown on the contract drawings and as directed by the Engineer.

11P.4. MEASUREMENT AND PAYMENT:

- A. The quantity to be paid for under this item shall be the number of linear feet of underdrain pipe and filter material furnished and installed in accordance with the plans and specifications. Pay Item includes excavation and disposal of excess material.
- B. Payment shall be made under the following:

<u>Item</u>	<u>Description</u>	<u>Units</u>
11P-4	4" Diameter Perforated PVC Underdrain Pipe	LF

* * *

ITEM 11P-6 PERFORATED DRAIN PIPE @ CONCRETE WALLS

11P.6.1 WORK INCLUDED:

- A. Under this item the Contractor shall furnish all materials, labor and equipment necessary to furnish and install perforated PVC underdrain pipe at concrete walls in accordance with the plans and specifications and as directed by the Engineer.

11P.6.2 MATERIALS:

- A. Perforated PVC pipe and fittings for underdrains and discharge lines shall conform to the requirements of:
 - 1. Pipe Classification: ASTM D 2729.
 - 2. Material Classification: ASTM D 1784.
 - 3. Property Description: Cell Class 12454B, 12454C, or 13343C.
 - 4. Pipe Size: 6 inches diameter unless otherwise indicated.
 - 5. Perforation Size: ½-inch diameter on 3-inch centers, 3 rows.
 - 6. Joints: Solvent cement or elastomeric gasket.
 - 7. Acceptable Manufacturer: National Pipe Co., 3421 Vestal Road, Vestal, NY 13850, (607) 729-9381
- B. Pipe shall have a full circular cross-section, with an outer corrugated pipe wall and a smooth inner wall. Corrugations may be annular or spiral. Connecting bands and fittings shall not reduce or impair the function of the pipeline. Only fittings supplied or recommended by the manufacturer shall be used.

11P6.3. INSTALLATION:

- A. All pipe shall be laid to line and grade and shall have a full, firm and even bearing at each joint and along the entire length of the pipe. The pipe shall be handled and assembled in accordance with the manufacturer's instructions.
- B. Pipe with longitudinal seams shall be placed with the seams at the sides. Circumferential seams with laps shall be placed as directed with the laps in the downstream direction so flow of water is directed over instead of under each succeeding downstream section.
- C. Field connection joints shall consist of corrugated bands, so constructed as to lap on equal portions of each culvert section to be connected. All connections shall be fabricated and installed so that a secure and firm pipe connection may be

readily made in the field. The underdrain pipe shall be placed with the perforations down.

- D. Pipe shall be placed in accordance with the project plans and concrete wall details. Backfill with underdrain filter material, as per concrete wall details, in accordance with the manufacturer's instructions and these plans and specifications.
- E. The underdrain pipe shall be connected to drainage structures as indicated on the contract drawings and as directed by the Engineer.

11P6.4. MEASUREMENT AND PAYMENT:

- A. Payment for all labor, materials and equipment required to furnish and install 6” perforated underdrain pipe and appurtenances at concrete retaining walls as indicated on the plans and concrete wall detail sheets – including the connection of wall underdrains to drainage structures - shall be included in the price bid for concrete wall items 3000A, 3000B and 3000C. No additional payment will be made.

ITEM 11SD – SLOT DRAIN

11SD.1. WORK INCLUDED:

- A. Under this item the Contractor shall furnish all materials, labor and equipment necessary to furnish and install 8” perforated High Density Polyethylene (HDPE) slot drain pipe, concrete collar, ¾” stone underdrain and filter fabric in accordance with the plans and specifications and as directed by the Engineer.

11SD.2. MATERIALS:

- A. Perforated high-density polyethylene corrugated pipe shall conform to the requirements of AASHTO Designation M 252-92I. Pipe shall have a full circular cross-section, with an outer corrugated pipe wall and a smooth inner wall. Corrugations may be annular or spiral. Connecting bands and fittings shall not reduce or impair the function of the pipeline. Only fittings supplied or recommended by the manufacturer shall be used. All piping shall be “Duraslot” N-12, as manufactured by Advanced Drainage Systems, Inc., or equal.
- B. The Contractor must submit shop drawings to the Owner for approval prior to ordering.
- C. Mirafi 140N non-woven geotextile filter fabric.

11SD.3. INSTALLATION:

- A. All pipe shall be laid on an 8-inch thick bed of underdrain material - to the line and grade as indicated on the plans and details - and shall have a full, firm and even bearing at each joint and along the entire length of the pipe. The pipe shall be handled and assembled in accordance with the manufacturer’s instructions.
- B. Pipe with longitudinal seams shall be placed with the seams at the sides. Circumferential seams with laps shall be placed as directed with the laps in the downstream direction so flow of water is directed over instead of under each succeeding downstream section.
- C. Field connection joints shall consist of corrugated bands, so constructed as to lap on equal portions of each culvert section to be connected. All connections shall be fabricated and installed so that a secure and firm pipe connection may be readily made in the field. The slot drain pipe shall be placed with the perforations down.
- D. After the pipe installation on the bedding material has been inspected and approved, underdrain filter material shall also be placed (hand-shoveled) 8-inches on each side of the pipe, up to a vertical limit of the mid-diameter level of the pipe. At this stage, the surface of the slot drain filter material shall be compacted by three passes of a vibrating pad-type compactor. Backfilling of the pipe shall

then be completed by placing high-slump concrete, from the top of the underdrain filter material up to - and even with - the top of the slotted drain, in accordance with the grades and details shown on the plans. Special care shall be taken to ensure that neither the alignment nor the grade of the pipe is disturbed. Any pipe which, in the opinion of the Engineer, is damaged or disturbed for any reason shall be replaced as directed by the Engineer at no additional cost to the Owner.

11SD.4. MEASUREMENT AND PAYMENT:

- A. The quantity to be paid for under this item shall be the number of linear feet of slot drain, filter material and high slump concrete, furnished and installed in accordance with the plans and specifications. Item includes, but not limited to, excavation, disposal of excess material, slot drain, concrete collar, filter fabric and gravel/filter material, as per plans and details, and as directed by the Engineer.

* * *

ITEM 20SW5 & 20SW7 - CONCRETE SIDEWALKS, CONCRETE APRONS AND A.D.A. RAMPS

20SW.1. WORK INCLUDED:

- A. Under this item the Contractor shall build new concrete sidewalks, aprons and ramps with detectable warning strips within set limits by the Engineer. The concrete sidewalks shall be constructed in accordance with these specifications, NYSDOT standard details, and the contract drawings and as directed by the Engineer. This item shall also include the removal and disposal of existing sidewalks within the set limits as shown on the contract drawings. The locations of the sidewalk ramps to be replaced are indicated on the contract drawings.

20SW.2. MATERIALS:

- A. Concrete: The Contractor shall provide NYSDOT Class D concrete with a minimum cement ratio of six (6) bags per cubic yard, with a minimum and maximum slump of 2 1/2" and 3 1/2", respectively. The cement shall conform to the "Specifications for Portland Cement, A.S.T.M., C-150-Type II." The concrete shall have an air content of not less than six (6%) percent, nor more than nine (9%) percent, accomplished by including an air- entraining admixture conforming to N.Y.S.D.O.T standard specifications for Class D concrete. The concrete sidewalk shall be five (5") inches in thickness and poured in one operation with one quarter inch pre molded joint filler, transverse expansion joints to the full depth of the concrete spaced fifteen (15) to twenty (20) feet apart, and the edges of such joints finished with an edging tool of one quarter inch radius. In driveway areas, aprons, or wherever the sidewalk will be subject to vehicular traffic, the sidewalk shall be seven (7) inches thick. The top surface shall be finished as directed by the Engineer, and shall be scored at intervals of four (4) feet so that the finished walk will be marked in squares both longitudinally and transversely.

B. Reinforcement

- 1. Microfibers: All concrete shall be reinforced with synthetic fibers specifically engineered and manufactured for use as secondary concrete reinforcement. The fibers shall be 100 percent virgin homopolymer polypropylene fibrillated fibers, 3/4" to 1 1/2" long, conforming to ASTM Designation C1116. Fiber shall be manufactured by one of the following, or an approved equal:
 - (a) Grace Fibers, as manufactured by W.R. Grace & Company, Construction Products, 60 Whittemore Ave., Cambridge, MA 02140-1692, (800) 852-6055, www.graceconstruction.com
 - (b) Fibermesh 300, as manufactured by Fibermesh Company, division of Synthetic Industries, Inc., 4019 Industry Dr., Chattanooga, TN 37416, (615) 892-7243, www.fibermesh.com
 - (c) Econo Net, as manufactured by Forta Corporation, 100 Forta Dr., Grove City, PA 16127, (800) 245-0306, www.fortacorp.com

The reinforcement shall be added at a dosage rate of 1.5 lbs per cubic yard, and shall be added to the concrete mixing system during or after the batching of the other ingredients and mixed at the time and speed recommended by the mixer manufacturer. Fibers shall be uniformly dispersed in the concrete, and concrete shall be free of fiber balls or lumps when discharged at the site.

2. Epoxy coated 6/6-6"x6" welded wire fabric shall be set to a depth in accordance with the detail drawings or two (2) inches below the top surface if not specified in the detail drawings.
3. Color – see attached section 02750.

C. Detectable Warning Strips

1. Detectable warning devices shall be installed at the bottom of handicap ramps and any other location where the direction of travel of the sidewalk leads to a vehicular traffic right of way or other hazardous vehicle way.
2. Detectable warnings shall consist of a surface of truncated domes aligned in a square or radial grid pattern.
3. The detectable warning devices shall be embedded, must be constructed with concrete paver blocks. Under no circumstances will the surface-applied, "mat" style of detectable warning strips be acceptable for installation.
4. The detectable warning devices must appear on the attached list of materials approved by NYSDOT.
5. The detectable warning strips must be consistent with the NYSDOT standard detail sheets regarding strip and dome dimensions. Under no circumstances will the surface-applied, "mat" style of detectable warning strips be acceptable for installation.

D. Curing and anti-spalling compound used must appear on the attached list of materials approved by NYSDOT.

E. Pre molded bituminous joints shall be placed between all construction joints, and between joints at curbs, buildings, brick pavers and trees as directed.

F. Sub-Base

1. The subbase course material used shall be bank run gravel (NYSDOT 304.02).

20SW.3. INSTALLATION:

- A. Excavate and dispose of existing concrete sidewalk, concrete apron, ramp or ground to the sub-base surface and/or as indicated on the plans. Care is to be taken not to damage adjacent sidewalk and other appurtenances. Any damage caused by the Contractor's operations will be repaired by the Contractor at no expense to the Owner and as approved by the Engineer. Item includes adjusting all existing utility boxes, valve boxes, and frames and grates located within the sidewalk or apron areas.
- B. Subgrade
 - 1. The Contractor shall saw cut the existing pavement and excavate the sidewalk to the proposed subgrade. If such sub-grade is of unsuitable materials, all such materials, shall be removed and replaced with select materials, as called for by the Engineer, tamped, and brought up to the proper grade.
- C. Sub-Base
 - 1. The sub-base course shall be placed and compacted in accordance with §304-3.01 through §304-3.05 of the New York Department of Transportations Standard Specifications and/or as detailed in the plans.
 - 2. The concrete sidewalk or apron shall be placed on a well prepared sub-base, with a minimum depth of six (6) inches. The sub-base shall be compacted and of the type and depth indicated on the detail drawings.
- D. Finishing
 - 1. Concrete shall be placed in a continuous pour. No more than one and one half (1 1/2) hours shall separate each continuous pour, unless an expansion joint is used.
 - 2. Two standard test cylinders are to be made with each truck load, if directed by the Engineer, and cured under conditions equal to the sidewalk. The Contractor is responsible for preparing the cylinders in accordance with A.C.I. standards, storing and protecting the cylinders onsite, delivery to and testing at a testing facility approved by the Engineer. The Contractor shall bear all costs and related expenses for testing. One cylinder from each pour shall be tested at 28 days. If the test results are satisfactory, the second test cylinder shall be discarded by the Contractor. If the results of the first test cylinder are not satisfactory, the second test cylinder shall be tested immediately. The Contractor shall bear all related costs. A copy of all test result must be submitted to the Engineer.
 - 3. The surface shall be a "strikeoff" surface using a "sawing" motion as shown on detail drawing.

4. Bull Float shall be done as soon as possible after strike-off with an overlapping pattern.
5. The Contractor shall make the initial run with jointer and edger.
6. No further work shall be done on the concrete until all the watersheen has disappeared.
7. Rerun joints and finish edges.
8. Broom lightly for a textured surface. Broom shall be cleaned after each application. Failure to keep broom free of concrete may require the Engineer to order that a new broom be used to acquire the desired texture.
9. Textured surfaces of handicapped ramps shall meet all requirements of ANSI Code 4.7.7, A117.1.

E. Curing and Anti-Spalling Compound

1. At the initial set of the concrete, or as directed by the Engineer, all exposed concrete shall be cured and protected in accordance with N.Y.S.D.O.T. Item 608-3.01.D.

F. Sidewalk shall meet latest ADA Accessibility Guidelines for Buildings and Facilities as outlined in the Federal Register's Rules and Regulations.

20SW.4. MEASUREMENT:

- A. The quantity of sidewalk to be paid for shall be actual square yards of sidewalk placed, regardless of thickness of concrete installed. Sidewalk that has been damaged due to the actions of the Contractor shall not be paid for. Only sidewalk that is ordered placed by the Engineer shall be paid for. Driveway sidewalk shall be measured in this item.

20SW.5. PAYMENT:

- A. Payment shall be at the unit price bid for this item and shall include, but not limited to, all labor, materials (including detectable warning devices), excavation of and removal of existing sidewalk and subbase, preparation of the subgrade, furnishing, installing and finishing of the subbase, adjustment of all existing utility boxes, frames and grates, and colored concrete along with application of anti-spalling compound and protection during curing.

B. Payment for concrete pavement shall be as follows:

<u>Item</u>		<u>Unit</u>
20SW5	5" Concrete Sidewalk	S.Y.
20SW7	7" Driveway Aprons	S.Y.

ITEM 25CC-A CONCRETE CURB WITH REBAR REINFORCEMENT

25CC.1. WORK INCLUDED:

- A. Under this item the Contractor shall saw cut, excavate, backfill and supply all materials, labor, and equipment necessary to install concrete curbing with reinforcing bars and to remove any existing curbing as shown on the plans or as directed by the Engineer.

25CC.2. MATERIALS:

- A. Concrete
 - 1. The material requirements, mix preparations and manufacturing of concrete shall comply with the specifications for Class A concrete in Section 501 - "Portland Cement Concrete- General" of the New York State Department of Transportation Standard Specifications, Latest Revision.
 - 2. Concrete shall contain an air-entraining agent and shall have a strength of 3,500 lbs. per square inch at 28 days.
- B. Expansion Material
 - 1. Expansion material shall be one-half (1/2) of an inch thick Premoulded Bituminous Joint Filler as specified in section 705-07 of the New York State Department of Transportation Standard Specifications.
- C. Rebar Reinforcing
 - 1. Reinforcing bars shall be #5 bars - Item 709-01 (New York State Department of Transportation Specifications). Curing and anti-spalling sealer shall be Durok Shield or equal.

25CC.3. INSTALLATION:

- A. Subgrade
 - 1. The Contractor shall saw cut the existing pavement and excavate the curb trench to the proposed subgrade. If such sub-grade is of unsuitable materials, all such materials, shall be removed and replaced with select materials, as called for by the Engineer, tamped, and brought up to the proper grade.
- B. Curbing
 - 1. The Contractor shall construct a poured concrete curb with a width of six (6) inches at the top, eight (8) inches at the bottom, and a height of eighteen (18) inches. The back of the curb shall be plumb, and the face shall be battered with the front edge bullnosed with three-quarter (3/4)-inch radius. All steel or wood

forms shall be solidly braced, set accurately to line and grade, and set up well in advance of a point to which concrete is being poured. The curb shall be set with a six (6) inch reveal, or two (2) inch reveal where depressed, and shall be finished in such a manner that the face is smooth and free of voids or depression. The Contractor shall set the required steel reinforcing bar 2 inches from the bottom of the curb. Expansion joints 1/2 inch in width shall be formed with Premoulded Bituminous Joint Filler and shall be placed every ten (10) feet and where the ground changes in bearing character. The filler material shall be cut to conform to the cross section of the curb.

2. Concrete shall not be poured until the Engineer has checked the forms to the proper lines and grades. Any variations exceeding one-quarter (1/4) inch in grade or one-half (1/2) inch in line shall be corrected. The Engineer shall also check the bracing of the forms, sub-grade conditions, and the proposed procedure of the pour. The Contractor shall provide such assistance as may be required in checking and shall be responsible for the proper shape, line and grade of the new curb.
3. Except when given specific permission by the Engineer to do otherwise, concrete curb shall be poured only when the temperature is at least forty (40) degrees Fahrenheit and rising with no indication of falling to freezing until a safe set is obtained. During the cold months protection from freezing shall be available before the pour is begun.
4. The forms shall be left in place until the concrete has set sufficiently so that, in the opinion of the Engineer they can be finished in such a manner that the face is smooth and free of voids or depressions, but no plastering will be permitted. For this work, competent and skillful finishers shall be employed.
5. After finishing, the curb shall be sprayed with curing compound and protected from drying for at least three (3) days. At the time of acceptance, the entire curb must be considered acceptable by the Engineer.
6. At the location of the existing driveways or at locations ordered by the Engineer, drop curbs shall be formed in the freshly poured concrete for driveways.
7. Driveway depressions shall be to a finished height of two (2) inches above finished pavement at the face of the curb, and shall slope upwards one (1) inch to the back of the curb. The front edge shall have a bullnose similar to, or of slightly greater radius than, the curb. The transition from the curb top to the depression shall be shaped as a smooth reverse curve in such a way as to allow safe passage for autos.
8. The newly laid curb shall be protected from traffic by barricades or other suitable methods until the concrete has properly set as judged by the Engineer.

9. Two standard test cylinders are to be made with each truck load, if directed by the Engineer, and cured under conditions equal to the curb. The Contractor is responsible for preparing the cylinders in accordance with A.C.I. standards, storing and protecting the cylinders onsite, delivery to and testing at a testing facility approved by the Engineer. The Contractor shall bear all costs and related expenses for testing. One cylinder from each pour shall be tested at 28 days. If the test results are satisfactory, the second test cylinder shall be discarded by the Contractor. If the results of the first test cylinder are not satisfactory, the second test cylinder shall be tested immediately. The Contractor shall bear all related costs. A copy of all test result must be submitted to the Engineer.
10. The area behind the curb shall be backfilled and tamped to the proper grades with select materials.

25CC.4. MEASUREMENT AND PAYMENT:

- A. Payment for Concrete Curb with Rebar Reinforcement shall be as follows:

<u>Item</u>	<u>Description</u>	<u>Units</u>
25CC-A	Concrete Curb with Rebar Reinforcement	LF

- B. Curbing will be measured for payment along the top of the curb and will be the actual number of linear feet of the curb completed and accepted. Payment will include all required saw cutting, excavation, backfilling, removal and disposal of surplus material, repaving necessary to replace existing roadway where distributed by the construction of the curbs and all materials, labor, equipment tools and work incidental to or necessary for the construction, curing and protection of the curbs. **No payment will be made to repair curb damaged by the Contractor in areas not included in the proposed work, this work will be covered under Item 127.**

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ITEM 25CC-B CONCRETE CURB WITHOUT REBAR REINFORCEMENT

25CC.1. WORK INCLUDED:

- A. Under this item the Contractor shall excavate, backfill and supply all materials, labor, and equipment necessary to install concrete curbing without rebar reinforcement as shown on the plans or as directed by the Engineer.

25CC.2. MATERIALS:

A. Concrete

1. The material requirements, mix preparations and manufacturing of concrete shall comply with the specifications for Class A concrete in Section 501 - "Portland Cement Concrete- General" of the New York State Department of Transportation Standard Specifications, Latest Revision.
2. Concrete shall contain an air-entraining agent and shall have a strength of 3,500 lbs. per square inch at 28 days.

B. Expansion Material

1. Expansion material shall be one-half (1/2) of an inch thick Premoulded Bituminous Joint Filler as specified in section 705-07 of the New York State Department of Transportation Standard Specifications.

C. Sub-Base

1. The subbase course material used shall be bank run gravel (NYSDOT 304.02).

25CC.3. INSTALLATION:

A. Subgrade

1. The Contractor shall excavate the curb trench to the proposed subgrade. If such sub-grade is of unsuitable materials, all such materials, shall be removed and replaced with select materials, as called for by the Engineer, tamped, and brought up to the proper grade.

B. Curbing

1. The Contractor shall construct a poured concrete curb with a width of six (6) inches at the top, eight (8) inches at the bottom, and a height of eighteen (18) inches. The back of the curb shall be plumb, and the face shall be battered with the front edge bullnosed with three-quarter (3/4)-inch radius. All steel or wood forms shall be solidly braced, set accurately to line and grade, and set up well in advance of a point to which concrete is being poured. The curb shall be set with a six (6) inch reveal, or two (2) inch reveal where depressed, and shall be

finished in such a manner that the face is smooth and free of voids or depression. The Contractor shall set the required steel reinforcing bar 2 inches from the bottom of the curb. Expansion joints 1/2 inch in width shall be formed with Premoulded Bituminous Joint Filler and shall be placed every ten (10) feet and where the ground changes in bearing character. The filler material shall be cut to conform to the cross section of the curb.

2. Concrete shall not be poured until the Engineer has checked the forms to the proper lines and grades. Any variations exceeding one-quarter (1/4) inch in grade or one-half (1/2) inch in line shall be corrected. The Engineer shall also check the bracing of the forms, sub-grade conditions, and the proposed procedure of the pour. The Contractor shall provide such assistance as may be required in checking and shall be responsible for the proper shape, line and grade of the new curb.
3. Except when given specific permission by the Engineer to do otherwise, concrete curb shall be poured only when the temperature is at least forty (40) degrees Fahrenheit and rising with no indication of falling to freezing until a safe set is obtained. During the cold months protection from freezing shall be available before the pour is begun.
4. The forms shall be left in place until the concrete has set sufficiently so that, in the opinion of the Engineer they can be finished in such a manner that the face is smooth and free of voids or depressions, but no plastering will be permitted. For this work, competent and skillful finishers shall be employed.
5. After finishing, the curb shall be sprayed with curing compound and protected from drying for at least three (3) days. At the time of acceptance, the entire curb must be considered acceptable by the Engineer.
6. At the location of the existing driveways or at locations ordered by the Engineer, drop curbs shall be formed in the freshly poured concrete for driveways.
7. Driveway depressions shall be to a finished height of two (2) inches above finished pavement at the face of the curb, and shall slope upwards one (1) inch to the back of the curb. The front edge shall have a bullnose similar to, or of slightly greater radius than, the curb. The transition from the curb top to the depression shall be shaped as a smooth reverse curve in such a way as to allow safe passage for autos.
8. The newly laid curb shall be protected from traffic by barricades or other suitable methods until the concrete has properly set as judged by the Engineer.
9. Two standard test cylinders are to be made with each truck load, if directed by the Engineer, and cured under conditions equal to the curb. The Contractor is responsible for preparing the cylinders in accordance with A.C.I. standards, storing and protecting the cylinders onsite, delivery to and testing at a testing

facility approved by the Engineer. The Contractor shall bear all costs and related expenses for testing. One cylinder from each pour shall be tested at 28 days. If the test results are satisfactory, the second test cylinder shall be discarded by the Contractor. If the results of the first test cylinder are not satisfactory, the second test cylinder shall be tested immediately. The Contractor shall bear all related costs. A copy of all test results must be submitted to the Engineer.

10. The area behind the curb shall be backfilled and tamped to the proper grades with select materials.

25CC.4. MEASUREMENT AND PAYMENT:

- A. Payment for concrete curb shall be as follows:

Item

25CC-B1	Concrete Curb @ Pathway
25CC-B2	Flush Concrete Curb @ Basketball Court
25CC-B3	Concrete Curb @ Ashford Avenue Fence

- B. Curbing will be measured for payment along the top of the curb and will be the actual number of linear feet of the curb completed and accepted. Payment will include all required excavation, backfilling, removal and disposal of surplus material, and all materials, labor, equipment tools and work incidental to or necessary for the construction, curing and protection of the curbs.

* * *

ITEM 39 - CRUSHED STONE OR GRAVEL

39.1. WORK INCLUDED:

- A. Under this item the Contractor shall furnish and place crushed stone or gravel when and where called for by the Engineer. This item will in general cover the use of the material placed to correct unsuitable subgrade conditions in earth, but is not necessarily limited to this purpose.

39.2. MATERIALS:

- A. All materials shall conform to the New York State Department of Transportation Standard Specifications, latest revision, except that no limestone or crushed slag shall be permitted. Stone sizes referred to are as specified in Table 703-4 of the latest NYSDOT specifications. The stone size to be supplied shall be as specified on the plan or in the proposal or as ordered in the field by the Engineer.

39.3. INSTALLATION:

A. Placement

1. When unsuitable, unstable, mucky foundations for sidewalks, structures, or roadways are encountered the Contractor shall notify the Engineer, who shall, if he deems it necessary, order the excavation of the muck to defined lines and grade. The Contractor shall then supply the material ordered by the Engineer and carefully place it within the area so excavated. The material shall be placed in 6 inch layers and be compacted, in trenches by hand or mechanical tampers, and in roadways by roller.

B. Testing

1. The Engineer may, if he deems it necessary, take samples of the material supplied and have it analyzed to ascertain whether or not it fulfills the requirements of the specifications set forth.
2. If the material does not meet these specifications and has already been utilized in the construction, payment shall be reduced to 50% of the bid price and the Contractor shall pay for the cost of testing.

39.4. MEASUREMENT:

- A. Measurement shall be by the cubic yard of the designated material actually placed within the payment limit lines ordered.
- B. For stabilization of pipe trenches the measurement shall be within the following payment limit lines:

1. Length - The length measurement shall be the actual length of trench ordered to be stabilized by the Engineer.
2. Width - The width measurement shall be the actual width of the trench ordered to be stabilized by the Engineer.
3. Depth - The depth measurement for material placed shall be the depth of the excavation below the normal trench bottom pay limit for sidewalks, structures or roadways as ordered by the Engineer. In no case shall payment be made to depths below those ordered by the Engineer. No payment shall be made for using crushed stone or gravel to fill undercuts below the required grade when not ordered by the Engineer.

39.5. PAYMENT:

- A. The payment shall be at the unit price per cubic yard. This price shall include, but not limited to, all labor, materials and equipment necessary for furnishing the materials, for placing and preparing basketball court subbase and stone retaining wall as specified or directed, and for the proper disposal of replaced material.
- B. Excavation shall be included under this item.
- C. No payment will be made under this item for gravel or crushed stone used in connection with any item where this material is specified on the plans or in the specifications to be included under that item.

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ITEM 45BC - BINDER COURSE

45BC.1. WORK INCLUDED:

- A. Under this item the Contractor shall furnish all labor, materials and equipment necessary to place an asphaltic concrete binder course on top of the existing reclaimed material in accordance with the plans and specifications. The thickness shall be as specified on the plan or elsewhere in these specifications.

45BC.2. MATERIALS:

- A. The binder course material used shall be Binder Course Type 3 as specified in Table 401-1, "Composition of Bituminous Plant Mixtures", of the State of New York Department of Transportation Specifications, latest revision.
- B. **Up to 10% recycled asphalt pavement (RAP) is permitted in the binder course asphalt mixture.**

45BC.3. INSTALLATION:

- A. Environmental Requirements:
 - 1. Discontinue paving when surface temperatures fall below requirements listed in NYSDOT Table 401-2.
 - 2. Do not place asphalt concrete on wet surfaces, or if there is any indication of possible rain, or when weather conditions otherwise prevent the proper handling or finishing of bituminous mixtures as determined by the Engineer.
- B. Construct asphalt pavement in accordance with NYSDOT, Section 401-3.
- C. Manhole frames and other structures shall be adjusted to finished grade, if necessary, prior to placing of this paving course.
- D. When the conditions, equipment, plant and force is, in the opinion of the Engineer, proper for the work, the operation may proceed.
- E. Curbs and other structures shall be protected at all times from asphaltic materials and caution shall be taken to prevent damage to curbs and other structures by rollers and other equipment.
- F. The existing reclaimed material to receive the binder course shall be dry, protected from water that might run onto it, and properly installed. It shall be cleaned by hand and mechanical brushing and, if necessary, by flushing with a strong jet of clean water, and permitted to dry thoroughly before the binder course is laid.

- G. The materials shall be hauled to the site in steel bodied trucks and covered with tarpaulins to prevent cooling. Any binder course that is poorly mixed, separated, dirtied or cooled to a point of beginning to stiffen shall be rejected, and removed from the site.
- H. Unless otherwise permitted by the Engineer, the binder course shall be placed by means of a self-propelled paving machine, which compacts and extrudes the mixture to uniform density and to the desired cross section.
- I. After spreading, the mixture shall be thoroughly and uniformly compressed by a power-driven two wheel tandem roller weighing not less than ten (10) tons, as soon after being spread as it will bear the roller without undue displacement. Delays in rolling freshly spread mixture will not be tolerated. Rolling shall be longitudinal, starting at the sides and proceeding toward the center of the pavement, overlapping on successive trips. At intersections and other widened areas the pavement shall be subject to diagonal rolling in two directions.
- J. The speed of the roller shall not exceed three (3) miles per hour and shall at all times be slow enough to void displacement of the mixture. Any displacements occurring as a result of reversing the direction of the roller, or from any other cause, shall at once be corrected by the use of rakes and of fresh mixture where required. Rolling shall proceed continuously until all roller marks are eliminated and until the finished course shall have a density not less than ninety five (95) percent of the laboratory compacted density. If the binder course is being placed at a rate in exceeds of three hundred (300) square yards per hour, the Contractor shall use an extra roller. To prevent adhesion of the mixture to the roller, the wheels shall be kept properly moistened, but excess of either water or oil will not be permitted.
- K. Heated smoothing irons shall be used to finish the pavement along curbs, around manhole heads, and elsewhere where necessary.
- L. Traffic shall be kept off the surface until it is completely cooled and until it has set so that it will not be marked by traffic.

45BC.4. MEASUREMENT AND PAYMENT:

- A. The quantity to be paid for under this item shall be the number of tons of binder course pavement measured in place in the completed course making no deductions for catch basins and manholes.
- B. The unit price bid for this item shall be full payment for furnishing all labor, equipment and materials including the preparation, the mixing, transportation, placing and rolling, necessary to complete the binder course as shown on the drawings and specified herein.

* * *

ITEM 51 - BITUMINOUS HOT MIX ASPHALT TOP COURSE – ASPHALT PATH

51.1. WORK INCLUDED:

- A. Under this item the Contractor shall furnish all labor, materials and equipment necessary to remove and dispose of the existing path's base course and subsurface material, compact the subgrade and install a base course, and a hot mix asphaltic top course, on the prepared compacted subgrade in accordance with the plans and specifications. The thickness of the various courses shall be as shown on the plans.

51.2. MATERIALS:

A. Top Course

- 1. The top course material used shall be Type 6F3 as specified in Table 403-1, "Composition of Hot Mix Asphalt Mixtures" of the State of New York Department of Transportation Specifications, latest revision. The resultant mixture shall meet the following Marshall Mix Properties:

<u>Mix Property</u>	<u>Type 6F3</u>
Air Voids,	3.0 – 5.0
Voids in Mineral Agg. %, min.	14
Voids Filled with Binder, %	65 – 78

- 2. The Municipality reserves the right to suspend any mixture design when the mixture demonstrates unacceptable paving quality or exhibits properties that will affect the anticipated pavement performance.

B. The base stone material shall be - Item 4 NYSDOT 304.05.

C. Detectable Warning Strips

- 1. Detectable warning devices shall be installed at the bottom of handicap ramps and any other location where the direction of travel of the sidewalk leads to a vehicular traffic right of way or other hazardous vehicle way.
- 2. Detectable warnings shall consist of a surface of truncated domes aligned in a square or radial grid pattern.
- 3. The detectable warning devices shall be embedded and shall be constructed with concrete paver blocks and must appear on the attached list of materials approved by NYSDOT. Under no circumstances will the surface-applied, "mat" style of detectable warning strips be acceptable for installation.

4. The detectable warning strips must be consistent with the NYSDOT standard detail sheets regarding strip and dome dimensions. Under no circumstances will the surface-applied, “mat” style of detectable warning strips be acceptable for installation.

51.3. INSTALLATION:

A. Excavation

1. The Contractor shall excavate, remove, and dispose of any materials necessary to install the proposed courses of path of specified thickness as described on the plans.

B. Subgrade

1. The Contractor shall compact and otherwise prepare the proposed subgrade. If such sub-grade is of unsuitable materials, all such materials, shall be removed and replaced with select materials, as called for by the Engineer, tamped, and brought up to the proper grade.

C. Environmental Requirements for Asphalt Paving:

1. Discontinue paving when surface temperatures fall below requirements listed in NYSDOT Table 402-1.
2. Do not place asphalt concrete on wet surfaces, or if there is any indication of possible rain, or when weather conditions otherwise prevent the proper handling or finishing of bituminous mixtures as determined by the Engineer.

D. Construct asphalt pavement in accordance with NYSDOT, Section 401-3.

E. The subgrade shall be dry, protected from water that might run onto it, and properly prepared to receive the base course.

F. The base course shall be installed and compacted to have a density not less than ninety-five (95) percent of the laboratory compacted density.

G. When the conditions, equipment, plant and force is, in the opinion of the Engineer, proper for the work, the operation may proceed.

H. Curbs and other structures shall be protected at all times from asphaltic materials and caution shall be taken to prevent damage to curbs and other structures by rollers and other equipment.

I. The materials shall be hauled to the site in steel bodied trucks and covered with tarpaulins to prevent cooling. Any top course that is poorly mixed, separated, dirtied or cooled to a point beginning to stiffen shall be rejected and removed from the site.

- J. **Trucks delivering asphalt may be weighed at the discretion of the municipality.**
- K. Unless otherwise permitted by the Engineer, the top course shall be placed by means of a mechanical spreader so operated that the mixture as spread, is free from lumps, of uniform density, and to the desired cross section.
- L. Immediately after the HMA mixture has been spread, struck off and surface irregularities adjusted, thoroughly and uniformly compact it by rolling. Roll the surface with a two-wheel tandem roller weighing not less than ten (10) tons when the mixture is in the proper condition and when rolling does not cause undue displacement, cracking or shoving. Delays in rolling a freshly laid mixture will not be tolerated.
- M. The drums and pneumatic tires shall be properly moistened with water or oil to prevent their adhesion to the mixture but excess of either water or oil will not be permitted; petroleum products or solvents having an adverse effect on the HMA pavement will also not be permitted.
- D. The speed of the roller shall not exceed three (3) miles per hour and shall at all times be slow enough to avoid displacement of the mixture. Any displacements occurring as a result of reversing the direction of the roller, or from any other cause shall at once be corrected by the use of rakes and of fresh mixture where required. Rolling shall proceed continuously until all roller marks are eliminated and **until the finished course shall have a density not less than ninety-five (95) percent of the laboratory compacted density.** If the top course is being placed at a rate in excess of three hundred (300) square yard per hour, the Contractor shall use an extra roller. To prevent adhesion of the mixture to the roller, the wheels shall be kept properly moistened, but excess of either water or oil will not be permitted.
- N. Rolling shall be longitudinal, starting at the sides and proceeding towards the center of the pavement, overlapping on successive trips. At intersections and other widened areas the pavement shall be subject to diagonal rolling in two directions.
- O. Heated smoothing irons shall be used for finishing the pavement along curbs and around manhole heads as necessary.
- P. Traffic shall be kept off the surface until it is completely cooled and set so that it will not be marked by traffic.
- Q. A sixteen (16) foot straight edge and four foot carpenters level shall be made available by the Contractor for testing. The Engineer shall be assured that the profile is true to one-quarter (1/4) inch, or the pavement shall be removed and re-laid. No surface patches are to be allowed.

51.4. MEASUREMENT & PAYMENT:

- A. Payment shall be made under the following:

<u>Item</u>	<u>Description</u>	<u>Units</u>
51	Asphalt Top Course - New 6'-Wide Path	Square Foot (SF)

- B. The unit price bid for this item shall be full payment for furnishing all labor, equipment and materials (including detectable warning devices) including the preparation, the mixing, transportation, placing and rolling, necessary to complete the compaction of the subgrade and the furnishing and installing of the base, and top courses as shown on the drawings and specified herein. Payment shall include the required excavation and disposal of existing soil / earth to obtain the proper depth.

* * *

ITEM 51A - BITUMINOUS TOP COURSE

51A.1 Work Included:

Under this item the Contractor shall furnish all labor, materials and equipment necessary to place an asphaltic concrete top course on top of the existing pavement course in accordance with the plans and specifications. The thickness of this top course will be as specified in the plans.

51A.2 Materials:

The top course material and Tack Coat Material used shall be as specified in Table 401-1, "Composition of Bituminous Plant Mixtures" of the State of New York Department of Transportation Specifications, latest revision.

51A.3 Installation:

- A. The laying of this course shall not be allowed if the temperature is below forty (40) degrees Fahrenheit in the shade, or if there is any indication of possible rain, or if the bottom course is wet except by permission of the Engineer.
- B. The existing pavement shall be dry, protected from water that might run onto it, and properly installed. It shall be cleaned by hand and mechanical brushing and, if necessary, by flushing with a strong jet of clean water, and permitted to dry thoroughly before the top course is laid. Tack Coat shall be applied at a rate not less than .1 Gal/Sq. YD.
- C. Manhole frames and other structures shall be adjusted to finished grade, if necessary prior to placing of this paving course.
- D. When the conditions, equipment, plant and force is, in the opinion of the Engineer, proper for the work, the operation may proceed.
- E. Curbs and other structures shall be protected at all times from asphaltic materials and caution shall be taken to prevent damage to curbs and other structures by rollers and other equipment.
- F. The materials shall be hauled to the site in steel bodied trucks and covered with tarpaulins to prevent cooling. Any top course that is poorly mixed, separated, dirtied or cooled to a point beginning to stiffen shall be rejected and removed from the site.
- G. Unless otherwise permitted by the Engineer, the top course shall be placed by means of a mechanical spreader so operated that the mixture as spread, is free from lumps, of uniform density, and to the desired cross section.

- H. Heated smoothing irons shall be used for finish the pavement along curbs, around manhole heads and elsewhere where necessary.
- I. Traffic shall be kept off the surface until it is completely cooled and until it has set so that it will not be marked by traffic.
- J. A sixteen (16) foot straight edge and four foot carpenters level shall be made available by the Contractor for testing. The Engineer shall be assured that the profile is true to one-quarter (1/4) inch, or the pavement shall be removed and re-laid. No surface patches are to be allowed.

51A.4 Measurement and Payment:

- A. Payment shall be made under the following:

<u>Item</u>	<u>Description</u>	<u>Units</u>
51A	Bituminous Top Course – 1½” Thick	Tons

- B. The unit price bid for this item shall be full payment for furnishing all labor, equipment and materials, including the preparation, the Tack Coat, the mixing, transportation, placing and rolling, necessary to complete the top course as shown on the drawings and specified herein.

* * *

ITEM 52 – GEOGRID BASE REINFORCEMENT

52.1. Work Included:

- A. Under this item, the Contractor shall furnish all labor, equipment, and material necessary to provide and install geogrid base reinforcement on a prepared subgrade as shown on the construction plans to the depth, alignment, and grades shown, in accordance with the manufacturer's specification and recommendation.

52.2. Materials:

- A. The geogrid shall be Tensar TriAx TX 160 as manufactured by the Tensar Corporation, Morrow, Georgia or approved equal.

52.3. Installation:

- A. A manufacturer's representative shall meet with the successful bidder and the Town's representative prior to installation to instruct and/or demonstrate proper installation methods, along with storage procedures and provide any other information pertinent to a successful installation of this product.
 - 1. Site Preparation: Existing excess material shall be removed from the site to the proposed grades as shown on the contract drawings. The surface shall be backdragged to smooth out all ruts, etc.
 - 2. The geogrid shall be placed in position by manually rolling it out over the subgrade. Adjacent rolls of grid shall be overlapped by 12-inches to 24-inches and as per detail (overlap grids in the direction that the fill will spread). Adjacent rolls of grid shall be tied together with cable ties every 5'. Grid corners may be held down with one or two shovelfuls of subbase stone course.
 - 3. Dumping and Spreading of Base Course: The fill material shall be placed in 6-inch layers and "feathered" as it is spread out over the geogrid. This will cause much of the fill to roll out onto the grid and reduce stress on the subgrade. Back dump subsequent loads onto the leveled fill and advance forward by spreading with a dozer, continually being aware of shingle and overlap patterns.
 - 4. Standard compaction with static roller shall be utilized. (If ruts occur under truck or dozer traffic, do not grade them out. Place additional fill into the ruts and compact with light weight equipment.)

52.4. Measurement and Payment:

- A. Measurement for this item is per square yard of area covered (overlapping sections of geogrid will be counted once in the measurement.)
- B. The payment shall be by the square yard of geogrid installed (excluding overlaps), and cable tying of the geogrid in the work area, as shown on the plans.

* * *

ITEM 73 - Control Backfill Material

73.1. WORK INCLUDED:

- A. Under this item the Contractor shall furnish and install control backfill material (K-Crete) as backfill material where ordered by the Engineer. Removal and disposal of excavated materials shall be included under this item.

73.2. MATERIAL:

- A. Control Backfill Material shall be in accordance with NYSDOT Item 502.95, Option B.
- B. The material supplied shall be a low strength concrete slurry commonly known as K-Crete. Any material supplied under this item shall be acceptable to the New York State Department of Transportation for use within state highway rights-of-way. This material shall have a minimum compressive strength of 50 psi.

73.3. INSTALLATION:

- A. The material shall be deposited into the trench from transit mix trucks. Care shall be taken to assure that the material fills in all voids.

73.4. MEASUREMENT:

- A. Measurement shall be by the cubic yard of material placed within the following pay limits upon the specific order of the Engineer. No deduction will be made for the volume of the pipe.
 - 1. Length - the length measurement shall be the actual length of trench ordered to be filled by the Engineer.
 - 2. Width - The width measurement shall be one foot on each side, outside the pipe or structure being installed irrespective of actual width of trench excavated.
 - 3. Depth - The depth measurement for material placed shall be the depth of the excavation to the invert of the pipe or bottom of a structure as ordered by the Engineer. In no case shall payment be made to depths excavated below those ordered by the Engineer. No payment shall be made for using Control Backfill Material to fill undercuts below the required grade when not ordered by the Engineer.

73.5. PAYMENT:

- A. Payment for this item shall be "Cubic Yard" of control backfill installed, which

shall include all labor, materials, and equipment necessary for furnishing and installing the Control Backfill Material. No additional payment shall be made for the removal and disposal of excavated materials.

* * *

ITEM 76 - MAINTENANCE AND PROTECTION OF TRAFFIC

76.1. WORK INCLUDED:

- A. Under this item the Contractor will be required to protect and maintain pedestrian and vehicular traffic.

76.2. METHOD:

- A. The Contractor shall maintain and protect traffic by conducting his construction operations so that the traveling public is subjected to a minimum of delay and no hazard.
- B. Procedures to be followed are as outlined herein and as required under Section 619 of the New York State Department of Transportation Specifications, latest edition, and as detailed on the plan.
- C. Residents along the existing roads and those having business along them shall have safe means of ingress and egress at all times. Traffic shall be maintained at the intersections of all roads or streets crossing the construction. Where directed by the Owner, the Contractor shall provide adequate and proper bridges over excavations as may be necessary or directed for the purpose of accommodating pedestrians or vehicles.
- D. In the event any portion of a public road must be closed to traffic, permission shall be secured by the Contractor from the Engineer, and notice must be given by the Contractor to the Police and Fire Departments, and adequate detour signs posted.
- E. Approved signs in accordance with the New York State Manual of Uniform Traffic Control Devices shall be provided along all streets while work is in progress. Where traffic direction is required, flagmen shall be designated by the Contractor to direct traffic past the equipment, machinery or construction operations. Construction equipment shall be removed entirely from the traveled roadway when work is shut down for the day and normal lanes of traffic shall be restored. Barricades shall be placed wherever the safety of the traveling public requires them, where a road is officially closed, where an excavation is being made, or where heavy construction equipment is operating. In addition, barricades shall be placed where they are deemed necessary, in the opinion of the Engineer or the Chief of Police, to direct traffic or to prevent entrance to streets or areas where construction is in progress.
- F. All barricades, lights and flags, shall be maintained intact at all times.
- G. A NYSDOT permit is required for this work under this contract, the Contractor shall inform himself of all the rules, regulations and restrictions set forth by the NYSDOT permit concerning work within their right-of-way. If any of the

Contractor's work is performed contrary to such laws, rules and regulations, he shall bear all resulting costs and fines.

76.3. PAYMENT:

- A. Payment for this work will be a lump sum and shall include, but not be limited to: obtaining permits, providing all labor, equipment, and incidentals required to maintain and protect vehicular and pedestrian traffic throughout all phases of construction, as per plan, and as directed by the Engineer. Payment for this work shall include the cost of furnishing all labor, materials and equipment necessary to erect, maintain and dismantle the required equipment.

* * *

ITEM 80A – DECORATIVE 4’ HIGH ALUMINUM FENCING

80A.1. WORK INCLUDED:

- A. The Contractor shall furnish the labor, material and equipment required to install 4’ decorative aluminum fencing in accordance with the detailed drawing, at locations shown on the drawings and as directed by the Engineer. The Contractor shall supply a total aluminum fence system of the style, strength, size, and color defined herein. The system shall include all components (pickets, posts, rails, gates, hardware, and accessories) as required, and shall be fabricated, coated, and assembled in the United States. The bid price shall include furnishing and installing all required posts, rails, fence, gates and hinges, miscellaneous materials and clearing and restoring the sites.

80A.2. SUBMITTAL:

The manufacturer’s submittal package and shop drawings shall be provided prior to installation. for approval.

80A.3. FENCE SYSTEM:

MANUFACTURER

- A. The fencing system shall be Echelon II Majestic 2/3/4-Rail as manufactured by Ameristar, Inc., 1555 N. Mingo, Tulsa, OK 74116. Telephone: 888-333-3422.
- B. Fencing system shall be Echelon II Majestic 2/3/4-Rail or approved equal/match existing.
- C. Fence height shall be 4 feet, see plan for locations.
- E. Color shall be Black.

MATERIALS

- A. Aluminum Extrusions: All posts and rails used in the fence system shall be extruded from HS-35™ aluminum alloy having a minimum yield strength of 35,000 psi. All pickets shall have a minimum yield strength of 25,000 psi. 6063-T5 and 6063-T52 Alloys (in accordance with ASTM B221) are not acceptable for any components.
- B. Fasteners: All fasteners shall be stainless steel. Square drive screws shall be used to connect the pickets to the horizontal rails. Rail to post connections shall be made using self-drilling hex-head screws.
- C. Accessories: Aluminum sand and die castings shall be used for all scrolls, post caps, finials, and miscellaneous hardware. Die castings

shall be made from Alloy A360.0 as per ASTM B85 for superior corrosion resistance. Alloy A380.0 is not acceptable.

FINISH

A. Pretreatment: A three stage non-chrome pretreatment shall be applied. The first step shall be a chemical cleaning, followed by a water rinse. The final stage shall be a dry-in-place activator which produces a uniform chemical conversion coating for superior adhesion.

B. Coating: Fence materials shall be coated with FencCoat™, a Super-Durable TGIC polyester powder-coat finish system applied by Jerith Manufacturing Company. Epoxy powder coatings, baked enamel or acrylic paint finishes are not acceptable. The FencCoat finish shall have a cured film thickness of at least 2.0 mils. In addition, any screw heads shall be painted to match the color of the fence.

C. Tests: The cured FencCoat finish shall meet or exceed AAMA 2604, which includes the following requirements:

1. Humidity resistance of 3,000 hours using ASTM D2247.
2. Salt-spray resistance of 3,000 hours using ASTM B117.
3. Outdoor weathering shall show no adhesion loss, checking or crazing, with only slight fade and chalk when exposed for 5 years in Florida facing south at a 45 degree angle.

D. Finishes which only meet AAMA 2603 (or the previous version - AAMA 603) are not acceptable.

FABRICATION

A. Horizontal rails shall be 1⁵/₈" channels formed in a modified "U" shape. Pickets shall pass through holes punched in the top of the rail. The top wall shall be .070" thick and the side walls .100" thick for superior vertical load strength. There shall be 3 horizontal rails (4 rails for 8' high fence) in each section.

B. Pickets shall be fastened to the rails using painted stainless steel screws. Screws shall be used on only one side of the rail, leaving the other side with a clean appearance. Pickets shall be 1" square and have a wall thickness of .062". Welding the pickets to the rails is not permitted.

C. Posts shall be 2¹/₂" square extrusions with pre-punched holes which allow the fence section rails to slide in. Posts shall be spaced 7¹/₂" on center and have .075" walls. Gate posts shall be [4" or 6"] square with .125" walls and used on both sides of a gate. Die cast aluminum caps shall be provided with all posts.

D. Cantilever slide gates shall be fabricated according to manufacturer's standard methods. Swing gates shall have welded frames and shall support a

300 lb. vertical load on the latch side of the gate without collapsing. Walk gates shall be self-closing and self-latching.

E. Assembled sections shall support a 1,000 lb. vertical load at the midpoint of any horizontal rail.

F. The Jerith logo shall appear on all post caps, gates, and horizontal rails of the fencing system.

Concrete

Footings shall be 3500 psi concrete, Class A, New York State Department of Transportation Specification.

80A.4. WARRANTY: The entire fence system shall have a written Limited Lifetime Warranty against rust and defects in workmanship and materials. In addition, the FencCoat finish shall be warranted not to crack, chip, peel, or blister

80A.5. INSTALLATION:

A. The free-standing posts shall have concrete footing and shall be as follows:

1. Line Posts 12" x 12" x 3 1/2' deep
2. Terminal and Gate Posts 18" x 18" x 4' deep

B. Concrete shall be cast rough around the post, with the top surface domed 1" above grade, to shed water and provide a neat appearance. Where the presence of rock makes the digging of these footings unfeasible, the contractor may, with the approval of the Engineer, bore and grout the holes. Such holes must be a minimum of 1/2" greater than O.D. of the post, and at least 24" in depth. They must be blown free of dust and grouted with an approved grout compound such as Puroc or equal. The end result must be a post rigidly anchored in the rock. Any post that proves loose to manual shaking must be redone.

C. Posts shall be set plumb and true to line and grade.

D. Any posts not set true shall be removed and replaced at the Contractor's expense. Bending posts to make them plumb will not be permitted.

E. The Contractor shall maintain the fence and gates during the life of this contract and shall repair and replace all members that are disturbed, damaged or destroyed at no cost to the Owner.

F. Fence posts shall be set at spacing of 6'-0" o.c. plus or minus 1/2", depending on the span specified. Gate posts shall be spaced according to the gate openings specified in the construction plans.

80A.6. MEASUREMENT AND PAYMENT:

- A. Measurement of this item will be per linear foot of fence installed as measured along the base of the fence including gates.
- B. Payment shall include excavation, post footings, posts, fence material, gates, fasteners, clamps, rails, any other materials incorporated in the work, all labor required and any other work deemed included in this item by the Engineer.

Payment shall be made under the following:

<u>Item</u>	<u>Description</u>	<u>Units</u>
80A	4'-High Aluminum Fence	Linear Feet (LF)

* * *

ITEM 87 – STATIONARY BENCHES - 8' LENGTH

87.1. WORK INCLUDED:

- A. Under this item the Contractor shall furnish all labor, materials and equipment necessary for the complete installation of the 8' bench and concrete footings as specified herein and as shown on the plans.

87.2. MATERIALS:

- A. 8' stationary bench to be manufactured and supplied by:

Gills Athletics, Inc.
601 Mercury Drive
Champaign, Illinois 61822
Toll Free (800) 637-3090
Phone (217) 367-8438
Fax (217) 367-8440
Web Site www.gillathletics.com
E-Mail sales@gillathletics.com

- B. The Contractor to submit manufacturer's product data, including materials, components, fabrication, finish, and installation instructions.
- C. Operation and Maintenance Manual: Submit manufacturer's operation and maintenance manual; including operation, maintenance, adjustment, and cleaning instructions; trouble shooting guide; parts list.

87.3. INSTALLATION:

- A. Install stationary bench in accordance with manufacturer's instructions at locations indicated on the Drawings.
- B. Install equipment plumb, level, straight, square, accurately aligned, correctly located, to proper elevation, and secure.
- C. Install equipment using manufacturer's supplied hardware and fasteners.
- D. Repair minor damages to finish in accordance with manufacturer's instructions and as approved by Engineer.
- E. Remove and replace damaged components that cannot be successfully repaired, as determined by Engineer.

87.4. MEASUREMENT:

- A. The measurement for this item shall be the unit "each" for the stationary bench.

87.5. PAYMENT:

- A. Payment shall be at the unit price bid for completed, ready for use, accepted stationary benches constructed as specified herein. Said payment shall be for providing all labor, materials and equipment for the benches installed.

ITEM 88 – TRASH RECEPTACLES

88.1 Work Included:

The Contractor shall furnish the labor, material and equipment required to furnish and install trash receptacles, concrete base and anchor hardware in accordance with the plans and specifications.

88.2 Materials:

- A. The trash receptacles shall be T-32, 36 gallon, as manufactured by Victor Stanley, LLC, 1-800-368-2573, or approved equal.
- B. The Contractor shall submit catalog cuts and installation instructions by the manufacturer for approval prior to ordering equipment.

88.3 Installation:

Trash receptacles shall be installed in accordance with the plans and specifications, and at the locations as indicated on the plans.

86.4 Measurement and Payment:

- A. Measurement and Payment of this item shall be for each trash receptacle furnished and installed, in accordance with the plans and specifications.

* * *

ITEM 89 – RECYCLING RECEPTACLES

89.1 Work Included:

The Contractor shall furnish the labor, material and equipment required to furnish and install recycling receptacles in accordance with the plans and specifications.

89.2 Materials:

- A. The recycling receptacles shall be T-32, 36 gallon, as manufactured by Victor Stanley, LLC, 1-800-368-2573, or approved equal.
- B. The Contractor shall submit catalog cuts and installation instructions by the manufacturer for approval prior to ordering equipment.

89.3 Installation:

Recycling receptacles shall be installed in accordance with the plans and specifications, and at the locations as indicated on the plans.

89.4 Measurement and Payment:

- A. Measurement and Payment of this item shall be for each recycling receptacle furnished and installed, in accordance with the plans and specifications.

* * *

ITEM 90 – BIKE RACKS

90.1. WORK INCLUDED:

- A. The Contractor shall furnish the labor, material and equipment required to furnish and install bike racks, concrete pad and anchoring hardware assembly complete in accordance with the plans and specifications.

90.2. MATERIALS:

- A. The bike racks shall be product Serpentine Bike Rack as manufactured by Wagner Collaborative Metal Works, 1-888-243-6914, or approved equal.
- B. The Contractor shall submit catalog cuts and installation instructions by the manufacturer for approval prior to ordering equipment.

90.3. INSTALLATION:

- A. Bike Racks shall be installed as per manufacturer installation instruction, and at the locations shown on the plans.

90.4. MEASUREMENT AND PAYMENT:

- A. Measurement and Payment of this item shall be for each bike rack furnished and installed, in accordance with the plans and specifications, and as directed by the Engineer. Item includes, but is not limited to, all labor, material and equipment required to furnish and install the bike racks.

* * *

ITEM 91 – BASKETBALL HOOPS

91.1 WORK INCLUDED:

- A. The Contractor shall furnish the labor, material and equipment required to furnish and install basketball hoops, concrete footings and anchoring hardware in accordance with the plans and specifications.

91.2 MATERIALS:

- A. The basketball hoops shall be model #B3017 as manufactured by Goalrilla, 1-800-467-1421, or approved equal.
- B. The Contractor shall submit catalog cuts and installation instructions by the manufacturer for approval prior to ordering equipment.

91.3 INSTALLATION:

- A. Basketball hoops shall be installed in accordance with the plans and specifications, at the locations indicated on the plans.
- B. Refer to manufacturer installation instructions.

91.4 MEASUREMENT AND PAYMENT:

- A. Measurement and Payment of this item shall be for each basketball hoop furnished and installed, in accordance with the plans and specifications, and as per manufacturers recommendations. Item includes, but is not limited to: excavation and disposal of excess material; and furnishing and installing footings, complete basketball hoop assembly, pole, backboard, etc.

* * *

ITEM 102CB - Precast Concrete Large Mouth Catch Basins

102CB.1. WORK INCLUDED:

- A. Under this item the Contractor shall furnish all labor, materials and equipment necessary to remove and dispose of existing catch basin, excavate and construct new catch basins and properly backfill and shall do all other work necessary for the complete installation of the catch basin as specified herein and as shown on the plans. This item shall also include the re-connection of existing drain lines to the new catch basin, and as directed by the Engineer.

102CB.2. MATERIALS:

- A. The walls shall be constructed of six (6) inch solid concrete catch basin blocks or may be precast. Precast catch basins shall meet all the structural requirements of ASTM-C-478, latest 4000 psi concrete. Shop drawings must be submitted to the Owner for approval prior to ordering.
- B. Frame, grate and hood shall be as shown on the detail drawings.

102CB.3. INSTALLATION:

- A. Excavation
 - 1. The Contractor shall cut and remove any asphalt paving curbs, drives, or other surface material required to make the excavations. The Contractor shall make all excavations in such a manner and to such widths as will provide ample room for properly installing the structure, and to permit the thorough compacting of the backfill material.
 - 2. The Contractor shall excavate a trench to the depth shown on the profiles and to a width of one (1) foot on each side of the outside of the structure. Hand excavation shall be employed wherever, in the opinion of the Engineer, it is necessary for the protection of existing utilities, trees, pavements or other structures, at no additional cost.
 - 3. The Contractor shall keep the trenches free from water. This shall be done as part of this item.
 - 4. Concrete pavement removal and Trench Rock is paid under its own item. Payment limit lines for these items at structure excavations shall be considered one foot outside the structure and to a depth six (6) inches below the bottom of the structure regardless of the amount of material removed.
 - 5. The structure shall rest on suitable material and a stable bottom. If the soil encountered at the invert is unsuitable (i.e. soft, spongy, etc.) it shall be excavated and removed. Excavation shall be from a point one foot below the

design invert of the structure to the bottom of the excavation for a width of one (1) foot on each side of the structure and to a depth as called for by the Engineer. There shall be no payment for the first foot of extra depth under the Miscellaneous Earth Excavation item. Payment for the first foot shall be included as part of this item. The Contractor shall replace the excavated material with No. 2 crushed stone, which shall be thoroughly compacted. Payment for this stone shall be under its own item. Payment of the excavation of the unstable bottom shall be under the Miscellaneous Earth Excavation item.

6. The Contractor shall provide adequate sheeting, bracing, and pumping of the excavation, whenever necessary to provide safe working conditions, prevent damage to pavement, structures, pipes and utilities or shifting of materials and shall be completely responsible for its adequacy and all damages resulting from its installation, removal, failure or omission. Such sheeting, shoring or bracing shall be included as part of this item.

B. Sheeting and Bracing

1. Trenches shall be properly sheeted, shored and braced as necessary to prevent shifting of materials, to prevent damage to structures, pavement and pipes and to provide safe working conditions. The Contractor shall be responsible for providing, installation of and for the adequacy of all sheeting and bracing used and for all damage resulting from its failure or from placing, maintaining and removing it. No payment will be made for sheeting and bracing if it is removed, or if it is left in place for the Contractor's convenience. If the sheeting and bracing is ordered to be left in place by the Engineer after having been constructed, the Contractor shall be entitled to the cost of materials so left in place.
2. If there is a space between the sheeting and the side of the trench, the space shall be backfilled with suitable material thoroughly compacted in place. Where adjacent structures, pavement or pipes may be damaged by the removal of sheeting, the Contractor shall not remove the sheeting all sheeting left in place shall be cut off at least two (2) feet below the surface of the ground. Where sheeting or shoring is to be removed, the removal shall be in such a manner as to prevent loss of ground.
3. The Contractor's attention is drawn to the NYS Dept. of Labor Industrial Code Rule #23 and O.S.H.A. regulations, which must be strictly adhered to. Prefabricated sheeting boxes may be used only with the approval of the Engineer as to the box itself and the method of use.

C. Construction

1. The catch basin shall rest on a foundation of a minimum of six (6) inches of crushed stone, Size 2 of Table 703-4 of the New York State Department of Transportation Specification, latest revision. The base piece shall be properly

aligned to receive the pipe. The proper number of barrel sections shall be placed so that adjustment to final grade shall be less than one (1) foot of brick and mortar leveling course. The barrels shall be plumb and properly aligned so that the steps form a continuous ladder.

2. All pipes extending inside the catch basin shall be cut flush with the interior wall of catch basin.
3. The frame and cover shall be provided and installed with the frame set to true grade in a full bed of brick mortar. All rims to be set at (Binder Course) pavement grade until final pavement course is placed. If base course will be used for longer than 3 weeks, rims will be set to this grade & then raised as necessary upon each successive asphalt course. Catch Basins should include neoprene coated aluminum rungs installed at 12 inches on center and the structures shall be certified by the manufacturer for H2O loading.

D. Backfill

1. After the catch basin has been properly constructed and inspected, the space between the walls of the catch basin and the sides of the trench shall be backfilled and compacted in nine-inch layers. Water may be required by the inspector to be added to the backfill material, to insure its compaction to a degree at least equal to that of the surrounding earth. No stones larger than two (2) cubic feet shall be allowed in the backfill within three (3) feet from the sides of the catch basin.
2. Excess material shall be removed from the site, unsuitable backfill material shall be removed from the site and replaced with suitable backfill as determined by the Engineer.

102CB.4. MEASUREMENT:

- A. The measurement for this item shall be the unit "each" for the catch basins. The measurement shall be for each catch basin irrespective of the individual depths or type of catch basin.

102CB.5. PAYMENT:

- A. Payment shall be at the unit price bid for completed, ready for use, accepted catch basins, constructed as specified herein. Said payment shall be for providing all labor, materials and equipment for catch basins, sheeting and shoring, crushed stone bedding, maintaining excavation, construction and backfilling, and removal and disposal of existing catch basin and excavated material.

* * *

ITEM 102CS - CONTROL STRUCTURE

102CS.1. WORK INCLUDED:

- A. Under this item the Contractor shall furnish all labor, materials and equipment necessary to excavate and place a precast outlet control structure, with frame and cover, make all necessary pipe connections and properly backfill, all in accordance with the drawings and these specifications.

102CS.2. MATERIALS:

- A. Precast outlet control structure shall be manufactured in accordance with ASTM Designation C478-latest. The minimum compressive strength of the concrete for all sections shall be 4000 psi.
- B. All reinforcement shall be deformed steel conforming to ASTM Designation A615 - Grade 60 and shall have 1" minimum concrete cover. Shop drawings showing the size and location of all reinforcement shall be submitted to the Engineer for approval prior to casting any outlet control structures.
- C. Alternate designs varying in detail, may be submitted for approval by the Engineer, but the Engineer reserves the right to enforce the provision of these specifications.
- D. Joints
 - 1. The joints of the control structure shall be formed entirely of concrete employing a rubber gasket and when assembled, shall be self-centering and make a uniform watertight joint.
 - 2. Rubber gaskets shall be installed in accordance with the manufacturer's instructions. The rubber shall be of the type that resists sewage and industrial waste acids.
- E. Riser, Frame and Grate
 - 1. The precast riser, frame and grate shall be Campbell 1007D or approved equal as shown on the drawings.
- F. Exterior Coating
 - 1. The exterior surface of each section shall be double coated with a coal tar epoxy type coating as manufactured by TNEMEC Co, Tnemec-Tar 46; Porter Coatings, Tarmastic 100; or equal. Final dry mils thickness shall be a minimum of 18 mils.

G. Steps

1. Steps shall be of the type and material shown on the plans, and set 12 to 15 inches on center, the full depth of the manhole, and securely embedded in the wall.

102CS.3. INSTALLATION:

A. Excavation

1. The Contractor shall cut and remove any asphalt paving curbs, drives, or other surface material required to make the excavations. The Contractor shall make all excavations in such a manner and to such widths as will provide ample room for properly installing the control structure, and to permit the thorough compacting of the backfill material.
2. The Contractor shall excavate a trench to the depth shown on the profiles and to a width of one (1) foot on each side of the outside of the control structure. Hand excavation shall be employed wherever, in the opinion of the Engineer, it is necessary for the protection of existing utilities, trees, pavements or other structures, at no additional cost.
3. The Contractor shall keep the trenches free from water. This shall be done as part of this item.
4. Concrete pavement removal and Trench Rock is paid under its own item. Payment limit lines for these items at outlet control structure excavations shall be considered one foot outside the structure and to a depth six (6) inches below the bottom of the structure regardless of the amount of material removed.
5. The structure shall rest on suitable material and a stable bottom. If the soil encountered at the invert is unsuitable (i.e. soft, spongy, etc.) it shall be excavated and removed. Excavation shall be from a point one foot below the design invert of the structure to the bottom of the excavation for a width of one (1) foot on each side of the structure and to a depth as called for by the Engineer. There shall be no payment for the first foot of extra depth under the Miscellaneous Earth Excavation item. Payment for the first foot shall be included as part of this item. The Contractor shall replace the excavated material with No. 2 crushed stone, which shall be thoroughly compacted. Payment for this stone shall be under its own item. Payment of the excavation of the unstable bottom shall be under the Miscellaneous Earth Excavation item.
6. The Contractor shall provide adequate sheeting, bracing, and pumping of the excavation, whenever necessary to provide safe working conditions, prevent damage to pavement, structures, pipes and utilities or shifting of materials and shall be completely responsible for its adequacy and all damages resulting from its installation, removal, failure or omission. Such sheeting, shoring or bracing shall be included as part of this item.

B. Sheeting and Bracing

1. Trenches shall be properly sheeted, shored and braced as necessary to prevent shifting of materials, to prevent damage to structures, pavement and pipes and to provide safe working conditions. The Contractor shall be responsible for providing, installation of and for the adequacy of all sheeting and bracing used and for all damage resulting from its failure or from placing, maintaining and removing it. No payment will be made for sheeting and bracing if it is removed, or if it is left in place for the Contractor's convenience. If the sheeting and bracing is ordered to be left in place by the Engineer after having been constructed, the Contractor shall be entitled to the cost of materials so left in place.
2. If there is a space between the sheeting and the side of the trench, the space shall be backfilled with suitable material thoroughly compacted in place. Where adjacent structures, pavement or pipes may be damaged by the removal of sheeting, the Contractor shall not remove the sheeting all sheeting left in place shall be cut off at least two (2) feet below the surface of the ground. Where sheeting or shoring is to be removed, the removal shall be in such a manner as to prevent loss of ground.
3. The Contractor's attention is drawn to the NYS Dept. of Labor Industrial Code Rule #23 and O.S.H.A. regulations, which must be strictly adhered to. Prefabricated sheeting boxes may be used only with the approval of the Engineer as to the box itself and the method of use.

C. Construction

1. Each section of the precast control structure shall have not more than two (2) holes for the purpose of handling and laying. These holes shall be tempered and shall be plugged with rubber stoppers or mortar after installation.
2. The control structure sections shall be properly handled to avoid chopping, cracking or breaking. Sections damaged in transit or construction shall be replaced by the Contractor at no additional cost to the Owner.
3. The precast control structure shall rest on a foundation of a minimum of six (6) inches of crushed stone, Size 2 of Table 703-4 of the New York State Department of Transportation Specification, latest revision. The structure shall be properly aligned to receive the pipe.
4. The Contractor is responsible for the alignment of the holes in the precast control structure for pipes to enter. If the structure is relocated in the field the Contractor shall realign the holes as part of this item and at no additional cost to the Owner.

D. Backfill

1. After the structure has been properly constructed and inspected, the space between the walls of the structure and the sides of the trench shall be backfilled and compacted in nine inch layers. Water may be required by the inspector to be added to the backfill material, to insure its compaction to a degree at least equal to that of the surrounding earth. No stones larger than two (2) cubic feet shall be allowed in the backfill within three (3) feet from the sides of the structure.
2. Excess material shall be removed from the site, unsuitable backfill material shall be removed from the site and replaced with suitable backfill as determined by the Engineer.

E. Connection

1. The openings left in the walls of the precast structure to accept piping shall have beveled edges on the outside wall of the structure. The bevels shall be adequate to permit piping to swing laterally or vertically several degrees before the individual pipe touches the concrete. The beveled surface should be smooth and free of imperfections.

102CS.4. MEASUREMENT:

- A. The measurement for this item shall be the unit "each" for the control structure. The measurement shall be for each control structure irrespective of the individual depths or type of outlet control structure.

102CS.5. PAYMENT:

- A. Payment shall be at the unit price bid for a completed, ready for use, accepted Control Structure, constructed as specified herein. Said payment shall be for providing all labor, materials and equipment for the precast concrete control structure, sheeting and shoring, crushed stone bedding, frame and cover, maintaining excavation, construction, and backfilling.

* * *

ITEM 102DI - DRAIN INLETS

102DI.1. WORK INCLUDED:

- A. Under this item the Contractor shall furnish all labor, materials, and equipment necessary to construct drain inlets, make all necessary connections to existing pipes and shall do all other work necessary for the complete installation of drain inlets as specified herein, as shown on the plans and as directed by the Engineer.

102DI.2. MATERIALS:

- A. The walls shall be constructed of six (6) inch solid concrete blocks or may be precast. Precast drain inlets shall meet all the structural requirements of ASTM-C-478 Latest 4000 P.S.I. Concrete. If the Contractor elects to supply precast units, shop drawings must be submitted to the Owner for approval prior to ordering.
- B. Frame and grate shall be as shown on the detail drawings.

102DI.3. INSTALLATION

- A. Excavation
 - 1. The Contractor shall cut and remove any asphalt paving curbs, drives, or other surface material required to make the excavations. The Contractor shall make all excavations in such a manner and to such widths as to provide ample room for properly installing the structure, and to permit the thorough compacting of the backfill material.
 - 2. The Contractor shall excavate a trench to the depth shown on the profiles and to a width of one (1) foot on each side of the outside of the structure. Hand excavation shall be employed wherever, in the opinion of the Engineer, it is necessary for the protection of existing utilities, trees, pavements or other structures, at no additional cost.
 - 3. The Contractor shall keep the trenches free from water. This shall be done as part of this item.
 - 4. The structure shall rest on suitable material and a stable bottom. If the soil encountered at the invert is unsuitable (i.e. soft, spongy, etc.) it shall be excavated and removed. Excavation shall be from a point one foot below the design invert of the structure to the bottom of the excavation for a width of one (1) foot on each side of the structure and to a depth as called for by the Engineer.
 - 5. The Contractor shall provide adequate sheeting, bracing, and pumping of the excavation, whenever necessary to provide safe working conditions, prevent

damage to pavement, structures, pipes and utilities or shifting of materials and shall be completely responsible for its adequacy and all damages resulting from its installation, removal, failure or omission. Such sheeting, shoring or bracing shall be included as part of this item.

B. Sheeting and Bracing

1. Trenches shall be properly sheeted, shored and braced as necessary to prevent shifting of materials, to prevent damage to structures, pavement and pipes and to provide safe working conditions. The Contractor shall be responsible for providing, installation of and for the adequacy of all sheeting and bracing used and for all damage resulting from its failure or from placing, maintaining and removing it. No payment will be made for sheeting and bracing if it is removed, or if it is left in place for the Contractor's convenience. If the sheeting and bracing is ordered to be left in place by the Engineer after having been constructed, the Contractor shall be entitled to the cost of materials so left in place.
2. The Contractor's attention is drawn to the NYS Dept. of Labor Industrial Code Rule #23 and O.S.H.A. regulations, which must be strictly adhered to. Prefabricated sheeting boxes may be used only with the approval of the Engineer as to the box itself and the method of use.

C. Construction

1. The structure shall rest on a foundation of a minimum of six (6) inches of crushed stone, Size 2 of Table 703-4 of the New York State Department of Transportation Specification, latest revision. All pipes extending inside structure shall be cut flush with the interior wall of structure.
2. The Contractor shall make all excavations in such a manner and to such widths as will provide ample room for properly installing the structure, and to permit thorough compacting of the backfill materials as part of this item. The Contractor shall provide adequate sheeting and bracing of the excavation whenever necessary to provide safe working conditions, prevent damage to pavements, structures, pipes and utilities, or shifting of materials. The Contractor shall be completely responsible for its adequacy and for all damages resulting from its installation, removal, failure or omission. The excavation shall be maintained and pumped as required.
3. The frame and grate shall be provided and installed with the frame set to true grade in a full bed of brick mortar.
4. All pipes extending inside the inlet shall be cut flush with the interior wall of inlet.

D. Backfill

1. After the drain inlet has been properly constructed and inspected, the space between the walls of the drain inlet and the sides of the trench shall be backfilled with crushed stone as shown on the detailed drawings.

102CB.1. MEASUREMENT:

- A. The measurement for this item shall be the unit "each" for the catch basins. The measurement shall be for each catch basin irrespective of the individual depths or type of catch basin.

102CB.2. PAYMENT:

- A. Payment shall be at the unit price bid for completed, ready for use, accepted drain inlets, constructed as specified herein. Said payment shall be for providing all labor, materials and equipment for furnishing and installing drain inlets, sheeting and shoring, crushed stone bedding, maintaining excavation, construction and backfilling, and removal and disposal of excavated material.

* * *

ITEM 102MC - Precast Concrete Manholes

102MC.1. WORK INCLUDED:

- A. Under this item the Contractor shall furnish all labor, materials and equipment necessary to remove & dispose of existing manhole structure, excavate and place a precast concrete manhole, with frame and cover, steps and properly backfill, all in accordance with the drawings and these specifications.

102MC.2. MATERIALS:

- A. Precast manhole sections shall be manufactured in accordance with ASTM Designation C478-latest. The minimum compressive strength of the concrete for all sections shall be 4000 psi.
- B. Manhole reinforcing shall be as called for on the drawings.
- C. Alternate designs varying in detail, may be submitted for approval by the Engineer, but the Engineer reserves the right to enforce the provision of these specifications.
- D. Shallow precast manholes (those 6 feet and under from cover to invert) shall be built with a flat slab at the top as shown on the plans.
- E. Manholes over 6 feet in depth shall be built with an eccentric cone section at the top unless otherwise directed on the plans.
- F. Shop drawings must be submitted to the owner for approval prior to ordering.
- G. Joints
 - 1. The joints of the manhole sections shall be formed entirely of concrete employing a rubber gasket and when assembled, shall be self-centering and make a uniform watertight joint.
 - 2. Rubber gaskets shall be installed in accordance with the manufacturer's instructions. The rubber shall be of the type that resists sewage and industrial waste acids.
- H. Exterior Coating for Manholes
 - 1. The exterior surface of each section shall be double coated with a coal tar epoxy type coating as manufactured by TNEMEC Co, Tnemec-Tar 46; Porter Coatings, Tarmastic 100; or equal. Final dry mils thickness shall be a minimum of 18 mils.

I. Frame and Cover

1. The frame and cover shall be as shown on the drawings. Frames and covers shall be machine ground to a true fit. If called for on the plans, the cover may be solid without air vents or may require a complete ring gasket of heavy roofing paper or shall be set in the frame with the use of a rubber gasket.

J. Steps

1. Steps shall be of the type and material shown on the plans, and set 12 to 15 inches on center, the full depth of the manhole, and securely embedded in the wall.

102MC.3. INSTALLATION:

A. Excavation

1. The Contractor shall cut and remove any asphalt paving curbs, drives, or other surface material required to make the excavations. The Contractor shall make all excavations in such a manner and to such widths as will provide ample room for properly installing the manhole, and to permit the thorough compacting of the backfill material.
2. The Contractor shall excavate a trench to the depth shown on the profiles and to a width of one (1) foot on each side of the outside of the manhole. Hand excavation shall be employed wherever, in the opinion of the Engineer, it is necessary for the protection of existing utilities, trees, pavements or other structures, at no additional cost.
3. The Contractor shall keep the trenches free from water. This shall be done as part of this item.
4. Concrete pavement removal and Trench Rock is paid under its own item. Payment limit lines for these items at manhole excavations shall be considered one foot outside the structure and to a depth six (6) inches below the bottom of the structure regardless of the amount of material removed.
5. The structure shall rest on suitable material and a stable bottom. If the soil encountered at the invert is unsuitable (i.e. soft, spongy, etc.) it shall be excavated and removed. Excavation shall be from a point one foot below the design invert of the structure to the bottom of the excavation for a width of one (1) foot on each side of the manhole and to a depth as called for by the Engineer. There shall be no payment for the first foot of extra depth under the Miscellaneous Earth Excavation item. Payment for the first foot shall be included as part of this item. The Contractor shall replace the excavated material with No. 2 crushed stone, which shall be thoroughly compacted. Payment for this stone shall be under its own item. Payment of the excavation of the unstable bottom shall be under the Miscellaneous Earth Excavation item.

6. The Contractor shall provide adequate sheeting, bracing, and pumping of the excavation, whenever necessary to provide safe working conditions, prevent damage to pavement, structures, pipes and utilities or shifting of materials and shall be completely responsible for its adequacy and all damages resulting from its installation, removal, failure or omission. Such sheeting, shoring or bracing shall be included as part of this item.

B. Sheeting and Bracing

1. Trenches shall be properly sheeted, shored and braced as necessary to prevent shifting of materials, to prevent damage to structures, pavement and pipes and to provide safe working conditions.
2. The Contractor shall be responsible for submitting site-specific sheeting designs to the Engineer for review & approval. Sheeting designs must be signed and sealed by a licensed professional in the State of New York.
3. The Contractor shall be responsible for providing, installation of and for the adequacy of all sheeting and bracing used and for all damage resulting from its failure or from placing, maintaining and removing it. No payment will be made for sheeting and bracing if it is removed, or if it is left in place for the Contractor's convenience. If the sheeting and bracing is ordered to be left in place by the Engineer after having been constructed, the Contractor shall be entitled to the cost of materials so left in place.
4. If there is a space between the sheeting and the side of the trench, the space shall be backfilled with suitable material thoroughly compacted in place. Where adjacent structures, pavement or pipes may be damaged by the removal of sheeting, the Contractor shall not remove the sheeting. All sheeting left in place shall be cut off at least two (2) feet below the surface of the ground. Where sheeting or shoring is to be removed, the removal shall be in such a manner as to prevent loss of ground.
5. The Contractor's attention is drawn to the NYS Department of Labor Industrial Code Rule #23 and O.S.H.A. regulations, which must be strictly adhered to. Prefabricated sheeting boxes may be used only with the approval of the Engineer as to the box itself and the method of use.

C. Construction

1. Each section of the precast manhole shall have not more than two (2) holes for the purpose of handling and laying. These holes shall be tempered and shall be plugged with rubber stoppers or mortar after installation.
2. The manhole sections shall be properly handled to avoid chopping, cracking or breaking. Sections damaged in transit or construction shall be replaced by the Contractor at no additional cost to the Owner.

3. The precast manhole base (see base option below) shall rest on a foundation of a minimum of six (6) inches of crushed stone, Size 2 of Table 703-4 of the New York State Department of Transportation Specification, latest revision. The base piece shall be properly aligned to receive the pipe. The proper number of various heights of the barrel shall be placed so that adjustment to final grade shall be less than one foot of brick and mortar leveling course. The barrels shall be plumb and properly aligned so that the steps form a continuous ladder.
4. The Contractor is responsible for the alignment of the holes in the precast manhole base piece for the pipe to enter. If the manhole is relocated in the field the Contractor shall realign the holes in the base section as part of this item and at no additional cost to the Owner.
5. The Contractor may in place of a precast base section substitute with the approval of the Engineer, a concrete base and build it up with concrete manhole blocks eight inches above the pipe so as to provide a solid foundation for the precast barrel sections.

D. Backfill

1. After the manhole has been properly constructed and inspected, the space between the walls of the manhole and the sides of the trench shall be backfilled and compacted in nine inch layers. Water may be required by the inspector to be added to the backfill material, to insure its compaction to a degree at least equal to that of the surrounding earth. No stones larger than two (2) cubic feet shall be allowed in the backfill within three (3) feet from the sides of the manhole.
2. Excess material shall be removed from the site, unsuitable backfill material shall be removed from the site and replaced with suitable backfill as determined by the Engineer.

E. Manhole Connection

The circular opening left in the wall of the precast manhole to accept the pipe shall have a beveled edge on the outside wall of the manhole. The bevel shall be adequate to permit the pipe to swing laterally or vertically several degrees before the pipe touches the concrete. The beveled surface should be smooth and free of imperfections. The circular opening shall have a rubber gasket cast into the concrete to make the connection watertight. All gaskets shall be fabricated from a high-grade rubber compound. All gaskets shall conform to ASTM C-443-76, or latest revision.

- (a) The circular opening left in the wall of the precast manhole to accept the pipe shall have a beveled edge on the outside wall of the manhole. The bevel shall be adequate to permit the pipe to swing laterally or vertically several degrees before the pipe touches the concrete. The beveled surface

should be smooth and free of imperfections. The space between the pipe and the manhole walls shall be filled a structurally sound and watertight patch, using non-shrink concrete and an asphalt waterproofing compound.

102MC.4. MEASUREMENT:

- A. The measurement for this item shall be the unit "each" for the manholes. The measurement shall be for each manhole furnished and installed irrespective of the individual depths or type of manhole.

102MC.5. PAYMENT:

- A. Payment shall be at the unit price bid for furnished, completed, ready for use, accepted manholes, constructed as specified herein. Said payment shall be for providing all labor, materials and equipment for manholes, sheeting and shoring, crushed stone bedding, maintaining excavation, construction, bench and trough construction, backfill and testing of the manholes.

* * *

Item 120 – Structural Soil at Tree Pits

120.1 REFERENCE PLANS

- A. Reference drawings and details.

120.2 SUMMARY OF WORK

- A. Under this item, the Contractor shall excavate & dispose of the existing material, furnish and install structural soil and related materials and items required to prepare for the installation of specified trees within sidewalk tree pits. All tree pits are to be constructed in accordance with the referenced drawings and the technical specifications provided elsewhere under this Contract. The tree and tree installation costs are not included in this item.

120.3 QUALIFICATION OF CONTRACTOR

- A. The work performed under this item shall be performed by a contractor which has experience developing, creating, handling, and installing structural soil. Proof of experience shall be submitted to the satisfaction of the Engineer.

120.4 STRUCTURAL SOIL

- A. Structural soil is a three-part system which shall be manufactured or purchased by the Contractor in accordance with these specifications. Structural soil shall be comprised of a rigid stone lattice that meets the Engineers requirements for load-bearing paving base and a quantity of uncompacted soil that supports tree root growth. In addition to the stone and soil components, a non-toxic, non-phytotoxic tackifier shall be added to stabilize the mixing process and prevent separation of the stone and soil mixture.
- B. The stone component of the structural soil mixture shall consist of uniformly size, highly angular crushed stone ranging from 3/4 to 1 1/2 inches in diameter with no fine materials. When this narrowly graded stone is compacted, the stones shall form an open lattice structure with approximately 40% porosity.
- C. The soil component of the structural soil mixture shall consist of a heavy clay loam or loam containing 20% clay. The soil shall also have organic matter content ranging from 2% to 5% to ensure nutrient and water holding while encouraging beneficial microbial activity.
- D. Unless otherwise directed by the Engineer, the proportion of stone to soil shall be 80% stone to 20% soil, by dry weight.
- E. Confirm that the subgrade is at the proper elevation and compacted as required. Subgrade elevations shall slope parallel to the finished grade and/or toward the subsurface drain lines, if applicable
- F. Clear the excavation of all construction debris, trash, rubble and any foreign material. In the event that fuels, oils, concrete washout, silts or other material harmful to plants have been spilled into the subgrade material, excavate the soil sufficiently to remove

the harmful material. Fill any over excavation with approved fill material and compact.

- G. Protect adjacent walls, walks and utilities from damage. Use half-inch plywood and/or plastic sheeting as directed to cover existing concrete, metal and masonry work and other items as directed during construction. Clean up all trash and any soil or dirt spilled on any paved surface at the end of each workday.

120.5 INSTALLATION OF STRUCTURAL SOIL

- A. Prior to the delivery or installation of structural soil, shop drawings shall be submitted by the Contractor and approved by the Engineer; the Contractor shall also deliver a sample of the structural soil to be installed for approval. The Engineer shall compare the sample to the specifications contained herein and shall approve the sample prior to installation. The approved sample shall become the standard for all structural soil installations provided under this contract.
- B. The Engineer shall periodically check the material being delivered for color, texture, particle size, moisture and consistency. The Engineer has the right to refuse the installation of any material found to be inconsistent with the specifications contained herein, the shop drawings, or the approved sample.
- C. Install structural soil in 6-inch lifts and compact each lift. Compact all materials to at least 95% Proctor Density from a standard compaction curve (see AASHTO T 99 (ASTMD698)). No compaction shall occur when moisture content exceeds the maximum listed herein.
- D. Bring structural soil to finished grade. By use of plastic or plywood or as directed by the Engineer, immediately protect structural soil from contamination, compaction, trash, debris, water, clay or other materials that would alter the particle size distribution of the mix.
- E. The Contractor shall provide smooth transitions between slopes of different gradients and direction. The fine grading of any structural soil shall be inspected by the Engineer prior to the installation of other items to be placed on structural soil, such as pavers, pavements, gravel or concrete.

120.6 MEASUREMENT:

- 1. The measurement for this item shall be the unit "cubic yard" of structural soil in place, as per plan and as directed by the Engineer.

120.7 PAYMENT:

- 2. Payment shall be at the unit price bid for excavation and disposal of existing material, and furnishing and placement of structural soils. Said payment shall be for providing all labor, materials and equipment for structural soil, sheeting and shoring, maintaining excavation, construction and backfilling, and removal and disposal of existing excavated material.

ITEM 127 – RESTORATION

127.1. WORK INCLUDED:

- A. Under this item the Contractor shall provide all the labor, materials, and equipment necessary to restore the site to its original condition. All man-made and natural features in the construction site disturbed or removed for the proper completion of the work shall be reset or replaced. All manmade or natural features damaged or destroyed shall be repaired or restored to a condition equal to or better than that existing at the start of the work, with materials equal to or better than the original ones.
- B. Physical features damaged outside the limits of the work, as determined by the Engineer, shall be repaired as described in the "General Conditions."
- C. Restoration of utility lines of private companies or municipalities is covered under the General Conditions and is not included as part of this item.

127.2. PROCEDURE:

- A. After the new work in an area has been completed tested and accepted, or when ordered by the Engineer, the restoration of all the man-made and natural features disturbed shall proceed.
- B. These features are of the general types outlined below but not necessarily limited to these specific items, as this specification item covers all required restoration work within general categories:
 - 1. TREES, shrubbery and bushes.
 - 2. GARDENS (Rock gardens, flowers annual, perennials, etc.) with all soils and mulches.
 - 3. GROUND COVERS (Pachysandra, myrtle, phlox, ivy, etc.) with all soils and mulches.
 - 4. LAWNS (Fescues, bluegrasses, perennial ryes, zoysia, etc.) with all topsoils or sod. See paragraph "Grass Areas" below.
 - 5. WALLS and wall footings (stone, masonry, brick, dry bound etc.)
 - 6. GUIDE RAILING & FENCES (Chain link, picket, board, barbed wire, "W" Beam, Box Beam). This shall include such new work as footings, posts, guys or braces as may be required to secure the work.
 - 7. SIDEWALKS, PATHWAYS, PATIOS (Concrete, flagstone, crushed stone, precast slab, brick, gravel, slate, terrazzo, tile).

8. CURBS and curb footings (Concrete, asphalt, granite, stone brick, metal, etc.)
9. DRIVEWAYS (Concrete, slab, gravel, crushed stone and asphalt).
10. PRIVATE UNDERGROUND UTILITIES (Footings drains, roof leader drain, dry wells, private electric cables, sprinkler system, swimming pool appurtenances, septic fields, etc.)
11. FRONT OR REAR YARD MAN-MADE FEATURES (Mail boxes, sign posts, lamp posts, dog houses, bird baths, pigeon coops, storage sheds, fireplaces, barbecue pits, trash burning pits, playing courts, religious crèches, awnings, gates, wells, etc.) can best be handled if they are carefully removed and replaced after the construction. Those disturbed, damaged, or destroyed shall be reset, repaired, or replaced.

C. Equivalent Items

1. All features damaged or destroyed shall be repaired or restored with features equal to or better than the original ones. The Contractor shall make all reasonable attempts to satisfy the owner of the features but the Owner shall be the judge as to the reasonableness of equivalency of repaired and restored features.
2. In cases where it is impossible to replace an item with an equivalent item (large trees, exotic plants) the Contractor may substitute other similar item whose total value shall equal that of the destroyed one. This shall be done to the satisfaction of the owner of the item. In such cases the Contractor shall secure a written release from the homeowner stating that he is accepting a substitute for the destroyed item and that he releases the Contractor and the Owner from further claims for said item. The Superintendent of Public Works shall be the judge of the value of the destroyed and the value of the restored items and the reasonableness of the substitution.

D. Grass Areas

1. Immediately after backfilling, grass areas shall be temporarily restored using fast germinating annual or perennial rye grass seed. The patched area shall be watered as necessary to insure proper germination.
2. All disturbed grass areas shall be permanently replaced during the planting seasons from April 7th to May 15th and from August 25th to October 1st as follows:
 - (a) Harrow the ground.
 - (b) Remove weeds and other undesirable growth.

- (c) Furnish and place a minimum of four (4) inches of screened topsoil obtained from a local nursery.
 - (d) Rake and grade topsoil to match adjoining area; the Engineer is to approve the grading before fertilizing and seeding.
 - (e) Furnish and place 15 lb. of fertilizer containing by percentage of weight: Kentucky Bluegrass 50%, Red Top 5%, Pennlawn Fescues 25%, Creeping Red Fescues 20%, to every 1,000 square feet of area. If this specific mixture is unavailable, the Contractor shall request permission to utilize a specific comparable mixture.
 - (f) The Contractor shall water the newly planted grass until the grass reaches a stand of four (4) inches.
 - (g) The Contractor shall be responsible for restored grass areas until final acceptance by the Owner. He shall regrade, reseed, refertilize, etc., any grass that has failed to maintain a dense stand or any area that has lost its grade due to settlement of the trench. The finished restored area shall be free of weeds and shall have the same density of grass as the adjoining areas.
 - (h) In lawn areas that contain Zoysia grasses the Contractor shall replace the area with the same.
3. In lieu of the above method of placing topsoil and seeding, the Contractor may substitute sodding, at his own option and at no extra cost to the Owner.

E. Protection of Trees

1. The Contractor is advised that the construction has been located to avoid tree clusters and individual mature trees. In constructing the contract work, the Contractor shall coordinate construction activities in the vicinity of street trees with the Owner. The trunks are to be protected with heavy wooden fences. All trees in the vicinity of construction activity are to be secured in a manner acceptable to the Engineer to prevent toppling. The Contractor shall avoid cutting more than one-third ($1/3$) of a tree root system, as measured by the perimeter of the canopy. The Contractor shall avoid cutting roots greater than one inch in diameter. Under low canopy trees the Contractor shall modify the vertical extension of the construction equipment boom to avoid injury to the low tree branches. Construction equipment movement in the vicinity of trees shall be kept to a minimum to avoid compaction of the soil around the trunks of trees. During backfill operations the Contractor shall avoid excessive tamping of earth around the roots and trunks, and shall apply an approved mulch to the roots during the operation.

F. Maintenance

1. All work done as part of this item shall be maintained for a period of one year after the completion of the project by this contract and secured by the maintenance bond.
2. Trenches that have settled shall be refilled to the proper grade. If this refilling operation disturbs the previous restoration of lawns etc., the lawns, etc., shall again be restored to their original condition under this item and at no additional cost to the Owner.
3. Items replaced replanted or restored shall be protected to insure their proper establishment. This protection may take any form required such as guying, wrapping, covering, barricades, shoring, etc.

G. Regrading Surfaces to Finished Grade

1. In some instances, grading by machines will not be considered as properly or satisfactorily graded to the required finished grades. In these instances, hand grading such as raking rolling, trimming, etc. will be ordered by the Engineer to complete the work satisfactorily.

H. Release

1. The Owner will require the Contractor to obtain a written release from any or all private property owners and/or public agencies as to satisfactory restoration of easement or permit areas, or written acceptance of other considerations or substitutions in lieu of such satisfactory restoration. Final payment may be withheld pending receipt of such releases.

127.3. MEASUREMENT:

- A. No measurement for payment under this item shall be made, as this item includes all work or materials that may be required to restore the site.

127.4. PAYMENT

- A. Payment for this work is deemed included in all items of this contract and no separate payment will be made therefore.

* * *

ITEM 150 - REFLECTORIZED PAVEMENT MARKINGS

150.1. WORK INCLUDED:

- A. Under this item the Contractor shall furnish all labor, materials and equipment necessary to remove or black out the existing street markings if required, surface preparation and install new epoxy reflectorized traffic line markings as shown on the plans and as ordered by the Engineer.

150.2. MATERIAL AND INSTALLATION:

- A. The Contractor shall conform to the NYSDOT specifications (latest edition) Items No. 685.01 to 685.04 and 727.03 concerning the materials and installation of the Epoxy Reflectorized Pavement markings. The markings shall be white, as shown on the drawings.
- B. Pavement striping, Item, will be measured in linear feet along the centerline of the pavement stripe and will be based on a 12" wide stripe.

150.3. PAYMENT

- A. Payment for pavement striping shall be as follows:

<u>Item</u>		<u>Unit</u>
150	12" White Stripe	L.F. per 12" wide stripe

* * *

ITEM 300 - STONE RETAINING WALL

300.1. WORK INCLUDED:

- A. Under this item the Contractor will be required to construct the stone seating wall utilizing salvaged stone from the demolition of the existing stone wall along Ashford Avenue, and as shown on the plans and specifications, and as directed by the Engineer.

300.2. MATERIALS:

- A. Existing stone salvaged from the demolition of the existing stone wall shall be utilized to construct the stone wall. Contractor shall select stones conducive for wall construction. Stones shall be a minimum size of 6" H x 16-24" W X 3'L or more. Stones shall be approved by the Engineer prior to wall construction.
- B. Geotextile: The filter fabric shall be a nonwoven geotextile composed of polypropylene fibers, which are formed into a stable network such that the fibers retain their relative position. The filter fabric shall be inert to biological degradation and resist naturally encountered chemicals, alkalis, and acids. The filter fabric shall be Mirafi 140N
- C. The underdrain filter material shall conform to New York State Department of Transportation Primary Stone Size No. 1 as indicated in Table 703-4, latest revision.

300.3. METHOD:

A. Salvage Stone Retaining Wall

- 1. The Contractor shall construct the stone retaining wall in accordance with the Plans and Stone Retaining Wall Detail shown on the Plans. Stone wall shall be dry laid without mortar or cement.

300.4. MEASUREMENT:

- A. Measurement and payment for both items shall be by the number of cubic yards of stone installed, in accordance with the plans and as directed by the Engineer.

300.5. PAYMENT:

- A. The unit price bid per cubic yard Stone Retaining Wall shall include the cost of all labor, equipment, and materials to construct the Stone Retaining Wall, as shown on the plans and details and described herein. This includes, but may not be limited to, excavation, subbase, stone wall construction, fabric and gravel for drainage. Payment shall be made under the following:

<u>Item</u>	<u>Description</u>	<u>Units</u>
300	Stone Retaining Wall	CY

* * *

400 - TREES

400.1. WORK INCLUDED:

- A. Under this item the Contractor shall excavate pits and furnish, plant, maintain and replace trees, furnish and install mulch as specified in the drawings or as directed by the Engineer.
- B. Tree names, sizes, standards and the common and scientific names of trees shall be in conformity with the approved names by S.P.N. (Standard Plant Names) or its successor as the American Association of Nurserymen's recognized authority on botanical nomenclature.

400.2. MATERIALS:

1. Tree shall be as per plan.

- (a) Nursery grown trees shall have no cuts of limbs which are not healing and no cuts over 3/4 inch which have not completely calloused over, no cut back crowns or leaders and no abrasions of the bark. Trees must have good fibrous root systems characteristic of the kind. Deciduous trees shall have normal spread of crowns unless otherwise specified.
- (b) Balled and burlapped (B&B) trees shall be properly dug and protected to preserve the natural earth in contact with the roots. No manufactured balls will be accepted. The balls shall be of the required size, firmly wrapped and tied with approved materials. No balled trees will be acceptable if the ball is cracked or broken.
- (c) The tops of trees shall be well formed structural but they are not required to have more than reasonably straight trunks, nor better than average well balanced crowns, nor be of specimen quality unless specimen trees are specified on the plans.

B. Quality

- 1. All trees shall be typical of their species or variety; they shall have normal, well-developed branch systems and vigorous fibrous root systems. They shall be sound, healthy, vigorous trees free from defects, disfiguring knots, sun-scald injuries, abrasions of the bark, tree diseases, insect eggs, borers and all forms of infestations. All trees shall be nursery grown unless otherwise stated; they shall have been growing under the same climactic conditions as the location of this project for at least two (2) years prior to date of contract. Trees held in storage will be rejected if they show signs of growth during storage. Collected trees shall be taken from a subgrade favorable to good root development. All collected material shall be clean, sound stock, free from decaying stumps.

C. Preparation of trees

1. All precautions customary in good trade practice shall be taken in preparing trees for shipment, and workmanship that fails to meet the highest standards will be rejected. All trees shall be dug immediately before delivery unless otherwise specified. All trees shall be dug to retain as many fibrous roots as possible. Balled and burlapped trees shall have a solid ball of earth of specified size securely held in place by burlap and stout rope. Loose, broken or manufactured balls will be rejected.

D. Delivery

1. Trees shall be packed, transported and handled with utmost care to insure adequate protection against injury. Each shipment shall be certified by State and Federal authorities to be free from disease and infestation. Balled and burlapped trees shall be set on the ground and the balls covered with soil. Until planted, all material shall be properly maintained to the satisfaction of the Engineer.

400.3. INSTALLATION:

A. Inspection

1. Inspection may be made before digging if the Engineer directs, but no tree shall be planted by the Contractor until inspected by the Engineer at the site of the work. All rejected material shall be immediately removed from the site and replaced with acceptable material at no additional cost. Final inspection shall be made upon completion of the contract.

B. Time of Tree

1. Unless otherwise directed by the Engineer, deciduous material shall be planted from March 1 to May 1 and from October 15 to December 1; evergreen material shall be planted from March 1 to May 15 and from September 1 to October 15.

C. Tree

1. Trees with a ball of earth less than four (4) feet in diameter shall be planted in a pit 12" as wide as the diameter of the ball of earth or spread of roots, and at undisturbed subgrade.
2. In no case shall the distance from the ball to the side of the true pit be less than twelve (12) inches.
3. No tree pits shall be dug until the proposed locations have been staked on the ground by the Contractor and approved by the Engineer; no tree pits shall be backfilled until approved by the Engineer. All pits shall have vertical sides unless otherwise directed. Subsoil from tree excavations shall be removed from the site or disposed of as directed by the Engineer.

4. The soil shall be made loose and friable to a depth of one (1) foot below the bottom of the tree pits. Where, in the opinion of the Engineer the subgrade material is unsuitable, the size of the tree pits shall be dug one-half (1/2) wider and one-half (1/2) deeper than normally required; the bottom and sides of pits shall be backfilled with topsoil thoroughly worked into place.
5. No planting shall be done except in the presence of the Engineer. In general, all trees shall stand, after settlement, at the same level at which they have grown. Care shall be exercised in setting the trees plumb. All ropes, stones, etc. shall be removed from the pit before backfilling. Soil for backfilling shall be loose and friable and not frozen.

D. Finishing Surface After Backfilling

1. The Contractor shall rake over finished tree areas furnish and install specified mulch material and shall leave them in an orderly condition. On level ground or slight slopes a shallow basin a little larger than the diameter of the tree pit shall be left around each tree. On steep slopes the soil on the lower side of the tree shall be graded in such a manner that it will catch and hold water.

E. Mulching

The Contractor shall furnish and install 2" of double shredded hard wood mulch in all new planting areas, as shown on the plans or as directed by the Engineer. Mulch sample shall be submitted prior to installation.

F. Pruning

1. Broken or badly bruised branches shall be removed with a clean cut. Each tree shall be pruned to preserve its natural character and in a manner appropriate to its particular requirements. In general, at least one-third (1/3) of the wood of deciduous trees shall be removed by thinning or shortening branches, but no leaders shall be cut. All prunings shall be done with sharp tools in accordance with instructions of the Engineer. Pruning cuts shall be painted over with an approved tree paint.

G. Watering

1. At the time of planting the soil around each tree shall be thoroughly saturated with water, and as many times later as seasonable conditions require, until one (1) year after completion of the contract.

H. Maintenance and Replacement

1. The Contractor shall maintain all planted trees, shrubs, vines and ground cover, and all new tree areas within the limits of this contract in accordance with the plans and specifications and directions of the Engineer, until one (1) year after the

final acceptance and completion of the whole work under the contract.

2. Maintenance shall include watering, weeding cultivating, control of insets, fungus and other disease by means of spraying with an approved insecticide or fungicide; pruning, adjustment and repair of stakes, anchors and wires repair of minor washouts and gullies up to twelve (12) inches in depth, and any other horticultural operations necessary for the proper growth of all trees and for keeping the trees in satisfactory condition throughout the maintenance period. If any tree material becomes damaged or injured, it shall be treated or replaced as ordered by the Engineer, and at no additional cost to the Owner. No work shall be done within, adjacent to, or over any tree or tree area without proper safeguards and protection to the tree material. Damaged tree materials resulting from maintenance or tree operations shall be promptly repaired. Repairs or replacements of tree materials necessary during the maintenance period, due to loss or damage due to vandalism, shall be made as may be ordered by the Engineer and shall be at the Owner's expense.
3. Any tree materials required under this contract, that are unsightly, unhealthy, dead, excessively pruned, or not in a vigorous, thriving condition, as determined by the Engineer, during and at the end of the guarantee period, shall be removed promptly from the site; these and any trees missing, due to the Contractor's negligence, shall be replaced or added as soon as conditions permit, during the normal tree season. If any questions arise regarding the condition and satisfactory establishment of a rejected tree, the Contractor may elect to allow such a tree to remain through another complete growing season, at which time the rejected tree, if found to be dead, in an unhealthy or badly impaired condition, shall be replaced.
4. All replacements shall be trees of the same kind and size specified and shall be inspected by the Engineer prior to planting. Replacements shall be subject to all the requirements in these Specifications and shall be at the contractor's expense, except for possible replacements resulting from removal, loss or damage due to vandalism or negligence on the part of the others. Any tree or shrub so replaced shall be guaranteed for a period of one (1) year from date of replacement, and the maintenance bond period extended in that amount with respect to the replaced tree material only.
5. The Contractor shall be liable for any damage to property including pavements, curbs, etc., caused by replacement operations, and he shall, without any additional charge, restore to their original condition all areas, and all construction disturbed or damaged by him pursuing the work of this Contract.
6. Payment for Replacements
 - (a) A sum sufficient to cover the estimated cost of possible replacements, including materials and labor, shall be retained by the Owner until the end of the guarantee period and paid to the Contractor only after all replacements

have been made and approved by the Engineer in writing.

- (b) Any dead or missing tree shall be replaced during the next following planting season. Trees whose condition is questionable shall also be replaced except when in the opinion of the Engineer it is advisable to extend the guarantee period another full growing season, at which time another inspection will be made to determine acceptance or rejection.
- (c) If a substantial number of tree materials are unsatisfactory or dead at the time of inspection, acceptance will not be granted and the Contractor's responsibility for maintenance of all tree materials shall be extended until replacements are made with the remaining work subject to reinspection before acceptance. Replacements shall conform in all respects to the Specifications, and shall be planted in the same manner.

400.4. MEASUREMENT AND PAYMENT:

- A. Measurement for trees shall be the unit "each" for trees, planted and maintained, in accordance with the drawings and these specifications.
- B. Payment shall be made at the unit price bid price for this item. The price shall include, but not limited to, the cost of furnishing all labor, materials and equipment necessary to furnish, tree and maintain trees when and where called for by the Engineer.
- C. No payment shall be made for trees located outside of the payment limit which have been damaged by the Contractor. Any trees not identified to be replaced by the Engineer and which have been damaged by the Contractor shall be replaced at the Contractors expense. Payment shall be made under the following items:

<u>Item</u>	<u>Description</u>	<u>Units</u>
400-AF	Freeman Maple (2"-2.5" caliper)	Each
400-AR	October Glory (2"-2.5" caliper)	Each
400-CC	Eastern Redbud (8'-10' ht.)	Each
400-CCF	Pansy Redbud (8'-9' ht.)	Each
400-CV	Fringetree (6'-8' ht.)	Each
400-UA	Princeton Elm (2"-2.5" caliper)	Each

* * *

401 - PERENNIALS

401.1 WORK INCLUDED:

- A. Under this item the Contractor shall excavate pits and furnish, plant, maintain and replace street trees, as specified in the drawings or as directed by the Engineer.
- B. Plant names, sizes, standards and the common and scientific names of plants shall be in conformity with the approved names by S.P.N. (Standard Plant Names) or its successor as the American Association of Nurserymen's recognized authority on botanical nomenclature.

401.2 MATERIALS:

- C. Species: Shall be as specified on the Landscape Plan.
- D. Perennials:
 - 1. Perennials shall have good fibrous root systems. The quality of perennials shall be as the plans and as directed by the Engineer.. Container grown perennials shall be as specified in the contract documents.
- E. Quality
 - 1. All plants shall be typical of their species or variety; they shall have normal, well-developed branch systems and vigorous fibrous root systems. They shall be sound, healthy, vigorous plants free from defects, disfiguring knots, sun-scald injuries, abrasions of the bark, plant diseases, insect eggs, borers and all forms of infestations. All plants shall be nursery grown unless otherwise stated; they shall have been growing under the same climactic conditions as the location of this project for at least two (2) years prior to date of contract. Plants held in storage will be rejected if they show signs of growth during storage. Collected plants shall be taken from a subgrade favorable to good root development. All collected material shall be clean, sound stock, free from decaying stumps.
- F. Preparation of Plants
 - 1. All precautions customary in good trade practice shall be taken in preparing plants for shipment, and workmanship that fails to meet the highest standards will be rejected.
- G. Delivery
 - 1. Plants shall be packed, transported and handled with utmost care to insure adequate protection against injury. Each shipment shall be certified by

State and Federal authorities to be free from disease and infestation. All plants shall be adequately protected from drying out and, immediately after inspection, shall be heeled-in in moist soil. Until planted, all material shall be properly maintained to the satisfaction of the Engineer.

401.3 INSTALLATION:

H. Inspection

1. No plant material shall be planted by the Contractor until inspected by the Engineer at the site of the work. All rejected material shall be immediately removed from the site and replaced with acceptable material at no additional cost. Final inspection shall be made upon completion of the contract.

I. Time of Planting

1. Unless otherwise directed by the Engineer, deciduous material shall be planted from March 1 to May 1 and from October 15 to December 1; evergreen material shall be planted from March 1 to May 15 and from September 1 to October 15.

J. Planting

1. The soil shall be made loose and friable to a depth of one (1). Where, in the opinion of the Engineer the subgrade material is unsuitable, the material shall be removed and be backfilled with topsoil thoroughly worked into place.
2. No planting shall be done except in the presence of the Engineer. Care shall be exercised in setting the plants plumb. All stones, etc. shall be removed from the planting hole before backfilling. Soil for backfilling shall be loose and friable and not frozen.

K. Finishing Surface After Backfilling

1. The Contractor shall rake over finished planting areas and shall leave them in an orderly condition. On level ground or slight slopes a shallow basin a little larger than the diameter of the plant pit shall be left around each plant. On steep slopes the soil on the lower side of the plant shall be graded in such a manner that it will catch and hold water.
2. All guying shall be done immediately after planting and all guys are to be maintained until one (1) year after the completion of the contract. Unless otherwise directed, trees shall be guyed in accordance with the plans and specifications or directions.
3. Edging of Planting Areas

The Contractor shall establish a neat edge where planting areas meet grass areas, as shown on the plans or as directed by the Engineer. Edging shall be done by competent mechanics in workmanlike manner with spade or edging tool immediately after all planting and seeding is completed. Particular care shall be exercised in edging, to establish good flowing curves, as shown on the plans or as directed by the Engineer. Edging shall be maintained by the Contractor until one (1) year after the completion of the contract.

L. Mulching

The Contractor shall furnish and install 2" of double shredded hard wood mulch in all new planting areas, as shown on the plans or as directed by the Engineer. Mulch sample shall be submitted prior to installation.

M. Watering

1. At the time of planting the soil around each plant shall be thoroughly saturated with water, and as many times later as seasonable conditions require, until one (1) year after completion of the contract.

N. Maintenance and Replacement

1. The Contractor shall maintain all planted and all new planting areas within the limits of this contract in accordance with the plans and specifications and directions of the Engineer, until one (1) year after the final acceptance and completion of the whole work under the contract.
2. Maintenance shall include watering, weeding cultivating, control of insets, fungus and other disease by means of spraying with an approved insecticide or fungicide; pruning, adjustment and repair of stakes, anchors and wires repair of minor washouts and gullies up to twelve (12) inches in depth, and any other horticultural operations necessary for the proper growth of all plants and for keeping the plants in satisfactory condition throughout the maintenance period. If any plant material becomes damaged or injured, it shall be treated or replaced as ordered by the Engineer, and at no additional cost to the Owner. No work shall be done within, adjacent to, or over any plant or planting area without proper safeguards and protection to the planting material. Damaged plant materials resulting from maintenance or planting operations shall be promptly repaired. Repairs or replacements of plant materials necessary during the maintenance period, due to loss or damage due to vandalism, shall be made as may be ordered by the Engineer and shall be at the Owner's expense.
3. Any plant materials required under this contract, that are unsightly, unhealthy, dead, excessively pruned, or not in a vigorous, thriving condition, as determined by the Engineer, during and at the end of the guarantee period, shall be removed promptly from the site; these and any plants missing, due to the Contractor's negligence, shall be replaced or

added as soon as conditions permit, during the normal planting season. If any questions arise regarding the condition and satisfactory establishment of a rejected plant, the Contractor may elect to allow such a plant to remain through another complete growing season, at which time the rejected plant, if found to be dead, in an unhealthy or badly impaired condition, shall be replaced.

4. All replacements shall be plant materials of the same kind and size specified and shall be inspected by the Engineer prior to planting. Replacements shall be subject to all the requirements in these Specifications and shall be at the contractor's expense, except for possible replacements resulting from removal, loss or damage due to vandalism or negligence on the part of the others.
5. The Contractor shall be liable for any damage to property including pavements, curbs, etc., caused by replacement operations, and he shall, without any additional charge, restore to their original condition all areas, and all construction disturbed or damaged by him pursuing the work of this Contract.

401.4 MEASUREMENT AND PAYMENT:

Measurement for perennials shall be the unit "each" for plantings, planted and maintained, in accordance with the drawings and these specifications.

Payment shall be made at the unit price bid price for this item. The price shall include the cost of furnishing all labor, materials and equipment necessary to furnish, plant and maintain plantings when and where called for by the Engineer.

No payment shall be made for plantings located outside of the payment limit which have been damaged by the Contractor. Any plantings not identified to be replaced by the Engineer and which have been damaged by the Contractor shall be replaced at the Contractors expense. Payment shall be made under the following items:

<u>Item</u>	<u>Description</u>	<u>Units</u>
401-CP	Oak Sedge (Plugs 5" deep)	Each
401-CM	Tickseed (1 gallon)	Each
401-DM	Wood Fern (Plugs 5" deep)	Each
401-MC	Hair Grass (1 gallon)	Each

* * *

402 - SHRUBS

402.1. Work Included:

- A. Under this item the Contractor shall excavate pits and furnish shrubs, maintain and replace shrubs, as specified in the drawings or as directed by the Engineer.
- B. Shrub names, sizes, standards and the common and scientific names of shrubs shall be in conformity with the approved names by S.P.N. (Standard Plant Names) or its successor as the American Association of Nurserymen's recognized authority on botanical nomenclature.

402.2. Materials:

A. Species

- 1. SHRUBS: Shrubs shall have good fibrous root systems. The quality of balled and burlapped and balled and platformed shrubs shall be as specified for B&B and B&P trees herein. Container grown shrubs shall be as specified in the contract documents.

Shrubs specified as sods or clumps shall be dug from good soil, which has produced a fibrous root system typical of the nature of the shrub. The sods shall be dug with earth and incidental vegetation adhering to the roots. If the soil or habit of the root growth is such that the roots are not adequately protected, the sods shall be wrapped in burlap or other suitable material.

B. Quality

- 1. All shrubs shall be typical of their species or variety; they shall have normal, well-developed branch systems and vigorous fibrous root systems. They shall be sound, healthy, vigorous shrubs free from defects, disfiguring knots, sun-scald injuries, abrasions of the bark, shrub diseases, insect eggs, borers and all forms of infestations. All shrubs shall be nursery grown unless otherwise stated; they shall have been growing under the same climactic conditions as the location of this project for at least two (2) years prior to date of contract. Shrubs held in storage will be rejected if they show signs of growth during storage. Collected shrubs shall be taken from a subgrade favorable to good root development. All collected material shall be clean, sound stock, free from decaying stumps.

C. Preparation of Shrubs

- 1. All precautions customary in good trade practice shall be taken in preparing shrubs for shipment, and workmanship that fails to meet the highest

standards will be rejected. All shrubs shall be dug immediately before delivery unless otherwise specified. All shrubs shall be dug to retain as many fibrous roots as possible. Balled and burlapped shrubs shall have a solid ball of earth of specified size securely held in place by burlap and stout rope. Loose, broken or manufactured balls will be rejected. Bare root shrubs shall be "puddled" before shipment.

D. Delivery

1. Shrubs shall be packed, transported and handled with utmost care to insure adequate protection against injury. Each shipment shall be certified by State and Federal authorities to be free from disease and infestation. All bare root shrubs shall be adequately protected from drying out and, immediately after inspection, shall be heeled-in in moist soil. Balled and burlapped shrubs shall be set on the ground and the balls covered with soil. Until planted, all material shall be properly maintained to the satisfaction of the Engineer.

402.3. Installation:

A. Inspection

1. Inspection may be made before digging if the Engineer directs, but no shrub material shall be planted by the Contractor until inspected by the Engineer at the site of the work. Cost of inspection at sites other than the work area shall be included in the price bid. All rejected material shall be immediately removed from the site and replaced with acceptable material at no additional cost. Final inspection shall be made upon completion of the contract.

B. Time of Planting

1. Unless otherwise directed by the Engineer, deciduous material shall be planted from March 1 to May 1 and from October 15 to December 1; evergreen material shall be planted from March 1 to May 15 and from September 1 to October 15.

C. Planting

1. In no case shall the distance from the ball to the side of the true pit be less than twelve (12) inches.
2. No shrub pits shall be dug until the proposed locations have been staked on the ground by the Contractor and approved by the Engineer; no shrub pits shall be backfilled until approved by the Engineer. All pits shall have

vertical sides unless otherwise directed. Subsoil from planting excavations shall be removed from the site or disposed of as directed by the Engineer.

3. The soil shall be made loose and friable to a depth of one (1) foot below the bottom of the tree pits. Where, in the opinion of the Engineer the subgrade material is unsuitable, the size of the tree pits shall be dug one-half (1/2) wider and one-half (1/2) deeper than normally required; the bottom and sides of pits shall be backfilled with topsoil thoroughly worked into place.
4. No planting shall be done except in the presence of the Engineer. While shrubs with exposed roots are being distributed in planting beds or are awaiting planting after distribution the Contractor shall protect the roots from drying out; the means employed shall be satisfactory to the Engineer. In general, all shrubs shall stand, after settlement, at the same level at which they have grown. Care shall be exercised in setting the shrubs plumb. All ropes, stones, etc. shall be removed from the pit before backfilling. Soil for backfilling shall be loose and friable and not frozen.
5. Shrubs with exposed roots shall be placed in the proper position in the center of the pit after the soil in the bottom of the pit has been firmed. Roots shall be arranged in their natural position and loose, friable topsoil worked in among them, firmed at intervals and thoroughly settled with water. Care shall be taken to avoid bruising or breaking the roots when tamping the soil; all large and fleshy roots which are bruised or broken shall be pruned with a clean cut before planting.

D. Finishing Surface After Backfilling

1. The Contractor shall rake over finished planting areas and shall leave them in an orderly condition. On level ground or slight slopes a shallow basin a little larger than the diameter of the shrub pit shall be left around each shrub. On steep slopes the soil on the lower side of the shrub shall be graded in such a manner that it will catch and hold water.

E. Pruning

1. Broken or badly bruised branches shall be removed with a clean cut. Each shrub shall be pruned to preserve its natural character and in a manner appropriate to its particular requirements. In general, at least one-third (1/3) of the wood of deciduous shrubs shall be removed by thinning or shortening branches, but no leaders shall be cut. All prunings shall be done with sharp tools in accordance with instructions of the Engineer. Pruning cuts shall be painted over with an approved tree paint.

F. Spraying

1. The Contractor shall spray all shrub material with an antidesiccant using an approved power sprayer to apply an adequate film over trunks, branches twigs and/or foliage, as directed by the Engineer.
2. The anti-desiccant shall be an emulsion, which will provide a protective film over shrub surfaces permeable enough to permit transpiration. The anti-desiccant shall be "Dowax", manufactured by Dow Chemical Co., New York, New York or approved equal. Anti-desiccants shall be delivered in the containers of the manufacturer and shall be mixed according to the direction.

G. Edging of Planting Areas

1. The Contractor shall establish a neat edge where planting areas meet grass areas, as shown on the plans or as directed by the Engineer. Edging shall be done by competent mechanics in workmanlike manner with spade or edging tool immediately after all planting and seeding is completed. Particular care shall be exercised in edging, to establish good flowing curves, as shown on the plans or as directed by the Engineer. Edging shall be maintained by the Contractor until one (1) year after the completion of the contract.

H. Mulching

1. The Contractor shall furnish and install 2" of double shredded hard wood mulch in all new planting areas, as shown on the plans or as directed by the Engineer. Mulch sample shall be submitted prior to installation.

I. Watering

1. At the time of planting the soil around each shrub shall be thoroughly saturated with water, and as many times later as seasonable conditions require, until one (1) year after completion of the contract.

J. Maintenance and Replacement

1. The Contractor shall maintain all planted trees, shrubs, vines and ground cover, and all new planting areas within the limits of this contract in accordance with the plans and specifications and directions of the Engineer, until one (1) year after the final acceptance and completion of the whole work under the contract.
2. Maintenance shall include watering, weeding cultivating, control of insets, fungus and other disease by means of spraying with an approved insecticide or fungicide; pruning, adjustment and repair of stakes, anchors and wires repair of minor washouts and gullies up to twelve (12) inches in depth, and any other horticultural operations necessary for the proper growth of all shrubs and for keeping the shrubs in satisfactory condition throughout the

maintenance period. If any shrub material becomes damaged or injured, it shall be treated or replaced as ordered by the Engineer, and at no additional cost to the Owner. No work shall be done within, adjacent to, or over any shrub or planting area without proper safeguards and protection to the planting material. Damaged shrub materials resulting from maintenance or planting operations shall be promptly repaired. Repairs or replacements of shrub materials necessary during the maintenance period, due to loss or damage due to vandalism, shall be made as may be ordered by the Engineer and shall be at the Owner's expense.

3. Any shrub materials required under this contract, that are unsightly, unhealthy, dead, excessively pruned, or not in a vigorous, thriving condition, as determined by the Engineer, during and at the end of the guarantee period, shall be removed promptly from the site; these and any shrubs missing, due to the Contractor's negligence, shall be replaced or added as soon as conditions permit, during the normal planting season. If any questions arise regarding the condition and satisfactory establishment of a rejected shrub, the Contractor may elect to allow such a shrub to remain through another complete growing season, at which time the rejected shrub, if found to be dead, in an unhealthy or badly impaired condition, shall be replaced.
4. All replacements shall be shrub materials of the same kind and size specified and shall be inspected by the Engineer prior to planting. Replacements shall be subject to all the requirements in these Specifications and shall be at the contractor's expense, except for possible replacements resulting from removal, loss or damage due to vandalism or negligence on the part of the others. Any tree or shrub so replaced shall be guaranteed for a period of one (1) year from date of replacement, and the maintenance bond period extended in that amount with respect to the replaced shrub material only.
5. The Contractor shall be liable for any damage to property including pavements, curbs, etc., caused by replacement operations, and he shall, without any additional charge, restore to their original condition all areas, and all construction disturbed or damaged by him pursuing the work of this Contract.
6. Payment for Replacements
 - (a) A sum sufficient to cover the estimated cost of possible replacements, including materials and labor, shall be retained by the Owner until the end of the guarantee period and paid to the Contractor only after all replacements have been made and approved by the Engineer in writing.

- (b) Any dead or missing shrub shall be replaced during the next following planting season. Shrubs whose condition is questionable shall also be replaced except when in the opinion of the Engineer it is advisable to extend the guarantee period another full growing season, at which time another inspection will be made to determine acceptance or rejection.
- (c) If a substantial number of shrub materials are unsatisfactory or dead at the time of inspection, acceptance will not be granted and the Contractor's responsibility for maintenance of all shrub materials shall be extended until replacements are made with the remaining work subject to reinspection before acceptance. Replacements shall conform in all respects to the Specifications, and shall be planted in the same manner.

402.4. Measurement and Payment:

- A. Payment shall be made at the lump sum bid price for this item. The price shall include, but not limited to, the cost of furnishing all labor, shrubs, and appurtenant materials, and maintenance of shrubs in accordance with the drawings and these specifications. Payment shall be made under the following items:

<u>Item</u>	<u>Description</u>	<u>Units</u>
402-AP	Bottlebush Buckeye (10 gallon)	Each
402-AM	Dwarf Blackberry (3 gallon)	Each
402-CA	New Jersey Tea (3 gallon)	Each
402-HA	Annabelle Hydrangea (5 gallon)	Each
402-HQ	Dwarf Oak Leaf Hydrangea (5 gallon)	Each
402-HQS	Snow Queen Oak Leaf Hydrangea (5 gallon)	Each
402-IG	Inkberry (24"-30" ht.)	Each
402-IGS	Dwarf Inkberry (3 gal. 12" ht.)	Each
402-PO	Dwarf Ninebark (3 gal. 12" ht.)	Each

* * *

ITEM 403 - TREE GRATES

403.1. WORK INCLUDED:

- A. Under this item the Contractor will be required to furnish and install tree grates with frames for tree plantings, as shown on the plans and specifications, and as directed by the Engineer.

403.2. MATERIALS:

- A. The grates shall be made of recycled cast gray iron. The grate shall meet A.D.A. Accessibility Guidelines for buildings. The frame, anchor bolts and connecting fasteners shall be supplied by the same manufacturer as the grate. The grate frame shall be anchored into the adjacent paving or curbing. The frame shall be cast iron. No finish (paint) on either component shall be required unless specified in the contract documents.
- B. Iron frames and grates shall be model # NF-8816 111 as manufactured by Neenah Foundry Company, Neenah Enterprise, Inc. 2121 Brooks Avenue, Neenah, WI 54956 , mike.langworthy@groupnei.com or Mike Langworthy (920) 729-3467.

403.3. CONSTRUCTION DETAILS:

- A. Tree grates shall be installed as per manufacturer's instruction, for an application into an existing sidewalk and curb. The Contractor will be required to install tree frames and grates initially to provide for planting over the prepared tree pit and reinstall the grates when the trees are installed at the final stage of the project.

403.4. SUBMITTALS:

- A. Shop drawings are required.

403.5. MEASUREMENT AND PAYMENT:

- A. The quantity of tree grates and frames to be paid for shall be the number per each complete as a unit, furnished and installed in accordance with the plans and specifications.
- B. The unit bid per each tree grate shall include, but not limited to, the cost of furnishing all labor, material and equipment necessary or required to completely furnish and install the tree frames and grates to the satisfaction of the Engineer. Payment shall be made under:

<u>Item</u>	<u>Description</u>	<u>Units</u>
403	Tree Grates	Each

* * *

ITEM 700 - SELECT FILL

700.1. WORK INCLUDED:

- A. Under this item the Contractor shall furnish all labor, material and equipment necessary to install select fill to the limits shown on the plans and as directed by the Engineer.

700.2. MATERIALS:

- A. The material shall be in accordance with NYSDOT specifications (latest division) for Item 203.07, "Select Granular Fill and Select Structural Fill".

700.3. PROCEDURE:

- A. Fill operations shall not be started until the construction area has been examined and approved by the Engineer. The filling procedure shall be carried out using methods which will not disturb or damage any structure, culverts, pipes or other work. The material used shall be approved and shall be free of any trash, lumber or other debris; it shall not contain any clods, limbs or stones that interfere with proper compaction; nor shall the material be frozen.
- B. The fill shall be compacted to 95% Standard Proctor density. After completion of the fill operation the Contractor shall remove any excess material and grade the area as shown on the plans and as ordered by the Engineer. All grading necessary to blend into the existing contours of the adjoining areas is to be performed.
- C. The top of the fill shall be known as the subgrade and shall conform to the lines, grade and cross section shown on the drawings.

700.4. MEASUREMENT:

- A. The measurement for this item shall be per cubic yard of compacted fill material actually placed and accepted by the Engineer.

700.5. PAYMENT:

- A. Payment shall be at the unit price bid per cubic yard of compacted material actually placed and shall include all material, labor and equipment necessary to execute this item of work, including all required excavation, backfilling, restoration, storage of materials, and the removal and disposal of material as necessary to install the fill and all materials, labor, equipment tools and work incidental to or necessary for the furnishing and installation of select fill as described herein, shown on the plans and as ordered by the Engineer.

* * *

ITEM 700A – SELECT STRUCTURAL FILL

700.1. WORK INCLUDED:

- A. Under this item the Contractor shall furnish all labor, material and equipment necessary to install structural fill to the limits shown on the plans and as directed by the Engineer.

700.2. MATERIALS:

- A. The material shall be in general accordance with NYSDOT Standard Specifications (latest division) for Item 203.-2.13, “Select Structural Fill”. Specific gradation requirements for select structural fill shall be as presented in Plan Sheet C-13, Table 1 – Granular Fill.

700.3. CONSTRUCTION DETAILS & PROCEDURE: Construction details and procedures shall be as generally described in NYSDOT Standard Specification Section 203, and more specifically Section 203-3.13 - Select Structural Fill, and as described herein.

- A. Fill operations shall not be started until the construction area has been examined and approved by the Engineer. The filling procedure shall be carried out using methods which will not disturb or damage any structure, culverts, pipes or other work. The material used shall be approved and shall be free of any trash, lumber or other debris; it shall not contain any clods, limbs or stones that interfere with proper compaction; nor shall the material be frozen.
- B. The fill shall be compacted to 95% Standard Proctor density. After completion of the fill operation the Contractor shall remove any excess material and grade the area as shown on the plans and as ordered by the Engineer. All grading necessary to blend into the existing contours of the adjoining areas is to be performed.
- C. The top of the fill shall be known as the subgrade and shall conform to the lines, grade and cross section shown on the drawings.

700.4. MEASUREMENT:

- A. Select structural fill will be measured in cubic yards, measured to the nearest whole cubic yard, as actually placed in the final compacted position, and as accepted by the Engineer.

700.5. PAYMENT:

- A. Payment shall be at the unit price bid per cubic yard of compacted material actually placed and shall include all material, labor and equipment necessary to execute this item of work, including all required excavation, backfilling, restoration, storage of materials, and the removal and disposal of material as necessary to install the select structural fill and all materials, labor, equipment tools and work incidental to or necessary for the furnishing and installation of select structural fill as described herein, shown on the plans and as ordered by the Engineer.

* * *

ITEM 701 – GRASS SEED

701.1. WORK INCLUDED:

- A. Under this item the Contractor shall furnish all labor, material and equipment necessary to furnish and install seed to the limits shown on the plans and/or as directed by the Engineer.

701.2. MATERIALS:

A. Seed

1. Furnish fresh, clean, new-crop seed mixed in the proportions specified for species and variety and conforming to Federal and State Standards.
2. Acceptable material in a seed mixture other than pure live seed consists of nonviable seed, chaff, hulls, live seed of crop plants and inert matter. The percentage of weed seed shall not exceed 0.1 percent by weight.
3. All seed will be rejected if the label or test analysis indicates any of the following contaminates: Timothy, Orchard Grass, Sheep Fescue, Meadow Fescue, Canada Blue Grass, Alta Fescue, Kentucky 31 Fescue, and Bent Grass.
4. Provide the following seed mixture (amount by weight in mixture) or approved equal:
 - (a) Kentucky Bluegrass: 55%
 - (b) Red Fescue: 25%
 - (c) Perennial Rye: 20%

701.3. INSTALLATION:

- A. Sow grass seed between March 15th and May 15th or between August 15th and October 1st, except as otherwise approved in writing by the Engineer.
- B. Do not seed when the wind velocity exceeds 5 miles per hour.
- C. Seed Application Rate: 3 pounds per 1000 sq ft.
- D. Maintain the grass at heights between 1-1/2 inches and 2-1/2 inches and include a minimum of 2 mowings.
- E. Water and protect all seeded areas until final acceptance of the lawn.
- F. All seeded areas shall be covered with chopped straw immediately upon completion of seeding application.

- G. Final acceptance of lawn areas will be granted when a uniform stand of acceptable grass is obtained, with a minimum of 95 percent coverage. Portions of the lawn areas may be accepted at various times at the discretion of the Engineer.

701.4. MEASUREMENT & PAYMENT:

- A. Measurement for this item shall be per square yard of seed material actually placed. Payment for this item shall be at the unit price bid and shall include, but not limited to, the cost of furnishing all material, labor and equipment necessary to place seed, and straw, as described herein, shown on the plans and as ordered by the Engineer.

* * *

ITEM 702 – TOPSOIL

702.1 WORK INCLUDED:

- A. Under this item the Contractor shall furnish all labor, material and equipment necessary to furnish and install topsoil to the limits shown on the plans and /or as directed by the Engineer.

702.2 MATERIALS:

B. Topsoil

1. Topsoil for landscape Work is not available at the site and shall be furnished as specified.
2. Provide off-site topsoil as required, which is fertile, friable, natural loam, surface soil, capable of sustaining vigorous plant growth, free of any admixture of subsoil, clods of hard earth, plants or roots, sticks or other extraneous material harmful to plant growth. Supply topsoil with the following analysis:
 - (a) 3/4-inch Mesh: 100 percent passing.
 - (b) #4 Sieve: 90 to 100 percent passing.
 - (c) #200 Sieve: 0 - 10 percent passing.
3. Clay content of material passing #200 sieve not greater than 60 percent, as determined by hydrometer tests.
4. pH 5.0 to pH 6.5. If approved by ENGINEER, natural topsoil not having the hydrogen-ion value specified may be amended by CONTRACTOR at his own expense.
5. Organic content not less than 5 percent, as determined by ignition loss.
6. Free of pests and pest larvae.

702.3 MEASUREMENT & PAYMENT:

- C. Measurement for this item shall be cubic yard of topsoil material actually placed. Payment for this item shall be at the unit price bid and shall include, but not limited to, the cost of furnishing all topsoil material, labor and equipment necessary to place topsoil as described herein, shown on the plans and as ordered by the Engineer.

* * *

ITEM 800 – SEDIMENT & EROSION CONTROL

800.1. WORK INCLUDED:

- A. Under this item the Contractor will be required to furnish labor, material and equipment necessary to install and maintain erosion control facilities on the work site.
- B. The Federal Clean Water Act requires construction sites to prevent pollutants entering storm drain systems. Storm drain systems include both constructed and natural facilities, including streams, waterways, and other bodies of water. The Contractor shall protect the local storm drain system from pollution, and shall conduct and schedule operations to avoid erosion and sediments. Where erosion may cause water pollution due to the nature of the material or the season, the Contractor's operations shall be scheduled so temporary or permanent erosion control features are installed concurrently with, or immediately following, grading operations. The Contractor is responsible for organizing and scheduling the Work to prevent, control, and/or abate water pollution. In order to provide effective and continuous control of water pollution, it may be necessary for the Contractor to perform the Work in small or multiple units, on an out-of-phase schedule, and/or with modified construction procedures. The Contractor shall coordinate water pollution control work with all other Contract work.

800.2. MATERIAL:

- A. Material shall be hay bales, silt fence, temporary sediment trap, inlet protection sediment control bag, and other items. The details for the erosion control structures, hay bales, etc, shall be in accordance with the “New York State Standards and Specifications for Erosion and Sediment Control (Blue Book)”, latest revision.

800.3. INSTALLATION:

- A. Before starting the Work, the Contractor shall establish erosion control measures, in accordance with the project Stormwater Pollution Prevention Plan (SWPPP). The Contractor shall not perform any clearing, grubbing or earthwork on the project, until the erosion control measures have been implemented and received approval in writing from the Engineer. The Engineer or Owner is not liable to the Contractor for any delays in work due to the Contractor's failure to implement sediment and erosion control measures.
- B. Permit Requirements: As per the requirements of the project SPDES General Permit for Stormwater Discharges from Construction Activity, the Contractor shall be required to provide on-site a NYSDEC certified sediment and erosion control inspector whenever work of this contract is taking place. In addition to routine sediment and erosion control facility inspection and maintenance measures, the Contractor's certified inspector shall be required to perform

inspection of the project sediment and erosion control measures – as delineated in the project SWPPP and herein described – at least once per week, and additionally before and after every storm event. Written reports of these inspections must be kept on-site as required by the General Permit.

- C. The Contractor will be required to prevent any erosion on the site and prevent any sediment from entering the storm sewer system or washing overland. In addition, wherever items of work that the Contractor is performing indicate a possible erosion problem, the Contractor should note that the installation of the erosion control methods will require periodic maintenance of these various devices. It is the Contractor's responsibility to install and maintain the erosion control throughout the course of the project.
- D. Inspection and Maintenance: The Contractor shall perform routine inspection and maintenance of Best Management Practices (BMP's). Inspections shall be done prior to, during, and after each rain event. The Contractor is solely responsible for preparing and maintaining inspection and monitoring records; and maintaining a maintenance log, copies of which shall be available to the Engineer for review upon request. The Contractor shall immediately correct or replace any ineffective BMP. If the measures taken by the Contractor are inadequate to effectively control water pollution, the Engineer may direct the Contractor to revise the operations and erosion control measures. The Engineer may restrict work from being performed until the erosion control measures are adequate. The Owner reserves the right to take corrective action and withhold Owner costs for corrective action from progress payments or final payment in accordance with General Conditions Section 152 - Deductions for Uncorrected Work. Any fines, including third-party claims, levied against the Owner as a result of Contractor's non-compliance are the Contractor's sole responsibility and will be withheld from progress payments or final payment.

800.4. MEASUREMENT AND PAYMENT:

- A. Payment for this item shall be the lump sum bid for this item, and shall include, but not be limited to, the cost of furnishing all labor, supervision, materials, equipment and inspection services necessary to provide sediment and erosion control measures as per the plans, the project SWPPP, the project SPDES General Permit for Stormwater Discharges from Construction Activity, and as directed by the Engineer and as indicated on the plans and as specified herein.

* * *

ITEM 845 – Solar Bollard Lights

845.1. WORK INCLUDED:

- A. Under this item the Contractor shall furnish all labor, materials and equipment necessary for the complete installation of the solar bollard lights and concrete footing as specified herein and as shown on the plans.

845.2. MATERIALS:

- A. The solar bollard lights shall be SBL Series SR Bollard Light 39 3/8" overall height – without reflector, as manufactured by Archasol Inc., 1-406-551-7955.
- B. Color shall be powder coated – black satin.
- C. The Contractor shall submit catalog cuts and installation instructions by the manufacturer for approval prior to ordering equipment.

845.3. INSTALLATION:

- A. The solar bollard light shall be installed in accordance with the plans and specifications, and at the locations as indicated on the plans.

845.4. MEASUREMENT:

- A. The measurement for this item shall be the unit "each" for the solar bollard lights.

845.5. PAYMENT:

- A. Payment shall be at the unit price bid for completed, ready for use, accepted solar bollard light constructed as specified herein. Said payment shall be for providing all labor, materials and equipment for the walkway bollard light.

* * *

ITEM 846 – Mounted Solar Light Poles

846.1. WORK INCLUDED:

- A. Under this item the Contractor shall furnish all labor, materials and equipment necessary for the complete installation of the mounted solar light poles and concrete footing as specified herein and as shown on the plans.

846.2. MATERIALS:

- A. The mounted solar light poles shall be SBL Series S Bollard Light 118" overall height – with reflector, as manufactured by Archasol Inc., 1-406-551-7955.
- B. Color shall be powder coated – black satin.
- C. The Contractor shall submit catalog cuts and installation instructions by the manufacturer for approval prior to ordering equipment.

846.3. INSTALLATION:

- A. The mounted solar light poles shall be installed in accordance with the plans and specifications, and at the locations as indicated on the plans.

846.4. MEASUREMENT:

- A. The measurement for this item shall be the unit "each" for the mounted solar light poles.

846.5. PAYMENT:

- A. Payment shall be at the unit price bid for completed, ready for use, accepted mounted solar light poles constructed as specified herein. Said payment shall be for providing all labor, materials and equipment for the walkway bollard light.

* * *

900 – ELECTRICAL POWER SUPPLY, DISTRIBUTION & LIGHTING

Lighting System with LED Light Source

PART 1 – GENERAL

1.1 SUMMARY

- A. Work covered by this section of the specifications shall conform to the contract documents, engineering plans as well as state and local codes.
- B. The purpose of these specifications is to define the lighting system performance and design standards for Gould Park Basketball using an LED Lighting source. The manufacturer / contractor shall supply lighting equipment to meet or exceed the standards set forth in these specifications.
- C. The sports lighting will be for the following venues:
 - 1. Basketball
- D. The primary goals of this sports lighting project are:
 - 1. **Guaranteed Light Levels:** Selection of appropriate light levels impact the safety of the players and the enjoyment of spectators. Therefore, light levels are guaranteed to not drop below specified target values for a period of 25 years.
 - 2. **Environmental Light Control:** It is the primary goal of this project to minimize spill light to adjoining properties and glare to the players, spectators, and neighbors.
 - 3. **Cost of Ownership:** In order to reduce the operating budget, the preferred lighting system shall be energy efficient and cost effective to operate. All maintenance costs shall be eliminated for the duration of the warranty.
 - 4. All lighting designs shall comply with IESNA RP-6-22.

1.2 COURT LIGHTING PERFORMANCE

- A. **Illumination Levels and Design Factors:** Playing surfaces shall be lit to an average target illumination level and uniformity as specified in the chart below. Lighting manufacturers will provide a guarantee that light levels will be sustained over the life of the warranty period. Lighting calculations shall be developed and field measurements taken on the grid spacing with the minimum number of grid points specified below.

Manufacturers will provide lumen maintenance data of the LED luminaires used per TM-21-11 and will incorporate the lumen maintenance projections into the lighting designs to ensure target light levels are achieved throughout the guaranteed period of the system. Per IES guidelines, lumen maintenance hours should be reported based on the 6x multiplier of testing hours.

Area of Lighting	Average Target Illumination Levels	Maximum to Minimum Uniformity Ratio	Grid Points	Grid Spacing
Basketball	30 footcandles	2.5:1	45	10ft x 10ft

- B. **Color Temperature:** The lighting system shall have a minimum color temperature of 5700K and a CRI of 75.
- C. **Playability:** Lighting design and luminaire selection should be optimized for playability by reducing glare.

1. Aiming Angles: To reduce glare, luminaire aiming should ensure the top of the luminaire field angle (based on sample photometric reports) is a minimum of 10 degrees below horizontal.
2. Glare Control Technology – Luminaires selected should have glare control technology including, but not limited to: external visors, internal shields and louvers. No symmetrical beam patterns are acceptable.
3. Mounting Heights: To ensure proper aiming angles, minimum mountings heights shall be as described below. Higher mounting heights may be necessary for luminaire with lesser glare control to meet field angle requirements of section 1.2.C.1.

# of Poles	Pole Designation	Pole Height
2	P1, P2	40ft

1.3 **ENVIRONMENTAL LIGHT CONTROL**

- A. Light Control Luminaires: All luminaires shall be fully shielded and utilize spill light and glare control devices including, but not limited to, internal shields, louvers and external shields. No symmetrical beam patterns are accepted.
- B. Design Criteria: The lighting design shall conform to the DarkSky's Criteria for Community-Friendly Outdoor Sports Lighting.
- C. Spill Light and Glare Control: To minimize impact on adjacent properties, spill light and candela values must not exceed the following levels taken at 3 feet above grade.

	Maximum
Horizontal Footcandles at 150ft from court perimeter	0.01 fc
Vertical Footcandles at 150ft from court perimeter	0.05 fc
Candela (glare) at 150ft from court perimeter	1000 cd

- D. Spill Scans: Spill scans must be submitted indicating the amount of horizontal and vertical footcandles along the specified lines. Light levels shall be provided in 30-foot intervals along the boundary line at 3 ft above grade.
- E. Sample Photometry: The first page of a photometric report for all luminaire types proposed showing horizontal and vertical axial candle power shall be provided to demonstrate the capability of achieving the specified performance. Reports shall be certified by a qualified testing laboratory with a minimum of five years of experience or by a manufacturer's laboratory with a current accreditation under the National Voluntary Laboratory Accreditation Program for Energy Efficient Lighting Products. A summary of the horizontal and vertical aiming angles for each luminaire shall be included with the photometric report.
- F. Field Verification: Lighting manufacturer shall supply field verification of environmental light control using a meter calibrated within the last 12 months:
 1. Spill verification: Illumination levels shall be taken in accordance with IESNA LM-5-04. The light sensing surface of the light meter should be held 36 inches above the playing surface with the sensing surface horizontal (for horizontal readings) or vertically pointed at the brightest light bank (for max vertical readings)

1.4 **Cost of Ownership**

- A. Manufacturer shall submit a 25-year Cost of Ownership summary that includes energy consumption, anticipated maintenance costs, and control costs. All costs associated with faulty luminaire replacement - equipment rentals, removal and installation labor, and shipping - are to be included in the maintenance costs.

PART 2 – PRODUCT

2.1 SPORTS LIGHTING SYSTEM CONSTRUCTION

- A. Manufacturing Requirements: All components shall be designed and manufactured as a system. All luminaires, wire harnesses, drivers and other enclosures shall be factory assembled, aimed, wired and tested.
- B. Durability: All exposed components shall be constructed of corrosion resistant material and/or coated to help prevent corrosion. All exposed carbon steel shall be hot dip galvanized per ASTM A123. All exposed aluminum shall be powder coated with high performance polyester or anodized. All exterior reflective inserts shall be anodized, coated, and protected from direct environmental exposure to prevent reflective degradation or corrosion. All exposed hardware and fasteners shall be stainless steel, passivated and coated with aluminum-based thermosetting epoxy resin for protection against corrosion and stress corrosion cracking. Structural fasteners may be carbon steel and galvanized meeting ASTM A153 and ISO/EN 1461 (for hot dipped galvanizing), or ASTM B695 (for mechanical galvanizing). All wiring shall be enclosed within the cross-arms, pole, or electrical components enclosure.
- C. System Description: Lighting system shall consist of the following:
 - 1. Galvanized steel poles and cross-arm assembly.
 - 2. Non-approved pole technology:
 - a. Square static cast concrete poles will not be accepted.
 - b. Direct bury steel poles which utilize the extended portion of the steel shaft for their foundation will not be accepted due to potential for internal and external corrosive reaction to the soils and long-term performance concerns.
 - 3. Lighting systems shall use concrete foundations. See Section 2.4 for details.
 - a. For a foundation using a pre-stressed concrete base embedded in concrete backfill the concrete shall be air-entrained and have a minimum compressive design strength at 28 days of 3,000 PSI. 3,000 PSI concrete specified for early pole erection, actual required minimum allowable concrete strength is 1,000 PSI. All piers and concrete backfill must bear on and against firm undisturbed soil.
 - b. For anchor bolt foundations or foundations using a pre-stressed concrete base in a suspended pier or re-inforced pier design pole erection may occur after 7 days. Or after a concrete sample from the same batch achieves a certain strength.
 - 4. Manufacturer will supply all drivers and supporting electrical equipment
 - a. Remote drivers and supporting electrical equipment shall be mounted approximately 10 feet above grade in aluminum enclosures. The enclosures shall be touch-safe and include drivers and fusing with indicator lights on fuses to notify when a fuse is to be replaced for each luminaire. Disconnect per circuit for each pole structure will be located in the enclosure. Drivers located at the top of the poles are not allowed.
 - b. Manufacturer shall provide surge protection at the pole equal to or greater than 40 kA for each line to ground (Common Mode) as recommended by IEEE C62.41.2_2002.
 - 5. Wire harness complete with an abrasion protection sleeve, strain relief and plug-in connections for fast, trouble-free installation.
 - 6. All luminaires, visors, and cross-arm assemblies shall withstand 150 mi/h winds and maintain luminaire aiming alignment.
 - 7. Control cabinet to provide remote on-off control, monitoring, and entertainment features of the lighting system. See Section 2.3 for further details.
 - 8. Manufacturer shall provide lightning grounding as defined by NFPA 780 and be UL Listed per UL 96 and UL 96A.
 - a. Integrated grounding via concrete encased electrode grounding system.

- b. If grounding is not integrated into the structure, the manufacturer shall supply grounding electrodes, copper down conductors, and exothermic weld kits. Electrodes and conductors shall be sized as required by NFPA 780. The grounding electrode shall be minimum size of 5/8 inch diameter and 8 feet long, with a minimum of 10 feet embedment. Grounding electrode shall be connected to the structure by a grounding electrode conductor with a minimum size of 2 AWG for poles with 75 feet mounting height or less, and 2/0 AWG for poles with more than 75 feet mounting height.

D. Safety: All system components shall be UL listed for the appropriate application.

2.2 ELECTRICAL

A. Electric Power Requirements for the Sports Lighting Equipment:

- 1. Electric power: 208 Volt, Single Phase
- 2. Maximum total voltage drop: Voltage drop to the disconnect switch located on the poles shall not exceed three (3) percent of the rated voltage.

B. Energy Consumption: The kW consumption for the field lighting system shall be 2.16 kW.

2.3 CONTROL

A. Instant On/Off Capabilities: System shall provide for instant on/off of luminaires.

B. Lighting contactor cabinet(s) constructed of NEMA Type 4 aluminum, designed for easy installation with contactors, labeled to match field diagrams and electrical design. Manual off-on-auto selector switches shall be provided.

C. Contactor control of lights: To minimize wear on drivers and other electrical components and prevent lights from turning on due to communication loss, circuits must be controlled via contactor switching, not dimming driver output to zero.

D. Dimming: System shall provide for 3-stage dimming (high-medium-low). Dimming will be set via scheduling options (Website, app, phone, fax, email).

E. Remote Lighting Control System: System shall allow owner and users with a security code to schedule on/off system operation via a web site, phone, fax or email up to ten years in advance. Manufacturer shall provide and maintain a two-way TCP/IP communication link. Trained staff shall be available 24/7 to provide scheduling support and assist with reporting needs.

The owner may assign various security levels to schedulers by function and/or fields. This function must be flexible to allow a range of privileges such as full scheduling capabilities for all fields to only having permission to execute "early off" commands by phone. Scheduling tool shall be capable of setting curfew limits.

Controller shall accept and store 7-day schedules, be protected against memory loss during power outages, and shall reboot once power is regained and execute any commands that would have occurred during outage.

F. Remote Monitoring System: System shall monitor lighting performance and notify manufacturer if individual luminaire outage is detected so that appropriate maintenance can be scheduled. The controller shall determine switch position (manual or auto) and contactor status (open or closed).

G. Management Tools: Manufacturer shall provide a web-based database and dashboard tool of actual field usage and provide reports by facility and user group. Dashboard shall also show current status of luminaire outages, control operation and service. Mobile application will be provided suitable for IOS, Android and Blackberry devices.

Hours of Usage: Manufacturer shall provide a means of tracking actual hours of usage for the field lighting system that is readily accessible to the owner.

- 1. Cumulative hours: shall be tracked to show the total hours used by the facility
- 2. Report hours saved by using early off and push buttons by users.

H. Communication Costs: Manufacturer shall include communication costs for operating the control and

monitoring system for a period of 25 years.

- I. Communication with luminaire drivers: Control system shall interface with drivers in electrical components enclosures by means of powerline communication.

2.4 STRUCTURAL PARAMETERS

- A. Wind Loads: Wind loads shall be based on the 2018 International Building Code. Wind loads to be calculated using ASCE 7-16, an ultimate design wind speed of 115 mph and exposure category C.
- B. Pole Structural Design: The stress analysis and safety factor of the poles shall conform to 2013 AASHTO Standard Specification for Structural Supports for Highway Signs, Luminaires, and Traffic Signals (LTS-6).
- C. Foundation Design: The foundation design shall be based on soil parameters as outlined in the geotechnical report.
- D. Foundation Drawings: Project specific foundation drawings stamped by a registered engineer in the state where the project is located are required. The foundation drawings must list the moment, shear (horizontal) force, and axial (vertical) force at ground level for each pole. These drawings must be submitted at time of bid to allow for accurate pricing.

PART 3 – EXECUTION

3.1 SOIL QUALITY CONTROL

- A. It shall be the Contractor's responsibility to notify the Owner if soil conditions exist other than those on which the foundation design is based, or if the soil cannot be readily excavated. Contractor may issue a change order request / estimate for the Owner's approval / payment for additional costs associated with:
 - 1. Providing engineered foundation embedment design by a registered engineer in the State of New York for soils other than specified soil conditions.
 - 2. Additional materials required to achieve alternate foundation.
 - 3. Excavation and removal of materials other than normal soils, such as rock, caliche, etc.

3.2 DELIVERY TIMING

- B. Delivery Timing Equipment On-Site: The equipment must be on-site 8-10 weeks from receipt of approved submittals and receipt of complete order information.

3.3 FIELD QUALITY CONTROL

- A. Illumination Measurements: Upon substantial completion of the project and in the presence of the Contractor, Project Engineer, Owner's Representative, and Manufacturer's Representative, illumination measurements shall be taken and verified. The illumination measurements shall be conducted in accordance with IESNA LM-5-04.
- B. Field Light Level Accountability
 - 1. Light levels are guaranteed not to fall below the target maintained light levels for the entire warranty period of 25 years. These levels will be specifically stated as "guaranteed" on the illumination summary provided by the manufacturer.
 - 2. The contractor/manufacturer shall be responsible for conducting initial light level testing and an additional inspection of the system, in the presence of the owner, one year from the date of commissioning of the lighting.
 - 3. The contractor/manufacturer will be held responsible for any and all changes needed to bring these fields back to compliance for light levels and uniformities. Contractor/Manufacturer will be held responsible for any damage to the fields during these repairs.
- C. Correcting Non-Conformance: If, in the opinion of the Owner or their appointed Representative, the actual performance levels including footcandles, uniformity ratios, and offsite candela readings are

not in conformance with the requirements of the performance specifications and submitted information, the Manufacturer shall be required to make adjustments to meet specifications and satisfy Owner.

3.4 WARRANTY AND GUARANTEE

- A. 25-Year Warranty: Each manufacturer shall supply a signed warranty covering the entire system for 25 years from the date of shipment. Warranty shall guarantee specified light levels. Manufacturer shall maintain specifically funded financial reserves to assure fulfillment of the warranty for the full term. Warranty does not cover weather conditions events such as lightning or hail damage, improper installation, vandalism or abuse, unauthorized repairs or alterations, or product made by other manufacturers.
- B. Maintenance: Manufacturer shall monitor the performance of the lighting system, including on/off status, hours of usage and luminaire outage for 25 years from the date of equipment shipment. Parts and labor shall be covered such that individual luminaire outages will be repaired when the usage of any field is materially impacted. Manufacturer is responsible for removal and replacement of failed luminaires, including all parts, labor, shipping, and equipment rental associated with maintenance. Owner agrees to check fuses in the event of a luminaire outage.

PART 4 – DESIGN APPROVAL

4.1 PRE-BID SUBMITTAL REQUIREMENTS (Non-Approved Products)

- A. Design Approval: The owner / engineer will review pre-bid submittals per section 4.1.B from all the manufacturers to ensure compliance to the specification 10 days prior to bid. If the design meets the design requirements of the specifications, a letter and/or addendum will be issued to the manufacturer indicating approval for the specific design submitted.
- B. Approved Product: Musco's Light-Structure System™ with TLC for LED® is the approved product. All substitutions must provide a complete submittal package for approval as outlined in Submittal Information at the end of this section at least 10 days prior to bid. Special manufacturing to meet the standards of this specification may be required. An addendum will be issued prior to bid listing any other approved lighting manufacturers and designs.
- C. All listed manufacturers not pre-approved shall submit the information at the end of this section at least 10 days prior to bid. An addendum will be issued prior to bid; listing approved lighting manufacturers and the design method to be used.
- D. Bidders are required to bid only products that have been approved by this specification or addendum by the owner or owner's representative. Bids received that do not utilize an approved system/design, will be rejected.

**REQUIRED SUBMITTAL INFORMATION FOR ALL MANUFACTURERS (NOT PRE-APPROVED) 10 DAYS
PRIOR TO BID**

*All items listed below are mandatory, shall comply with the specification and be submitted according to pre-bid submittal requirements. Complete the Yes/No column to indicate compliance (Y) or noncompliance (N) for each item. **Submit checklist below with submittal.***

Yes / No	Tab	Item	Description
	A	Letter/ Checklist	Listing of all information being submitted must be included on the table of contents. List the name of the manufacturer's local representative and his/her phone number. Signed submittal checklist to be included.
	B	Equipment Layout	Drawing(s) showing field layouts with pole locations
	C	On Field Lighting Design	Lighting design drawing(s) showing: <ul style="list-style-type: none"> a. Field Name, date, file number, prepared by b. Outline of field(s) being lighted, as well as pole locations referenced to the center of the field (x & y), Illuminance levels at grid spacing specified c. Pole height, number of fixtures per pole, horizontal and vertical aiming angles, as well as luminaire information including wattage, lumens, and optics d. Height of light test meter above field surface. e. Summary table showing the number and spacing of grid points; average, minimum and maximum illuminance levels in foot candles (fc); uniformity including maximum to minimum ratio, coefficient of variance (CV), coefficient of utilization (CU) uniformity gradient; number of luminaires, total kilowatts, average tilt factor; light loss factor.
	D	Off Field Lighting Design	Lighting design drawing showing initial spill light levels along the boundary line (defined on bid drawings) in footcandles. Lighting design showing glare along the boundary line in candela. Light levels shall be taken at 30-foot intervals along the boundary line. Readings shall be taken with the meter orientation at both horizontal and aimed towards the most intense bank of lights.
	E	Photometric Report	Provide first page of photometric report for all luminaire types being proposed showing candela tabulations as defined by IESNA Publication LM-35-02. Photometric data shall be certified by laboratory with current National Voluntary Laboratory Accreditation Program or an independent testing facility with over 5 years of experience.
	F	Performance Guarantee	Provide performance guarantee including a written commitment to undertake all corrections required to meet the performance requirements noted in these specifications at no expense to the owner. Light levels must be guaranteed to not fall below target levels for warranty period.
	G	Structural Calculations	Pole structural calculations and foundation design showing foundation shape, depth backfill requirements, rebar and anchor bolts (if required). Pole base reaction forces shall be shown on the foundation drawing along with soil bearing pressures. Design must be stamped by a structural engineer in the state of New York, if required by owner.
	H	Control & Monitoring System	Manufacturer of the control and monitoring system shall provide written definition and schematics for automated control system. They will also provide ten (10) references of customers currently using proposed system in the state of New York.
	I	Electrical Distribution Plans	Manufacturer bidding an alternate product must include a revised electrical distribution plan including changes to service entrance, panels and wire sizing, signed by a licensed Electrical Engineer in the state of New York.
	J	Warranty	Provide written warranty information including all terms and conditions. Provide ten (10) references of customers currently under specified warranty in the state of New York.
	K	Project References	Manufacturer to provide a list of ten (10) projects where the technology and specific fixture proposed for this project has been installed in the state of New York. Reference list will include project name, project city, installation date, and if requested, contact name and contact phone number.
	L	Product Information	Complete bill of material and current brochures/cut sheets for all products being provided.
	M	Delivery	Manufacturer shall supply an expected delivery timeframe from receipt of approved submittals and complete order information.

	N	Non-Compliance	Manufacturer shall list all items that do not comply with the specifications. If in full compliance, tab may be omitted.
	O	Cost of Ownership	Document cost of ownership as defined in the specification. Identify energy costs for operating the luminaires. Maintenance cost for the system must be included. All costs should be based on 25 Years
	P	Environmental Light Control Design	Environmental glare impact scans must be submitted showing the maximum candela from the field edge on a map of the surrounding area until 500 candela or less is achieved.

PART 5 – MEASUREMENT AND PAYMENT

Payment for these items shall be the Lump Sum bid, and shall include , but not be limited to, the cost of all labor, material, equipment and supervision required for the respective item as per the plans and as herein specified.

Payment shall be made under the following:

<u>Item</u>	<u>Description</u>	<u>Units</u>
900-A	Electrical Power Supply and Distribution	Lump Sum (LS)
900-B	Basketball Court Lighting and Foundations	Lump Sum (LS)

Gould Park Basketball

Dobbs Ferry, NY

Lighting System

Pole / Fixture Summary						
Pole ID	Pole Height	Mtg Height	Fixture Qty	Luminaire Type	Load	Circuit
P1-P2	40'	40'	2	TLC-LED-550	1.08 kW	A
2			4		2.16 kW	

Circuit Summary			
Circuit	Description	Load	Fixture Qty
A	Basketball	2.16 kW	4

Fixture Type Summary							
Type	Source	Wattage	Lumens	L90	L80	L70	Quantity
TLC-LED-550	LED 5700K - 75 CRI	540W	67,000	>120,000	>120,000	>120,000	4

Single Luminaire Amperage Draw Chart								
Driver (.90 min power factor)		Max Line Amperage Per Luminaire						
Single Phase Voltage		208 (60)	220 (60)	240 (60)	277 (60)	347 (60)	380 (60)	480 (60)
TLC-LED-550		3.2	3.0	2.8	2.4	1.9	1.8	1.4

Light Level Summary

Calculation Grid Summary								
Grid Name	Calculation Metric	Illumination					Circuits	Fixture Qty
		Ave	Min	Max	Max/Min	Ave/Min		
Basketball Spill 150' (Cd)	Max Candela (by Fixture)	10.3	0	63.8	0.00		A	4
Basketball Spill 150'	Horizontal Illuminance	0	0	0	0.00		A	4
Basketball Spill 150'	Max Vertical Illuminance Metric	0	0	0	0.00		A	4
Basketball	Horizontal Illuminance	30.3	17	40	2.29	1.78	A	4
Blanket Spill	Horizontal	1.90	0	22	0.00		A	4

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EQUIPMENT LIST FOR AREAS SHOWN								
Pole				Luminaires				
QTY	LOCATION	SIZE	GRADE ELEVATION	MOUNTING HEIGHT	LUMINAIRE TYPE	QTY / POLE	THIS GRID	OTHER GRIDS
2	P1-P2	40'	-	40'	TLC-LED-550	2	2	0
2	TOTALS					4	4	0

Pole				Luminaires				
QTY	LOCATION	SIZE	GRADE ELEVATION	MOUNTING HEIGHT	LUMINAIRE TYPE	QTY / POLE	THIS GRID	OTHER GRIDS
2	P1-P2	40'	-	40'	TLC-LED-550	2	2	0
2	TOTALS					4	4	0

Dobbs Ferry, NY

GRID SUMMARY	
Name:	Basketball
Size:	86' x 50'
Spacing:	10.0' x 10.0'
Height:	3.0' above grade

Name:	Basketball
Size:	86' x 50'
Spacing:	10.0' x 10.0'
Height:	3.0' above grade

ILLUMINATION SUMMARY	
MAINTAINED HORIZONTAL FOOTCANDLES	
	Entire Grid
Guaranteed Average:	30
Scan Average:	30.29
Maximum:	40
Minimum:	17
Avg / Min:	1.74
Guaranteed Max / Min:	3
Max / Min:	2.29
UG (adjacent pts):	1.38
CU:	0.54
No. of Points:	45
LUMINAIRE INFORMATION	
Applied Circuits:	A
No. of Luminaires:	4
Total Load:	2.16 kW

MAINTAINED HORIZONTAL FOOTCANDLES

Entire Grid

Guaranteed Average:	30
---------------------	----

Scan Average: 30.29

Maximum: 40

Minimum:	17
----------	----

Avg / Min: 1.74

Guaranteed Max / Min:	3
-----------------------	---

Max / Min: 2.29

UG (adjacent pts): 1.38

CU: 0.54

No. of Points:	45
----------------	----

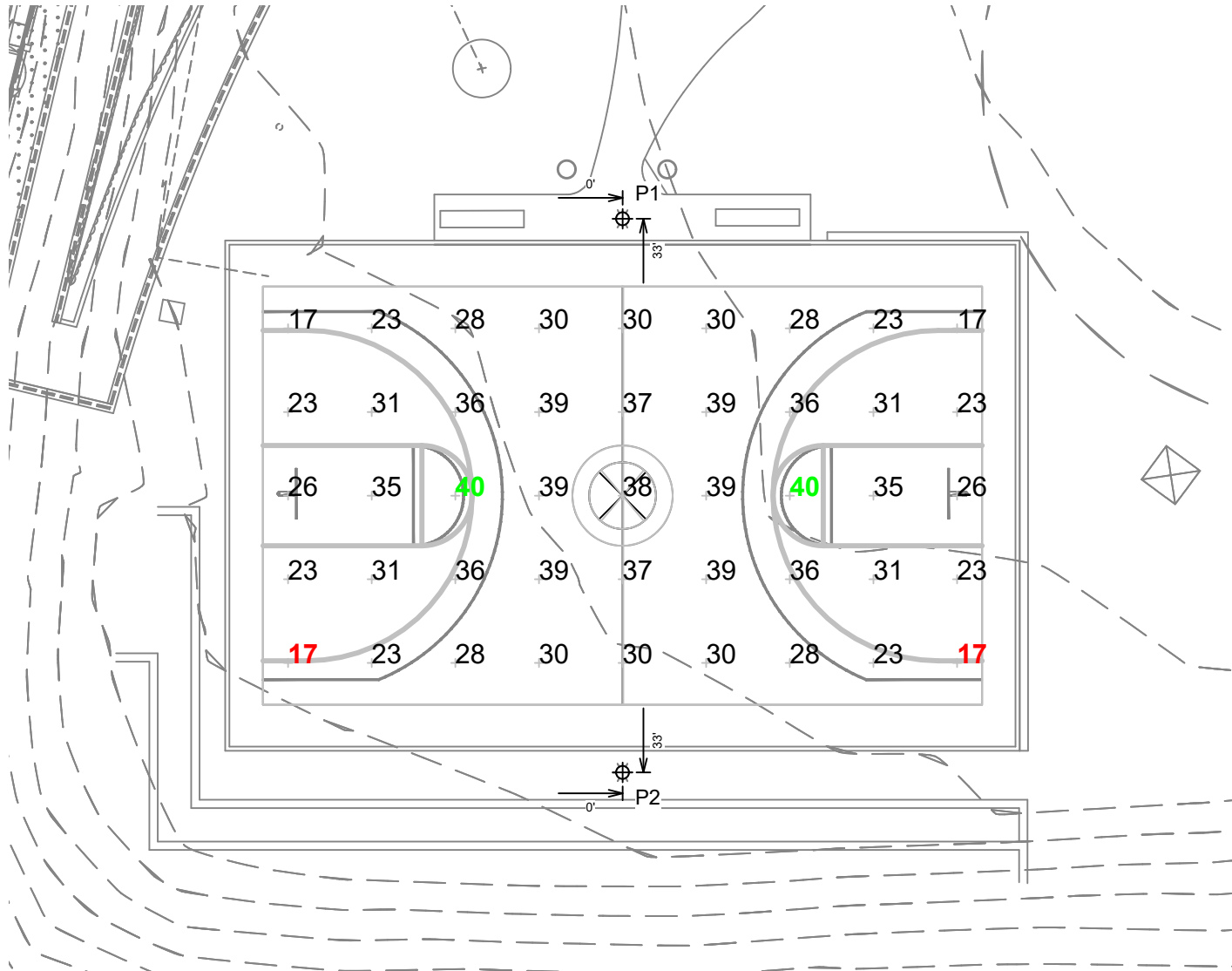
LUMINAIRE INFORMATION	
Applied Circuits:	A
No. of Luminaires:	4
Total Load:	2.16 kW

Applied Circuits: A

No. of Luminaires: 4

Total Load: 2.16 kW

Installation Requirements: Results assume $\pm 3\%$ nominal voltage at line side of the driver and structures located within 3 feet (1m) of design locations.



The diagram shows a horizontal bar representing a 40-minute class period, divided into segments for different activities. The segments are labeled with their durations: 0', 20', and 40'.

Activity	Duration
Introduction	0' - 10'
Direct Instruction	10' - 20'
Guided Practice	20' - 30'
Independent Practice	30' - 40'

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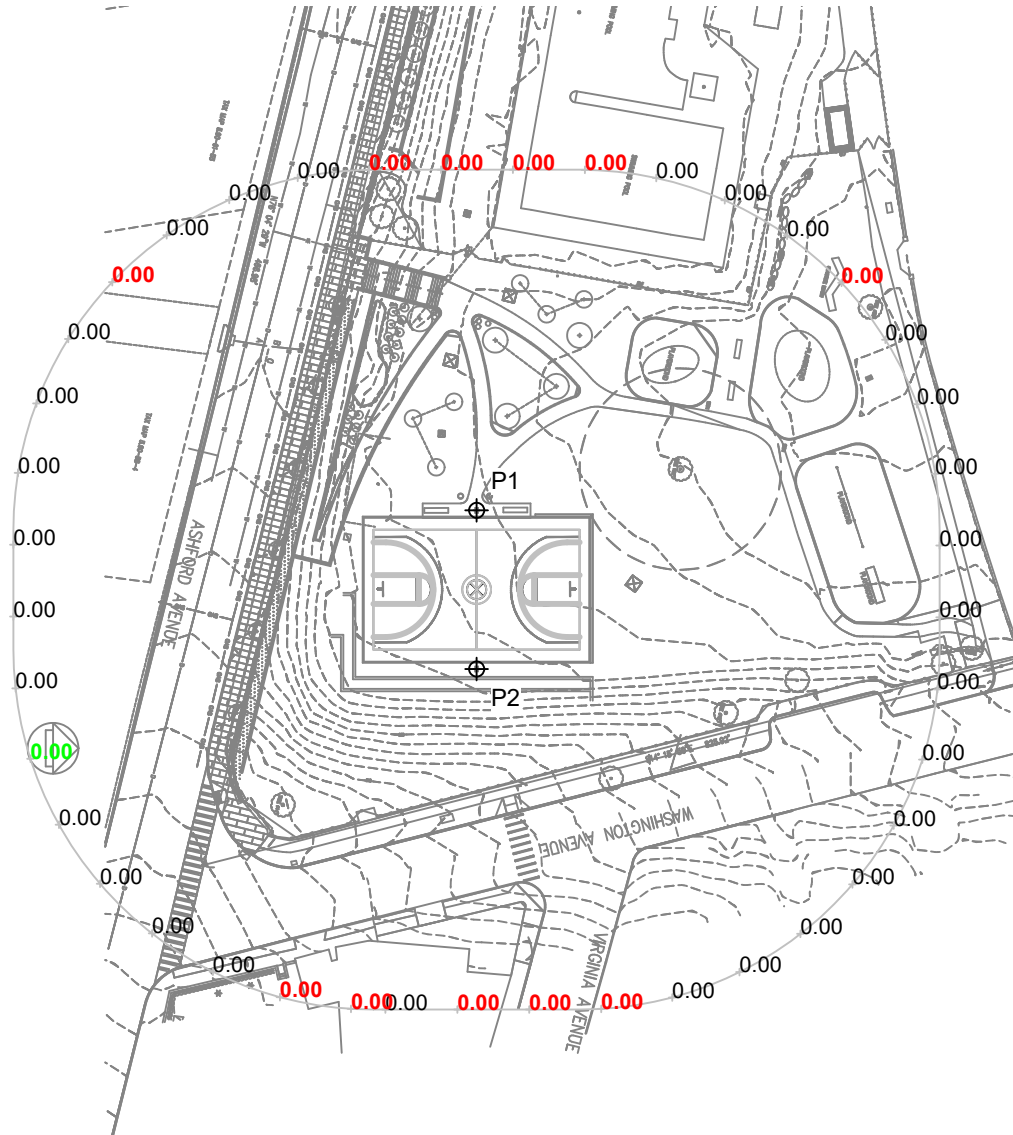
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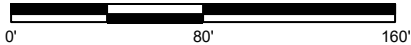
ILLUMINATION SUMMARY

EQUIPMENT LIST FOR AREAS SHOWN

Pole				Luminaires				
QTY	LOCATION	SIZE	GRADE ELEVATION	MOUNTING HEIGHT	LUMINAIRE TYPE	QTY / POLE	THIS GRID	OTHER GRIDS
2	P1-P2	40'	-	40'	TLC-LED-550	2	2	0
2	TOTALS					4	4	0



SCALE IN FEET 1 : 80



Pole location(s) ⊕ dimensions are relative to 0,0 reference point(s) ⊗

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Gould Park Basketball

Dobbs Ferry, NY

GRID SUMMARY

Name: Basketball Spill 150'
Spacing: 30.0'
Height: 3.0' above grade

ILLUMINATION SUMMARY

HORIZONTAL FOOTCANDLES

Entire Grid
Scan Average: 0.0002
Maximum: 0.00
Minimum: 0.00
No. of Points: 41

LUMINAIRE INFORMATION

Applied Circuits: A
No. of Luminaires: 4
Total Load: 2.16 kW

Guaranteed Performance: The ILLUMINATION described above is guaranteed per your Musco Warranty document.

Field Measurements: Individual field measurements may vary from computer-calculated predictions and should be taken in accordance with IESNA RP-6-15.

Electrical System Requirements: Refer to Amperage Draw Chart and/or the "Musco Control System Summary" for electrical sizing.

Installation Requirements: Results assume ± 3% nominal voltage at line side of the driver and structures located within 3 feet (1m) of design locations.



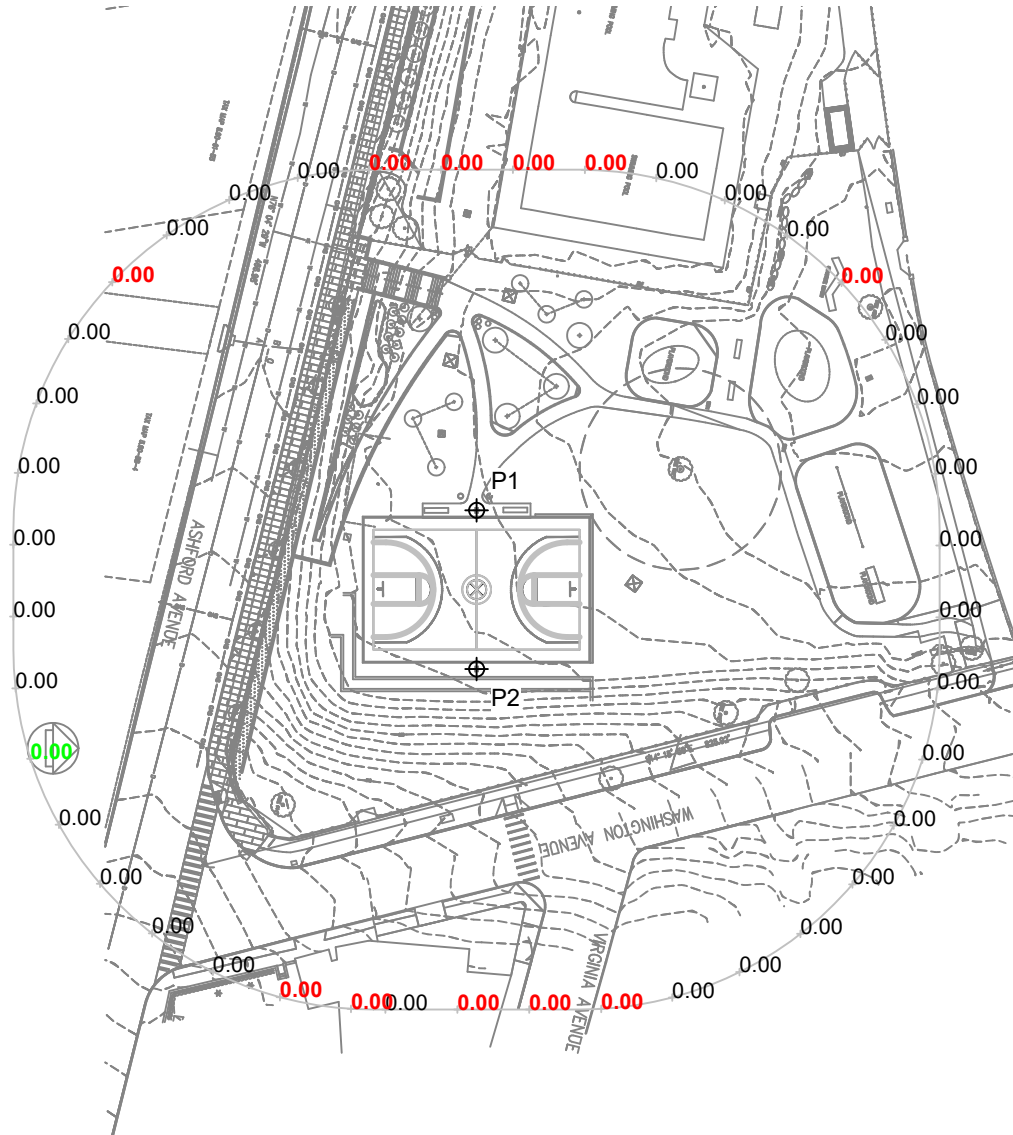
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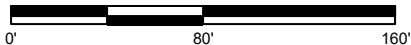
ILLUMINATION SUMMARY

EQUIPMENT LIST FOR AREAS SHOWN

Pole				Luminaires				
QTY	LOCATION	SIZE	GRADE ELEVATION	MOUNTING HEIGHT	LUMINAIRE TYPE	QTY / POLE	THIS GRID	OTHER GRIDS
2	P1-P2	40'	-	40'	TLC-LED-550	2	2	0
2	TOTALS					4	4	0



SCALE IN FEET 1 : 80



Pole location(s) dimensions are relative to 0,0 reference point(s)

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Gould Park Basketball

Dobbs Ferry, NY

GRID SUMMARY

Name: Basketball Spill 150'
Spacing: 30.0'
Height: 3.0' above grade

ILLUMINATION SUMMARY

MAX VERTICAL FOOTCANDLES

Entire Grid
Scan Average: 0.0009
Maximum: 0.00
Minimum: 0.00
No. of Points: 41

LUMINAIRE INFORMATION

Applied Circuits: A
No. of Luminaires: 4
Total Load: 2.16 kW

Guaranteed Performance: The ILLUMINATION described above is guaranteed per your Musco Warranty document.

Field Measurements: Individual field measurements may vary from computer-calculated predictions and should be taken in accordance with IESNA RP-6-15.

Electrical System Requirements: Refer to Amperage Draw Chart and/or the "Musco Control System Summary" for electrical sizing.

Installation Requirements: Results assume $\pm 3\%$ nominal voltage at line side of the driver and structures located within 3 feet (1m) of design locations.

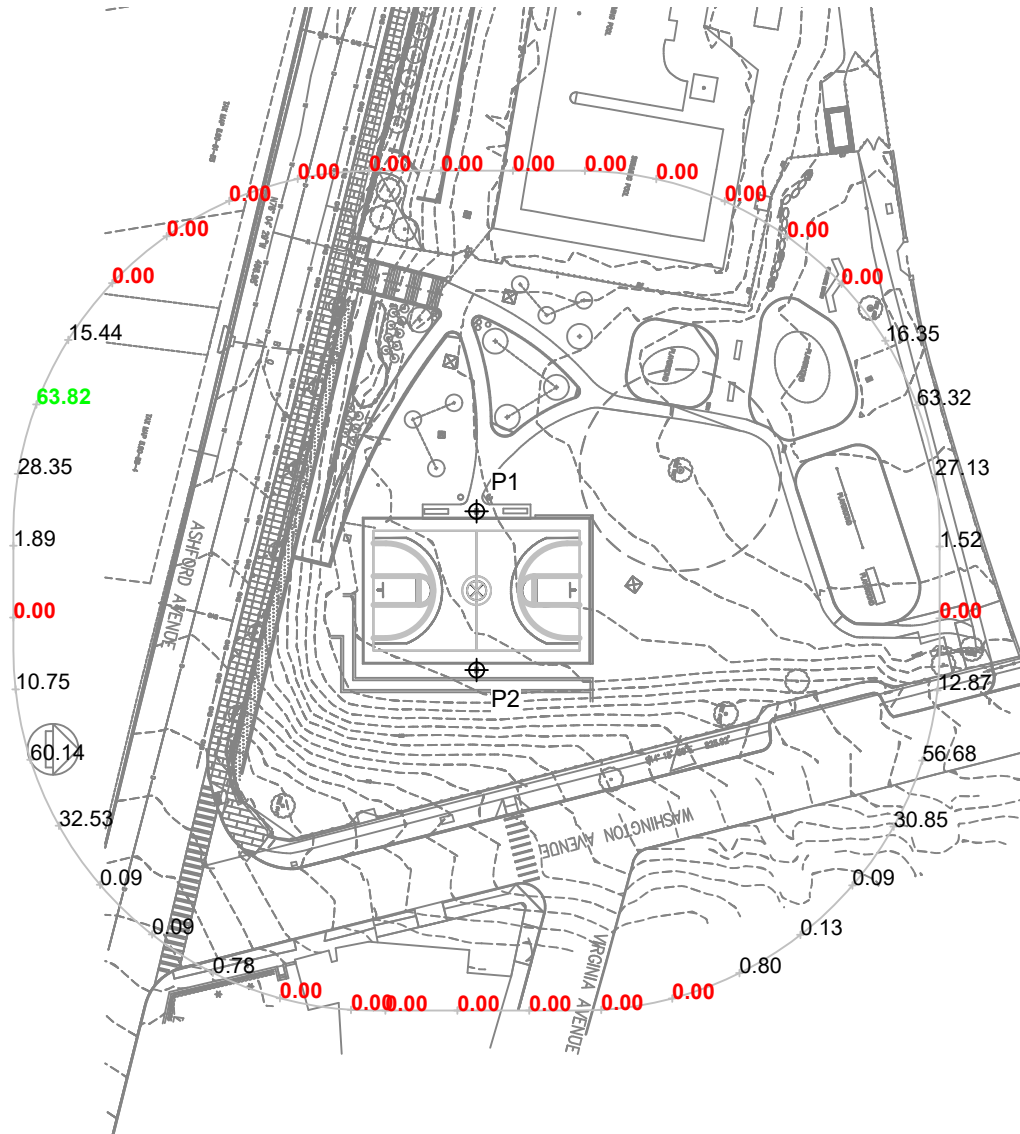


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ILLUMINATION SUMMARY

Pole				Luminaires				
QTY	LOCATION	SIZE	GRADE ELEVATION	MOUNTING HEIGHT	LUMINAIRE TYPE	QTY / POLE	THIS GRID	OTHER GRIDS
2	P1-P2	40'	-	40'	TLC-LED-550	2	2	0
2	TOTALS					4	4	0



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ILLUMINATION SUMMARY

EQUIPMENT LIST FOR AREAS SHOWN

Pole				Luminaires				
QTY	LOCATION	SIZE	GRADE ELEVATION	MOUNTING HEIGHT	LUMINAIRE TYPE	QTY / POLE	THIS GRID	OTHER GRIDS
2	P1-P2	40'	-	40'	TLC-LED-550	2	2	0
2	TOTALS					4	4	0

Gould Park Basketball

Dobbs Ferry, NY

GRID SUMMARY

Name: Blanket Spill
Size: 86' x 50'
Spacing: 10.0' x 10.0'
Height: 3.0' above grade

ILLUMINATION SUMMARY

MAINTAINED HORIZONTAL FOOTCANDLES

Entire Grid

Scan Average: 1.90

Maximum: 22

Minimum: 0

Avg / Min: -

Max / Min: -

UG (adjacent pts): 21.29

CU: 1.00

No. of Points: 730

LUMINAIRE INFORMATION

Applied Circuits: A

No. of Luminaires: 4

Total Load: 2.16 kW

Guaranteed Performance: The ILLUMINATION described above is guaranteed per your Musco Warranty document and includes a 0.95 dirt depreciation factor.

Field Measurements: Individual field measurements may vary from computer-calculated predictions and should be taken in accordance with IESNA RP-6-15.

Electrical System Requirements: Refer to Amperage Draw Chart and/or the "Musco Control System Summary" for electrical sizing.

Installation Requirements: Results assume $\pm 3\%$ nominal voltage at line side of the driver and structures located within 3 feet (1m) of design locations.



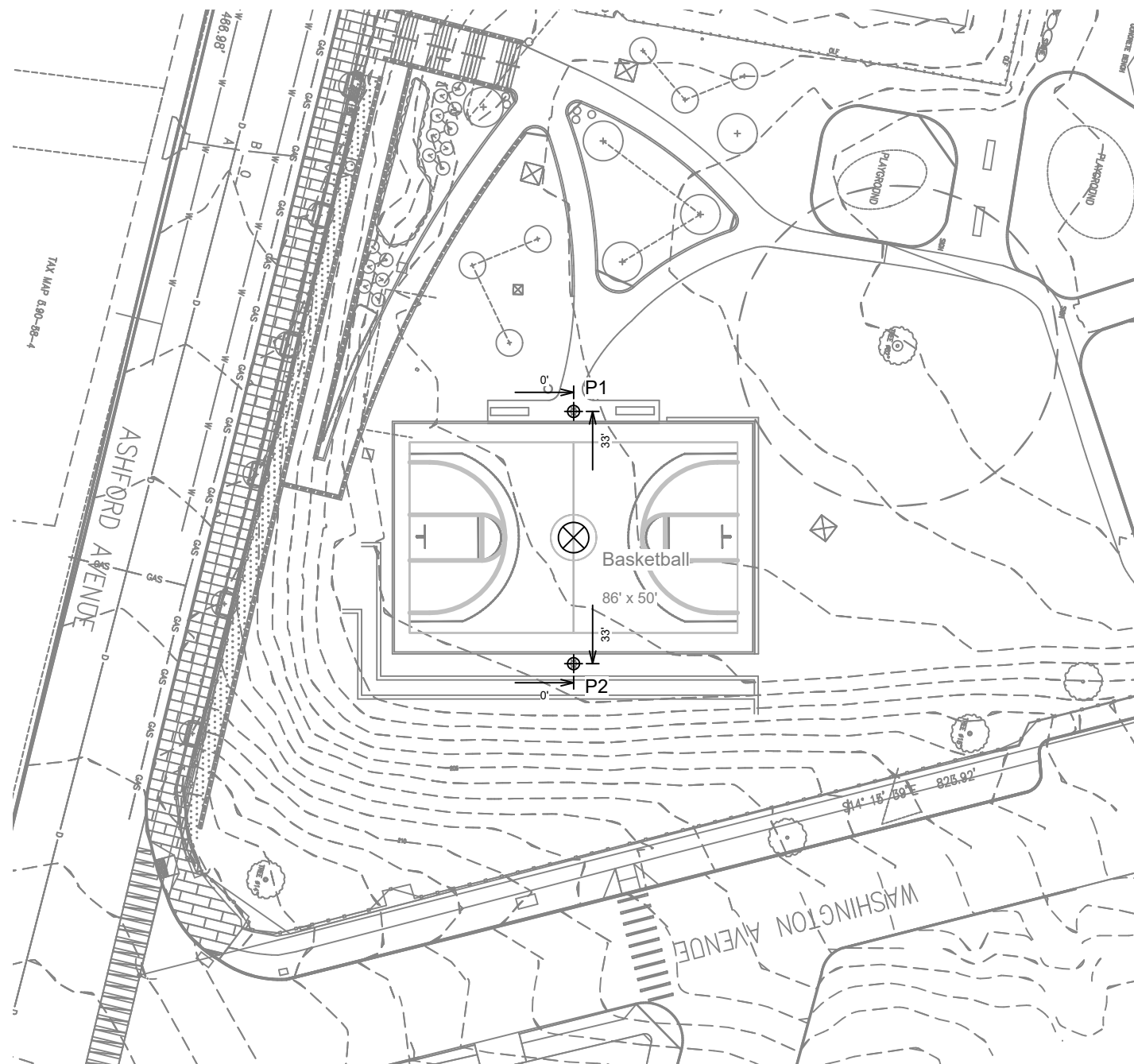
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ILLUMINATION SUMMARY



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Gould Park Basketball

Dobbs Ferry, NY

EQUIPMENT LAYOUT

INCLUDES:

· Basketball

Electrical System Requirements: Refer to Amperage Draw Chart and/or the "Musco Control System Summary" for electrical sizing.

Installation Requirements: Results assume $\pm 3\%$ nominal voltage at line side of the driver and structures located within 3 feet (1m) of design locations.

EQUIPMENT LIST FOR AREAS SHOWN

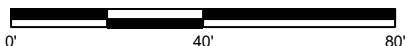
QTY	LOCATION	Pole		GRADE ELEVATION	MOUNTING HEIGHT	Luminaires		QTY / POLE
		SIZE				TYPE		
2	P1-P2	40'		-	40'	TLC-LED-550		2
2	TOTALS							4

SINGLE LUMINAIRE AMPERAGE DRAW CHART

Driver (.90 min power factor)	Line Amperage Per Luminaire (max draw)						
Single Phase Voltage	208 (60)	220 (60)	240 (60)	277 (60)	347 (60)	380 (60)	480 (60)
TLC-LED-550	3.2	3.0	2.8	2.4	1.9	1.8	1.4



SCALE IN FEET 1 : 40



Pole location(s) \oplus dimensions are relative to 0,0 reference point(s) \otimes



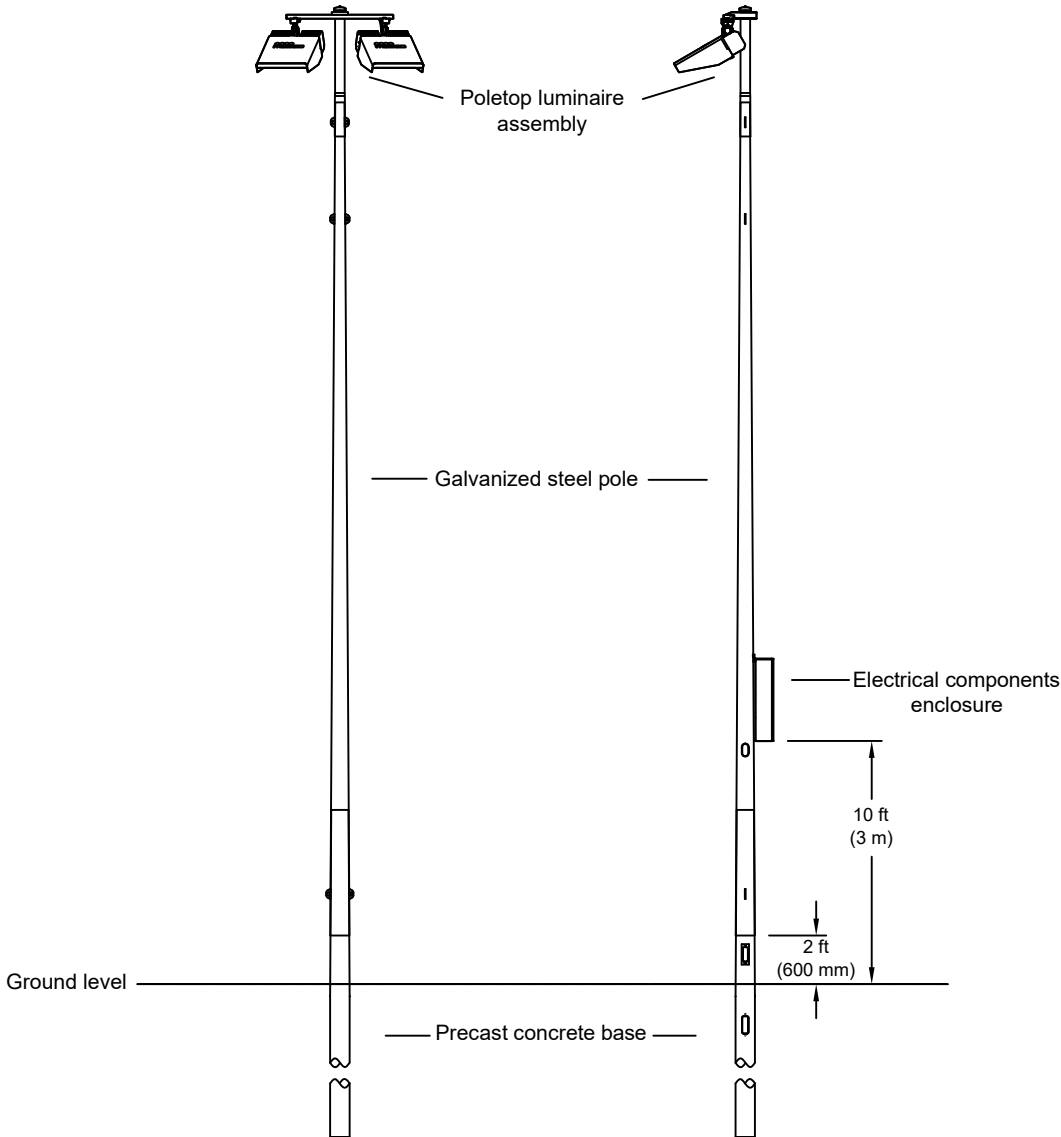
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EQUIPMENT LAYOUT

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POLE(S): P1, P2

Musco 40FT Light-Structure System™ pole
TLC for LED™ luminaires

PROJECT NUMBER: 211290
DRAWN BY: K.Martin
SCALE: NTS
DATE: 07/18/2023
DRAWING NUMBER: 211290P1
1 OF 1 SHEETS

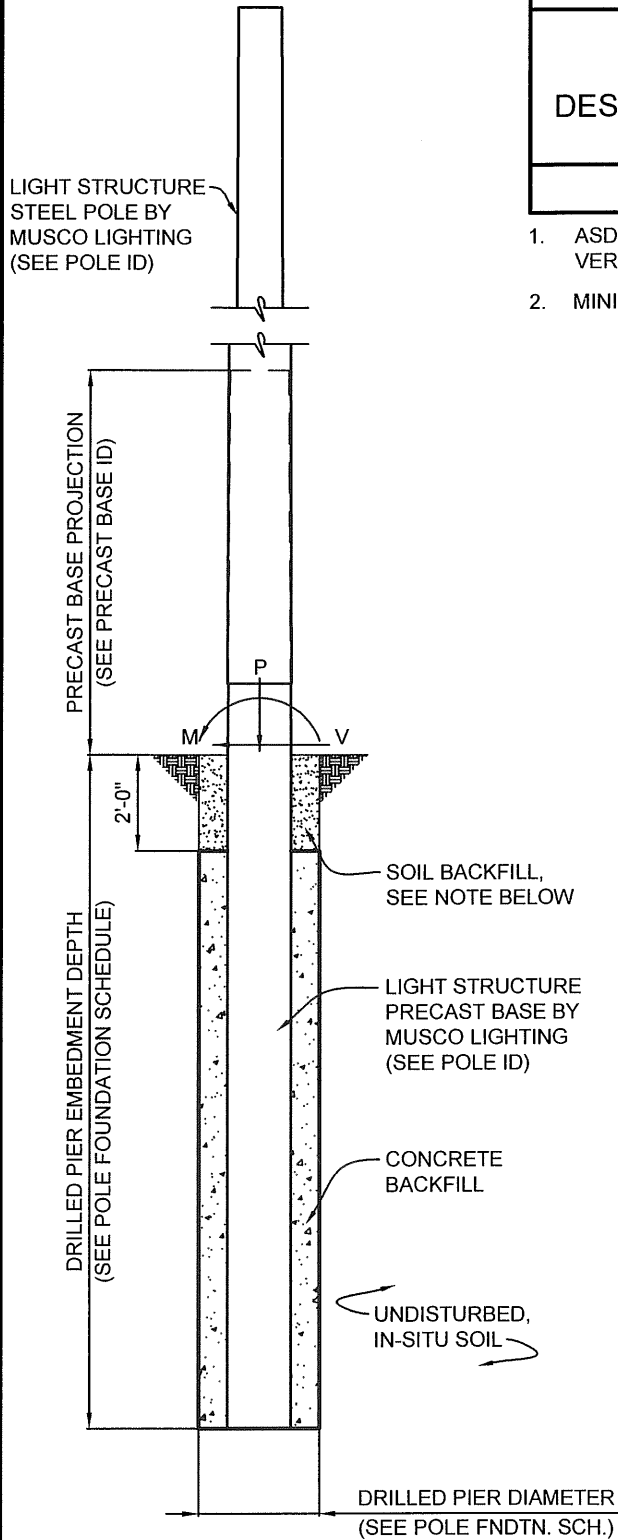
DATE:	BY:	R.L.	REVISIONS:



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100 1st Avenue West
Oskaloosa, Iowa 52577
+1-800-825-6020
+1-641-673-0411

Gould Park Basketball
Dobbs Ferry, NY
Pole Configuration Drawing

B



POLE FOUNDATION ELEV.

SCALE: NOT TO SCALE

SOIL BACKFILL NOTE:
THE TOP TWO FEET OF ANNULUS SHALL BE BACKFILLED WITH SOIL, WITH A CLASSIFICATION OF CLASS 5 (TABLE 1806.2) OR BETTER. COMPACTION, 95% FOR COHESIVE SOIL AND 98% FOR A COHESIONLESS SOIL BASED UPON STANDARD PROCTOR TESTING (ASTM D698).

POLE FOUNDATION SCHEDULE						
POLE DESIGNATION	FORCES (1.)			DRILLED PIER		
	MOMENT (M) FT-LBS	SHEAR (V) LBS	VERTICAL (P) LBS	DIAMETER INCHES	EMBEDMENT DEPTH	CONCRETE BACKFILL YD ³ (2.)
P1, P2	11,092	450	471	30	8'-0"	1.0

- ASD LOAD COMBINATION D + 0.6W.
VERTICAL FORCE IS WEIGHT OF DRESSED POLE (DOES NOT INCLUDE PRECAST BASE WEIGHT).
- MINIMUM CONCRETE BACKFILL VOLUME, SITE CONDITIONS MAY REQUIRE ADDITIONAL BACKFILL.

PRECAST BASE IDENTIFICATION					
PRECAST BASE TYPE	PRECAST BASE WEIGHT	PRECAST BASE LENGTH	PROJECTION ABOVE GRADE	STANDARD EMBEDMENT	OUTSIDE DIAMETER
1B	920 LBS	15'-2"	7'-2"	8'-0"	9.56"

POLE IDENTIFICATION				
POLE DESIGNATION	POLE TYPE	PRECAST BASE TYPE	FIXTURE CONFIGURATION (FIX. PER XARM)	FIXTURE AND ACCESSORIES EPA (FT ²)
P1, P2	LSS40A	1B	2 (2)	3.0

DESIGN NOTES

DESIGN PARAMETERS:
WIND: V = 115 MPH, V_{asg} = 89 MPH (EXPOSURE C, RISK CATEGORY II) PER 2020 BUILDING CODE OF NEW YORK STATE (ASCE 7-16).
DESIGN WIND PARAMETERS ARE AS NOTED, ACTUAL EXPOSURE MUST BE VERIFIED FOR THE SITE BY THE PROPER GOVERNING OFFICIAL.

GEOTECHNICAL PARAMETERS:
ALLOWABLE END BEARING SOIL PRESSURE: 3.5 KSF
ALLOWABLE LATERAL SOIL BEARING PRESSURE:
0 PSF/FT (GRADE TO -2'-0"); 230 PSF/FT (-2'-0" TO -5'-0"); 299 PSF/FT (-5'-0" TO -8'-0")
IN ACCORDANCE WITH THE 2020 BUILDING CODE OF NEW YORK STATE, CHAPTER 18.

DESIGN SOIL PARAMETERS ARE AS NOTED. ACTUAL ALLOWABLE SOIL PARAMETERS MUST BE VERIFIED ON SITE. REFERENCE GEOTECHNICAL ENGINEERING REPORT, FILE NO. 0070-028.00, PREPARED BY DOWN TO EARTH CONSULTING, LLC; NAUGATUCK, CT.

A GEOTECHNICAL ENGINEER OR REPRESENTATIVE OF IS RECOMMENDED (NOT REQUIRED) TO BE AVAILABLE AT THE TIME OF THE FOUNDATION INSTALLATION TO VERIFY THE SOIL DESIGN PARAMETERS AND TO PROVIDE ASSISTANCE IF ANY PROBLEMS ARISE IN FOUNDATION INSTALLATION.

ENCOUNTERING SOIL FORMATIONS THAT WILL REQUIRE SPECIAL DESIGN CONSIDERATIONS OR EXCAVATION PROCEDURES MAY OCCUR. POLE FOUNDATIONS WILL NEED TO BE ANALYZED ACCORDING TO THE SOIL CONDITIONS THAT EXIST. IF ANY DISCREPANCIES OR INCONSISTENCIES ARISE, NOTIFY THE ENGINEER OF SUCH DISCREPANCIES. FOUNDATIONS WILL THEN BE REVISED ACCORDINGLY. REVISIONS WILL BE ANALYZED PER RECOMMENDATIONS DIRECTED BY A REGISTERED ENGINEER.

ALL EXCAVATIONS MUST BE FREE OF LOOSE SOIL AND DEBRIS PRIOR TO FOUNDATION INSTALLATION AND CONCRETE BACKFILL PLACEMENT. TEMPORARY CASINGS OR DRILLERS SLURRY MAY BE USED TO STABILIZE THE EXCAVATION DURING INSTALLATION. CASINGS MUST BE REMOVED DURING CONCRETE BACKFILL PLACEMENT. CONCRETE BACKFILL MUST BE PLACED WITH A TREMIE WHEN SLURRY OR WATER IS PRESENT WITHIN THE EXCAVATION.

CONTRACTOR MUST BE FAMILIAR WITH THE COMPLETE SOIL INVESTIGATION REPORT AND BORINGS, AND CONTACT THE GEOTECHNICAL FIRM (IF NECESSARY) TO UNDERSTAND THE SOIL CONDITIONS AND THE POSSIBILITY OF GROUND WATER PUMPING AND EXCAVATION STABILIZATION OR BRACING DURING PRECAST BASE INSTALLATION AND PLACEMENT OF CONCRETE BACKFILL.

CONCRETE:
CONCRETE SHALL BE AIR-ENTRAINED AND HAVE A MINIMUM COMPRESSIVE DESIGN STRENGTH AT 28 DAYS OF 3,000 PSI. 3,000 PSI CONCRETE SPECIFIED FOR EARLY POLE ERECTION, ACTUAL REQUIRED MINIMUM ALLOWABLE CONCRETE STRENGTH IS 1,000 PSI. ALL PIERS AND CONCRETE BACKFILL MUST BEAR ON AND AGAINST FIRM UNDISTURBED SOIL.

GENERAL NOTES:
FIXTURES MUST BE LOCATED TO MAINTAIN 10'-0" MINIMUM HORIZONTAL CLEARANCE FROM ANY OBSTRUCTION. ENGINEER MUST BE NOTIFIED IF FOUNDATIONS ARE NEAR ANY RETAINING WALLS OR WITHIN / NEAR ANY SLOPES STEEPER THAN 3H : 1V. POLES, FIXTURES, PRECAST BASES, ELECTRICAL ITEMS AND INSTALLATION PER MUSCO LIGHTING.



IT IS VIOLATION OF ARTICLE 145, SECTION 7209 FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECTION OF A LICENSED ENGINEER, TO ALTER AN ITEM IN ANY WAY.

GOULD PARK
BASKETBALL
ATHLETIC LIGHTING
DOBBS FERRY, NY



STRUCTURAL
ENGINEERS, P.C.
114 NICHOLAS DRIVE
MARSHALLTOWN, IOWA 50158
PHONE NUMBER: 641-752-6334
EMAIL: MSL.INFO@SEPC.BIZ

DRAWING TITLE:
POLE AND FOUNDATION
SCALE: SEE PLAN
NOTES:
SCAN #211290A

PROJECT NUMBER
211290

DATE
26 JULY 2023

DRAWING NUMBER
C1

OF ONE

System Requirements: Control System Summary

Project Name: Gould Park Basketball | Project #: 211290

Control System ID: 1 of 1

Distribution Panel Location/ID: Basketball

Project Information

Control System

Control System ID: 1 of 1

Control System Type: Control-Link * Control and Monitoring System

Communication Type: PowerLine-ST

Project Notes:

Power Requirements

Control cabinet(s):

Control voltage (phase to neutral) 120/60

VA loading - Inrush 1063.0

VA loading - Sealed 128.0

Lighting Circuits:

Voltage/Hertz/Phase 208/60/1

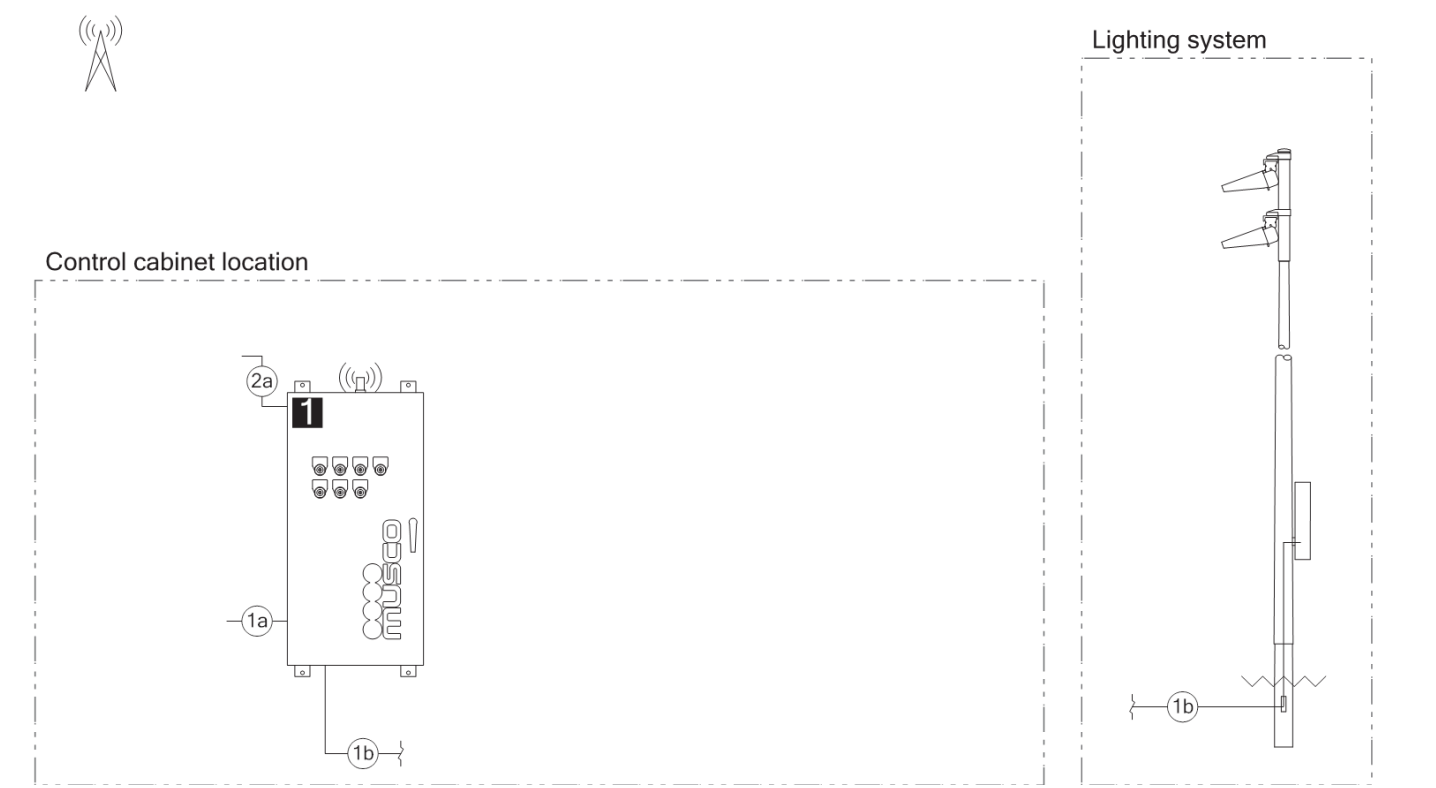
Equipment Listing

Description	Qty	Size (in)
Control and monitoring cabinet - primary	1	24 X 48

Important Notes:

1. Please confirm that the lighting circuit voltage listed above is accurate for this facility. This is the voltage/phase being connected and utilized at each lighting pole's electrical components enclosure disconnect. Inaccurate voltage/phase can result in additional costs and delays. Contact your Musco sales representative to confirm this item.
2. In a 3 phase design, all 3 phases are to be run to each pole location. Musco's single phase luminaires come pre-wired to utilize all 3 phases across the entire facility.
3. One contactor is required for each circuit at each pole location. Contactors are 3 pole and 100% rated for the published continuous load.
4. If the lighting system will be fed from more than one distribution location, additional equipment may be required. Contact your Musco sales representative.
5. Size overcurrent devices using the full load amps column of the Circuit Summary by Switch chart (Minimum power factor is 0.9). Size conduit per code unless otherwise specified as larger to allow for harness connectors.
6. Avoid use of in-ground junction/pull boxes when possible. If used, all wire connectors must be UL listed for Wet Locations to prevent leakage current.
7. Control power wiring must be in separate conduit from line or load power wiring. Communication cables must be in separate conduit from any power wiring.
8. Refer to Installation Instructions for more details on equipment information and the installation requirements.

Equipment Layout and Connection Details



Connection Details		Equipment	
ID	Description	ID	Description
1a	Line power to contactors, and equipment grounding conductor. Requires one circuit per contactor, size wiring per load and voltage drop.	1	Control and monitoring cabinet - primary
1b	Load power from contactors, and equipment grounding conductor. Requires one circuit per contactor, size wiring per load and voltage drop.		
2a	Control power with equipment ground to control cabinet. Requires dedicated 20 A circuit. Provide transformer if control voltage not present.		

System Requirements: Control System Summary

Project Name: Gould Park Basketball | Project #: 211290

Control System ID: 1 of 1

Distribution Panel Location/ID: Basketball

Circuit Summary

Switching Schedule

Field/Switch Description	Switches
Basketball	1

Control Module ID: 1

Lighting Circuit Voltage: 208/60/1

Circuit Summary by Switch

Switch	Zone Description	Pole ID	Qty of Fixtures	Full load amperes	Contactor Size (Amps)	Cabinet #	Contactor ID
1	Basketball	P1	2	6.38	30	1	C1
	Basketball	P2	2	6.38	30	1	C2

900E1 - COMMON WORK RESULTS FOR ELECTRICAL

PART 1 - GENERAL

900E1 1.1 SECTION REQUIREMENTS

- A. Delegated Design: Design supports for multiple raceways, including comprehensive engineering analysis by a qualified professional engineer, using performance requirements and design criteria indicated.
 - 1. Design supports for multiple raceways capable of supporting combined weight of supported systems and its contents.
 - 2. Design equipment supports capable of supporting combined operating weight of supported equipment and connected systems and components.
 - 3. Rated Strength: Adequate in tension, shear, and pullout force to resist maximum loads calculated or imposed for this Project, with a minimum structural safety factor of five times the applied force.
- B. Submittals:
 - 1. Product Data: For sleeve seals.
 - 2. Shop Drawings: For hangers and supports signed and sealed by a qualified professional engineer. Show fabrication and installation details.
- C. Seismic-restraint devices shall have horizontal and vertical load testing and analysis and shall bear anchorage preapproval OPA number from OSHPD, preapproval by ICC-ES, or preapproval by another agency acceptable to authorities having jurisdiction, showing maximum seismic-restraint ratings. Calculations (including combining shear and tensile loads) to support seismic-restraint designs must be signed and sealed by a qualified professional engineer.
- D. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.
- E. Comply with NFPA 70.

PART 2 - PRODUCTS

900E1 2.1 RACEWAYS

- A. Raceways:
 - 1. RNC: NEMA TC 2, Type EPC-40-PVC, with NEMA TC3 fittings.
 - 2. Raceway Fittings: Specifically designed for raceway type used in Project.

900E1 2.2 CONDUCTORS AND CABLES

A. Conductors:

1. Conductors, No. 10 AWG and Smaller: Solid or stranded copper.
2. Conductors, Larger Than No. 10 AWG: Stranded copper.
3. Insulation: Thermoplastic, rated at 75 deg C minimum.
4. Wire Connectors and Splices: Units of size, ampacity rating, material, type, and class suitable for service indicated.

900E1 2.3 GROUNDING MATERIALS

A. Conductors: Solid for No. 8 AWG and smaller and stranded for No. 6 AWG and larger unless otherwise indicated.

1. Insulated Conductors: Copper wire or cable insulated for 600 V unless otherwise required by applicable Code or authorities having jurisdiction.
2. Bare, Solid-Copper Conductors: Comply with ASTM B 3.
3. Bare, Stranded-Copper Conductors: Comply with ASTM B 8.

B. Ground Rods: Copper-clad steel, sectional type; 3/4 inches in diameter by 120 inches in length.

C. Bolted Connectors for Conductors and Pipes: Copper or copper alloy, bolted pressure-type, with at least two bolts with clamp-type pipe connectors sized for pipe.

D. Welded Connectors: Exothermic-welding kits of types recommended by kit manufacturer for materials being joined and installation conditions.

900E1 2.4 ELECTRICAL IDENTIFICATION MATERIALS

A. Raceway Identification Materials: Self-adhesive, color-coding vinyl tape; flexible, preprinted, self-adhesive vinyl.

B. Conductor Identification Materials: Color-Coding Conductor Tape: Self-adhesive vinyl tape 1 to 2 inches wide.

C. Underground-Line Warning Tape: Permanent, bright-colored, continuous-printed, polyethylene tape with continuous metallic strip or core.

D. Tape Markers for Wire: Vinyl or vinyl-cloth, self-adhesive, wraparound type with circuit identification legend machine printed by thermal transfer or equivalent process.

E. Self-Adhesive Warning Labels: Factory printed, multicolor, pressure-sensitive adhesive labels, configured for display on front cover, door, or other access to equipment unless otherwise indicated.

F. Metal-Backed, Butyrate Warning Signs: Weather-resistant, nonfading, preprinted, cellulose-acetate butyrate signs with 0.0396-inch galvanized-steel backing; and with colors, legend, and size required for application.

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- G. Equipment Identification Labels: Engraved, laminated acrylic or melamine label; punched or drilled for screw mounting. White letters on a dark-gray background; red letters for emergency systems.
- H. Fasteners: Self-tapping, stainless-steel screws or stainless-steel machine screws with nuts and flat and lock washers.

900E1 2.5 SUPPORT AND ANCHORAGE COMPONENTS

- A. Steel Slotted Support Systems: Comply with MFMA-4, factory-fabricated components for field assembly, and provide finish suitable for the environment in which installed.
 - 1. Channel Dimensions: Selected for structural loading.
- B. Raceway and Cable Supports: As described in NECA 1.
- C. Conduit and Cable Support Devices: Steel and malleable-iron hangers, clamps, and fittings.
- D. Support for Conductors in Vertical Conduit: Factory-fabricated assembly consisting of threaded malleable-iron body and insulating wedging.
- E. Structural Steel for Fabricated Supports and Restraints: ASTM A 36/A 36M, steel plates, shapes, and bars; black and galvanized.
- F. Mounting, Anchoring, and Attachment Components:
 - 1. Powder-Actuated Fasteners: Threaded-steel stud.
 - 2. Mechanical-Expansion Anchors: Insert-wedge-type, zinc-coated steel, for use in hardened Portland cement concrete.
 - 3. Concrete Inserts: Steel or malleable-iron, slotted-support-system units similar to MSS Type 18; complying with MFMA-3 or MSS SP-58.
 - 4. Clamps for Attachment to Steel Structural Elements: MSS SP-58, type suitable for attached structural element.
 - 5. Through Bolts: Structural type, hex head, high strength; complying with ASTM A 325.
 - 6. Toggle Bolts: All-steel springhead type.
 - 7. Hanger Rods: Threaded steel.

900E1 2.6 SEISMIC-RESTRAINT COMPONENTS

- A. Rated strengths, features, and application requirements shall be as defined in reports by an agency acceptable to authorities having jurisdiction.
 - 1. Structural Safety Factor: Strength in tension, shear, and pullout force of components used shall be at least five times the maximum seismic forces to which they will be subjected.
- B. Angle and Channel-Type Brace Assemblies: Steel angles or steel slotted-support-system components; with accessories for attachment to braced component at one end and to building structure at the other end.

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- C. Cable Restraints: ASTM A 603, zinc-coated, steel wire rope attached to steel or stainless-steel thimbles, brackets, swivels, and bolts designed for restraining cable service.
 - 1. Seismic Mountings, Anchors, and Attachments: Devices as specified in "Support and Anchorage Components" Article, selected to resist seismic forces.
 - 2. Hanger Rod Stiffener: Steel tube or steel slotted-support-system sleeve with internally bolted connections to hanger rod. Do not weld stiffeners to rods.
 - 3. Bushings for Floor-Mounted Equipment Anchors: Neoprene units designed for seismically rated rigid equipment mountings, and matched to type and size of anchor bolts and studs used.
 - 4. Bushing Assemblies for Wall-Mounted Equipment Anchorage: Assemblies of neoprene elements and steel sleeves designed for seismically rated rigid equipment mountings, and matched to type and size of attachment devices used.

900E1 2.7 SLEEVES FOR RACEWAYS AND CABLES

- A. Steel Pipe Sleeves: ASTM A 53/A 53M, Type E, Grade B, Schedule 40, galvanized steel, plain ends.
- B. Cast-Iron Pipe Sleeves: Cast or fabricated "wall pipe," equivalent to ductile-iron pressure pipe, with plain ends and integral waterstop unless otherwise indicated.
- C. Sleeves for Rectangular Openings: Galvanized-steel sheet.
- D. Sleeve Seals: Modular sealing device, designed for field assembly, to fill annular space between sleeve and raceway or cable.
 - 1. Sealing Elements: EPDM interlocking links shaped to fit surface of cable or conduit. Include type and number required for material and size of raceway or cable.
 - 2. Pressure Plates: Carbon steel. Include two for each sealing element.
 - 3. Connecting Bolts and Nuts: Carbon steel with corrosion-resistant coating of length required to secure pressure plates to sealing elements. Include one for each sealing element.

900E1 2.8 GROUT

- A. Nonmetallic, Shrinkage-Resistant Grout: ASTM C 1107, factory-packaged, nonmetallic aggregate grout, noncorrosive, nonstaining, mixed with water to consistency suitable for application and a 30-minute working time.

PART 3 - EXECUTION

900E1 3.1 GENERAL ELECTRICAL EQUIPMENT INSTALLATION REQUIREMENTS

- A. Install electrical equipment to allow maximum possible headroom unless specific mounting heights that reduce headroom are indicated.

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- B. Install electrical equipment to provide for ease of disconnecting the equipment with minimum interference to other installations.
- C. Install electrical equipment to allow right of way for piping and conduit installed at required slope.
- D. Install electrical equipment to ensure that connecting raceways, cables, wireways, cable trays, and busways are clear of obstructions and of the working and access space of other equipment.
- E. Install required supporting devices and set sleeves in cast-in-place concrete, masonry walls, and other structural components as they are constructed.
- F. Coordinate location of access panels and doors for electrical items that are behind finished surfaces or otherwise concealed. Comply with requirements in Division 08 Section "Access Doors and Frames."
- G. Install sleeve and sleeve seals of type and number required for sealing electrical service penetrations of exterior walls.
- H. Comply with NECA 1.

900E1 3.2 RACEWAY AND CABLE INSTALLATION

- A. Outdoor Raceways Applications:
 - 1. Exposed or Concealed: IMC.
 - 2. Underground, Single Run: RNC.
 - 3. Connection to Vibrating Equipment: LFMC.
 - 4. Boxes and Enclosures: Metallic, NEMA 250, Type 3R or Type 4.
- B. Indoor Raceways Applications:
 - 1. Exposed or Concealed: EMT.
 - 2. Connection to Vibrating Equipment: FMC; in wet or damp locations, use LFMC.
 - 3. Damp or Wet Locations: IMC.
 - 4. Boxes and Enclosures: Metallic, NEMA 250, Type 1, unless otherwise indicated.
- C. Conceal raceways and cables, unless otherwise indicated, within finished walls, ceilings, and floors.
- D. Install raceways and cables at least 6 inches away from parallel runs of flues and steam or hot-water pipes. Locate horizontal raceway runs above water and steam piping.
- E. Install raceways embedded in slabs in middle third of slab thickness where practical, and leave at least 1-inch-thick concrete cover.
 - 1. Secure raceways to reinforcing rods to prevent sagging or shifting during concrete placement.
 - 2. Space raceways laterally to prevent voids in concrete.

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3. Install conduit larger than 1-inch trade size, parallel to or at right angles to main reinforcement. Where conduit is at right angles to reinforcement, place conduit close to slab support.
 4. Transition from nonmetallic tubing to Schedule 80 nonmetallic conduit, rigid steel conduit, or IMC before rising above floor.
- F. Raceways Embedded in Slabs:
1. Run conduit larger than 1-inch trade size, parallel or at right angles to main reinforcement. Where at right angles to reinforcement, place conduit close to slab support.
 2. Arrange raceways to cross building expansion joints at right angles with expansion fittings.
- G. Install pull wires in empty raceways.
- H. Connect motors and equipment subject to vibration, noise transmission, or movement with a 72-inch maximum length of flexible conduit.
- I. Install raceways and cables conceal within finished walls, ceilings, and floors unless otherwise indicated.
- J. Install raceways and cables at least 6 inches away from parallel runs of flues and steam or hot-water pipes. Locate horizontal raceway runs above water and steam piping.

900E1 3.3 WIRING METHODS

- A. Feeders and Branch Circuits Concealed, below Slabs-on-Grade, and underground: Type THHN-THWN, single conductors in raceway.
- B. Cord Drops and Portable Appliance Connections: Type SO, hard service cord with stainless-steel, wire-mesh, and strain relief device at terminations to suit application.
- C. Class 2 Control Circuits: Type THHN-THWN, in raceway.

900E1 3.4 GROUNDING

- A. Underground Grounding Conductors: Install bare copper conductor as shown on plans. Bury at least 24 inches below grade.
- B. Pipe and Equipment Grounding Conductor Terminations: Bolted.
- C. Underground Connections: Welded.
- D. Connections to Structural Steel: Bolted.
- E. Install grounding conductors routed along shortest and straightest paths possible unless otherwise indicated or required by Code. Avoid obstructing access or placing conductors where they may be subjected to strain, impact, or damage.

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- F. Install ground rods driven into ground until tops are 2 inches below finished floor or final grade unless otherwise indicated.
- G. Make connections without exposing steel or damaging coating if any.
- H. Install bonding straps and jumpers in locations accessible for inspection and maintenance, except where routed through short lengths of conduit.
- I. Bond straps directly to basic structure, taking care not to penetrate any adjacent parts.
- J. Bond to equipment mounted on vibration isolation hangers and supports so vibration is not transmitted to rigidly mounted equipment.
- K. Grounding and Bonding for Piping:
 - 1. Metal Water Service Pipe: Install insulated copper grounding conductors, in conduit, from building's main service equipment, or grounding bus, to main metal water service entrances to building. Connect grounding conductors to main metal water service pipes, using a bolted clamp connector or by bolting a lug-type connector to a pipe flange, using one of the lug bolts of the flange. Where a dielectric main water fitting is installed, connect grounding conductor on street side of fitting. Bond metal grounding conductor conduit or sleeve to conductor at each end.
 - 2. Water Meter Piping: Use braided-type bonding jumpers to electrically bypass water meters. Connect to pipe with a bolted connector.
 - 3. Bond each aboveground portion of gas piping system downstream from equipment shutoff valve.
- L. Test completed grounding system at each location where a maximum ground-resistance level is specified, at service disconnect enclosure grounding terminal, and at ground test wells.
 - 1. Measure ground resistance not less than two full days after last trace of precipitation and without soil being moistened by any means other than natural drainage or seepage and without chemical treatment or other artificial means of reducing natural ground resistance.
 - 2. Perform tests by fall-of-potential method according to IEEE 81.
 - 3. Excessive Ground Resistance: If resistance to ground exceeds specified values, notify Architect promptly and include recommendations to reduce ground resistance.

900E1 3.5 IDENTIFICATION

- A. Power-Circuit Conductor Identification: For No. 3 AWG conductors and larger, at each location where observable, identify phase using color-coding conductor tape.
- B. Locations of Underground Lines: Identify with underground-line warning tape for power, lighting, communication, and control wiring.
- C. Warning Labels for Enclosures for Power and Lighting: Comply with 29 CFR 1910.145; identify system voltage with black letters on an orange background. Apply to exterior of door, cover, or other access.

D. Equipment Identification Labels:

1. Labeling Instructions:

- a. Indoor Equipment: Adhesive film label with clear protective overlay. Provide a single line of text with 1/2-inch-high letters on 1-1/2-inch-high label; where two lines of text are required, use labels 2 inches high.
- b. Outdoor Equipment: Engraved, laminated acrylic or melamine label, drilled for screw attachment.
- c. Elevated Components: Increase sizes of labels and legend to those appropriate for viewing from the floor.

2. Equipment to be Labeled:

- a. Panelboards, electrical cabinets, and enclosures.
- b. Contactors.

E. Verify identity of each item before installing identification products.

F. Install identification materials and devices at locations for most convenient viewing without interference with operation and maintenance of equipment.

G. Attach nonadhesive signs and plastic labels with screws and auxiliary hardware appropriate to the location and substrate.

H. Install system identification color banding for raceways and cables at 50-foot maximum intervals in straight runs, and at 25-foot maximum intervals in congested areas.

I. Color-Coding for Phase and Voltage Level Identification, 600 V and Less: Ungrounded feeder and branch-circuit conductors.

1. Colors for 208/120-V Circuits:

- a. Phase A: Black.
- b. Phase B: Red.
- c. Phase C: Blue.

2. Field-Applied, Color-Coding Conductor Tape: Apply in half-lapped turns for a minimum distance of 6 inches from terminal points.

J. Underground-Line Warning Tape: Continuous underground-line warning tape directly above line at 6 to 8 inches below finished grade.

900E1 3.6 INSTALLATION OF HANGERS AND SUPPORTS

A. Fasten hangers and supports securely in place, with provisions for thermal and structural movement. Install with concealed fasteners unless otherwise indicated.

B. Separate dissimilar metals and metal products from contact with wood or cementitious materials, by painting each metal surface in area of contact with a bituminous coating or by other permanent separation.

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- C. Raceway Support Methods: In addition to methods described in NECA 1, Raceways may be supported by openings through structure members, as permitted in NFPA 70.
- D. Multiple Raceways or Cables: Install on trapeze-type supports fabricated with steel slotted channel.
- E. Strength of Support Assemblies: Where not indicated, select sizes of components so strength will be adequate to carry present and future static and seismic loads within specified loading limits. Minimum static design load used for strength determination shall be weight of supported components plus 200 lb.
- F. Mounting and Anchorage of Surface-Mounted Equipment and Components: Anchor and fasten electrical items and their supports to building structural elements by the following methods, unless otherwise indicated or required by Code:
 - 1. To Wood: Fasten with lag screws or through bolts.
 - 2. To New Concrete: Bolt to concrete inserts.
 - 3. To Masonry: Approved toggle-type bolts on hollow masonry units and expansion anchor fasteners on solid masonry units.
 - 4. To Existing Concrete: Expansion anchor fasteners.
- G. Drill holes for expansion anchors in concrete at locations and to depths that avoid reinforcing bars.

900E1 3.7 SLEEVE AND SLEEVE-SEALS INSTALLATION

- A. Concrete Slabs and Walls: Install sleeves for penetrations unless core-drilled holes or formed openings are used. Install sleeves during erection of slabs and walls.
- B. Cut sleeves to length for mounting flush with both wall surfaces.
- C. Extend sleeves installed in floors 2 inches above finished floor level.
- D. Size pipe sleeves to provide 1/4-inch annular clear space between sleeve and cable unless sleeve seal is to be installed.
- E. Seal space outside of sleeves with grout for penetrations of concrete and masonry.
- F. Aboveground Exterior-Wall Penetrations: Seal penetrations using sleeves and mechanical sleeve seals. Size sleeves to allow for 1-inch annular clear space between pipe and sleeve for installing mechanical sleeve seals.
- G. Underground Exterior-Wall Penetrations: Install cast-iron "wall pipes" for sleeves. Size sleeves to allow for 1-inch annular clear space between cable and sleeve for installing mechanical sleeve seals.

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900E1 3.8 MEASUREMENT

- A. No measurement for payment under this item shall be made, as this item includes all work or materials that may be required.

900E1 3.9 PAYMENT

- A. Payment for this work is deemed included in items 900-A and 900-B of this contract and no separate payment will be made therefore.

END OF SECTION 900E1

900E2 - IDENTIFICATION FOR ELECTRICAL SYSTEMS

PART 1 - GENERAL

900E2 1.1 SUMMARY

- A. Section Includes:
 - 1. Labels.
 - 2. Cable ties.
 - 3. Miscellaneous identification products.

PART 2 - PRODUCTS

900E2 2.1 PERFORMANCE REQUIREMENTS

- A. Comply with ASME A13.1 and IEEE C2.
- B. Signs, labels, and tags required for personnel safety must comply with the following standards:
 - 1. Safety Colors: NEMA Z535.1.
 - 2. Facility Safety Signs: NEMA Z535.2.
 - 3. Safety Symbols: NEMA Z535.3.
 - 4. Product Safety Signs and Labels: NEMA Z535.4.
 - 5. Safety Tags and Barricade Tapes for Temporary Hazards: NEMA Z535.5.
- C. Adhesive-attached labeling materials, including label stocks, laminating adhesives, and inks used by label printers, must comply with UL 969.

900E2 2.2 COLOR AND LEGEND REQUIREMENTS

- A. Raceways and Cables Carrying Circuits at 1000 V or Less:
 - 1. Black letters on orange field.
 - 2. Legend: Indicate voltage.
- B. Color-Coding for Phase- and Voltage-Level Identification, 1000 V or Less: Use colors listed below for ungrounded feeder and branch-circuit conductors.
 - 1. Colors for 208Y/120 V Circuits:
 - a. Phase A: Black.
 - b. Phase B: Red.
 - c. Phase C: Blue.
 - 2. Colors for 240 V Circuits:

- a. Phase A: Black.
 - b. Phase B: Red.
- 3. Color for Neutral: White.
- 4. Color for Equipment Grounds: Bare copper Green.
- 5. Colors for Isolated Grounds: Green with two or more yellow stripes.
- C. Warning Label Colors:
 - 1. Identify system voltage with black letters on orange background.
- D. Warning labels and signs must include, but are not limited to, the following legends:
 - 1. Multiple Power Source Warning: "DANGER - ELECTRICAL SHOCK HAZARD - EQUIPMENT HAS MULTIPLE POWER SOURCES."
- E. Equipment Identification Labels:
 - 1. Black letters on white field.

900E2 2.3 LABELS

- A. Vinyl Wraparound Labels: Preprinted, flexible labels laminated with clear, weather- and chemical-resistant coating and matching wraparound clear adhesive tape for securing label ends.
- B. Self-Adhesive Wraparound Labels: Preprinted, 3 mil thick, polyester flexible label with acrylic pressure-sensitive adhesive.
 - 1. Self-Lamination: Clear; UV-, weather- and chemical-resistant; self-laminating, protective shield over legend. Labels sized such that clear shield overlaps entire printed legend.
 - 2. Marker for Labels:
 - a. Permanent, waterproof, black ink marker recommended by tag manufacturer.
 - b. Machine-printed, permanent, waterproof, black ink recommended by printer manufacturer.
- C. Self-Adhesive Labels: Polyester, thermal, transfer-printed, 3 mil thick, multicolor, weather- and UV-resistant, pressure-sensitive adhesive labels, configured for intended use and location.
 - 1. Minimum Nominal Size:
 - a. 1-1/2 by 6 inch for raceway and conductors.
 - b. 3-1/2 by 5 inch for equipment.

900E2 2.4 CABLE TIES

- A. General-Purpose Cable Ties: Fungus inert, self-extinguishing, one piece, self-locking, and Type 6/6 nylon.

1. Minimum Width: 3/16 inch.
 2. Tensile Strength at 73 deg F in accordance with ASTM D638: 12,000 psi.
 3. Temperature Range: Minus 40 to plus 185 deg F.
 4. Color: Black, except where used for color-coding.
- B. UV-Stabilized Cable Ties: Fungus inert, designed for continuous exposure to exterior sunlight, self-extinguishing, one piece, self-locking, and Type 6/6 nylon.
1. Minimum Width: 3/16 inch.
 2. Tensile Strength at 73 deg F in accordance with ASTM D638: 12,000 psi.
 3. Temperature Range: Minus 40 to plus 185 deg F.
 4. Color: Black.

900E2 2.5 MISCELLANEOUS IDENTIFICATION PRODUCTS

- A. Paint: Comply with requirements in painting Sections for paint materials and application requirements. Retain paint system applicable for surface material and location (exterior or interior).
- B. Fasteners for Labels and Signs: Self-tapping, stainless steel screws or stainless steel machine screws with nuts and flat and lock washers.

PART 3 - EXECUTION

900E2 3.1 PREPARATION

- A. Self-Adhesive Identification Products: Before applying electrical identification products, clean substrates of substances that could impair bond, using materials and methods recommended by manufacturer of identification product.

900E2 3.2 INSTALLATION

- A. Verify and coordinate identification names, abbreviations, colors, and other features with requirements in other Sections requiring identification applications, Drawings, Shop Drawings, manufacturer's wiring diagrams, and operation and maintenance manual. Use consistent designations throughout Project.
- B. Install identifying devices before installing acoustical ceilings and similar concealment.
- C. Verify identity of item before installing identification products.
- D. Coordinate identification with Project Drawings, manufacturer's wiring diagrams, and operation and maintenance manual.
- E. Apply identification devices to surfaces that require finish after completing finish work.
- F. Install signs with approved legend to facilitate proper identification, operation, and maintenance of electrical systems and connected items.

- G. System Identification for Raceways and Cables under 1000 V: Identification must completely encircle cable or conduit. Place identification of two-color markings in contact, side by side.
 - 1. Secure tight to surface of conductor, cable, or raceway.
- H. Vinyl Wraparound Labels:
 - 1. Secure tight to surface of raceway or cable at location with high visibility and accessibility.
 - 2. Attach labels that are not self-adhesive type with clear vinyl tape, with adhesive appropriate to location and substrate.
- I. Self-Adhesive Wraparound Labels: Secure tight to surface at location with high visibility and accessibility.
- J. Self-Adhesive Labels:
 - 1. Install unique designation label that is consistent with wiring diagrams, schedules, and operation and maintenance manual.
 - 2. Unless otherwise indicated, provide single line of text with 1/2 inch high letters on 1-1/2 inch high label; where two lines of text are required, use labels 2 inch high.
- K. Snap-Around Color-Coding Bands: Secure tight to surface at location with high visibility and accessibility.
- L. Heat-Shrink, Preprinted Tubes: Secure tight to surface at location with high visibility and accessibility.
- M. Marker Tapes: Secure tight to surface at location with high visibility and accessibility.
- N. Self-Adhesive Vinyl Tape: Secure tight to surface at location with high visibility and accessibility.
 - 1. Field-Applied, Color-Coding Conductor Tape: Apply in half-lapped turns for minimum distance of 6 inch where splices or taps are made. Apply last two turns of tape with no tension to prevent possible unwinding.
- O. Floor Marking Tape: Apply stripes to finished surfaces following manufacturer's instructions.
- P. Underground Line Warning Tape:
 - 1. During backfilling of trenches, install continuous underground-line warning tape directly above cable or raceway at 6 to 8 inch below finished grade.
- Q. Metal Tags:
 - 1. Place in location with high visibility and accessibility.
 - 2. Secure using general-purpose UV-stabilized cable ties.
- R. Nonmetallic Preprinted Tags:
 - 1. Place in location with high visibility and accessibility.

S. Cable Ties: General purpose, for attaching tags, except as listed below:

1. Outdoors: UV-stabilized nylon.

900E2 3.3 MEASUREMENT

- A. No measurement for payment under this item shall be made, as this item includes all work or materials that may be required.

900E2 3.4 PAYMENT

- A. Payment for this work is deemed included in items 900-A and 900-B of this contract and no separate payment will be made therefore.

END OF SECTION 900E2

900E3 - PANELBOARDS

PART 1 - GENERAL

900E3 1.1 SUMMARY

A. Section Includes:

1. Lighting and appliance branch-circuit panelboards.

900E3 1.2 DEFINITIONS

- A. ATS: Acceptance testing specification.
- B. GFCI: Ground-fault circuit interrupter.
- C. GFEP: Ground-fault equipment protection.
- D. MCCB: Molded-case circuit breaker.
- E. SPD: Surge protective device.
- F. VPR: Voltage protection rating.

900E3 1.3 ACTION SUBMITTALS

- A. Product Data: For each type of panelboard.
 1. Include materials, switching and overcurrent protective devices, SPDs, accessories, and components indicated.
 2. Include dimensions and manufacturers' technical data on features, performance, electrical characteristics, ratings, and finishes.
- B. Shop Drawings: For each panelboard and related equipment.
 1. Include dimensioned plans, elevations, sections, and details.
 2. Show tabulations of installed devices with nameplates, conductor termination sizes, equipment features, and ratings.
 3. Detail enclosure types including mounting and anchorage, environmental protection, knockouts, corner treatments, covers and doors, gaskets, hinges, and locks.
 4. Detail bus configuration, current, and voltage ratings.
 5. Short-circuit current rating of panelboards and overcurrent protective devices.
 6. Detail features, characteristics, ratings, and factory settings of individual overcurrent protective devices and auxiliary components.
 7. Include wiring diagrams for power, signal, and control wiring.
 8. Key interlock scheme drawing and sequence of operations.

900E3 1.4 MAINTENANCE MATERIAL SUBMITTALS

- A. Furnish extra materials that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.
 - 1. Keys: Two spares for each type of panelboard cabinet lock.
 - 2. Circuit Breakers: 4 spares for each panelboard.

900E3 1.5 QUALITY ASSURANCE

- A. Manufacturer Qualifications: ISO 9001 or ISO 9002 certified.

900E3 1.6 DELIVERY, STORAGE, AND HANDLING

- A. Remove loose packing and flammable materials from inside panelboards; install temporary electric heating (250 W per panelboard) to prevent condensation.
- B. Handle and prepare panelboards for installation according to NECA 407.

900E3 1.7 FIELD CONDITIONS

- A. Environmental Limitations:
 - 1. Do not deliver or install panelboards until spaces are enclosed and weathertight, wet work in spaces is complete and dry, work above panelboards is complete.
 - 2. Rate equipment for continuous operation under the following conditions unless otherwise indicated:
 - a. Ambient Temperature: Not exceeding minus 22 deg F to plus 104 deg F.
 - b. Altitude: Not exceeding 6600 feet.
- B. Interruption of Existing Electric Service: Do not interrupt electric service to facilities occupied by Owner or others unless permitted under the following conditions and then only after arranging to provide temporary electric service according to requirements indicated:
 - 1. Notify Construction Manager and Owner no fewer than two days in advance of proposed interruption of electric service.
 - 2. Do not proceed with interruption of electric service without Construction Manager's and Owner's written permission.
 - 3. Comply with NFPA 70E.

900E3 1.8 WARRANTY

- A. Manufacturer's Warranty: Manufacturer agrees to repair or replace panelboards that fail in materials or workmanship within specified warranty period.
 - 1. Panelboard Warranty Period: 24 months from date of Substantial Completion.

PART 2 - PRODUCTS

900E3 2.1 PANELBOARDS COMMON REQUIREMENTS

- A. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.
- B. Comply with NEMA PB 1.
- C. Comply with NFPA 70.
- D. Enclosures: Surface-mounted, dead-front cabinets.
 - 1. Rated for environmental conditions at installed location.
 - a. Outdoor Locations: NEMA 250, Type 3R.
 - 2. Front: Secured to box with concealed trim clamps. For surface-mounted fronts, match box dimensions; for flush-mounted fronts, overlap box. Trims shall cover all live parts and shall have no exposed hardware.
 - 3. Hinged Front Cover: Entire front trim hinged to box and with standard door within hinged trim cover. Trims shall cover all live parts and shall have no exposed hardware.
 - 4. Skirt for Surface-Mounted Panelboards: Same gage and finish as panelboard front with flanges for attachment to panelboard, wall, and ceiling or floor.
 - 5. Gutter Extension and Barrier: Same gage and finish as panelboard enclosure; integral with enclosure body. Arrange to isolate individual panel sections.
 - 6. Finishes:
 - a. Panels and Trim: galvanized steel, factory finished immediately after cleaning and pretreating with manufacturer's standard two-coat, baked-on finish consisting of prime coat and thermosetting topcoat.
 - b. Back Boxes: Same finish as panels and trim.
 - c. Fungus Proofing: Permanent fungicidal treatment for overcurrent protective devices and other components.
- E. Incoming Mains:
 - 1. Location: Top.
 - 2. Main Breaker: Main lug interiors up to 400 amperes shall be field convertible to main breaker.
- F. Phase, Neutral, and Ground Buses:
 - 1. Material: Hard-drawn copper, 98 percent conductivity.
 - a. Bus shall be fully rated the entire length.
 - 2. Interiors shall be factory assembled into a unit. Replacing switching and protective devices shall not disturb adjacent units or require removing the main bus connectors.

3. Equipment Ground Bus: Adequate for feeder and branch-circuit equipment grounding conductors; bonded to box.
 4. Full-Sized Neutral: Equipped with full-capacity bonding strap for service entrance applications. Mount electrically isolated from enclosure. Do not mount neutral bus in gutter.
- G. Conductor Connectors: Suitable for use with conductor material and sizes.
1. Material: Hard-drawn copper, 98 percent conductivity.
 2. Terminations shall allow use of 75 deg C rated conductors without derating.
 3. Size: Lugs suitable for indicated conductor sizes, with additional gutter space, if required, for larger conductors.
 4. Main and Neutral Lugs: Mechanical type, with a lug on the neutral bar for each pole in the panelboard.
 5. Ground Lugs and Bus-Configured Terminators: Mechanical type, with a lug on the bar for each pole in the panelboard.
- H. NRTL Label: Panelboards or load centers shall be labeled by an NRTL acceptable to authority having jurisdiction for use as service equipment with one or more main service disconnecting and overcurrent protective devices. Panelboards or load centers shall have meter enclosures, wiring, connections, and other provisions for utility metering. Coordinate with utility company for exact requirements.
- I. Future Devices: Panelboards shall have mounting brackets, bus connections, filler plates, and necessary appurtenances required for future installation of devices.
1. Percentage of Future Space Capacity: 20 percent.
- J. Panelboard Short-Circuit Current Rating: Fully rated to interrupt symmetrical short-circuit current available at terminals. Assembly listed by an NRTL for 100 percent interrupting capacity.
1. Panelboards and overcurrent protective devices rated 240 V or less shall have short-circuit ratings as shown on Drawings, but not less than 10,000 A rms symmetrical.

900E3 2.2 IDENTIFICATION

- A. Panelboard Label: Manufacturer's name and trademark, voltage, amperage, number of phases, and number of poles shall be located on the interior of the panelboard door.
- B. Breaker Labels: Faceplate shall list current rating, UL and IEC certification standards, and AIC rating.
- C. Circuit Directory: Directory card inside panelboard door, mounted in transparent card holder.
 1. Circuit directory shall identify specific purpose with detail sufficient to distinguish it from all other circuits.
- D. Circuit Directory: Computer-generated circuit directory mounted inside panelboard door with transparent plastic protective cover.

1. Circuit directory shall identify specific purpose with detail sufficient to distinguish it from all other circuits.

PART 3 - EXECUTION

900E3 3.1 EXAMINATION

- A. Verify actual conditions with field measurements prior to ordering panelboards to verify that equipment fits in allocated space in, and comply with, minimum required clearances specified in NFPA 70.
- B. Receive, inspect, handle, and store panelboards according to NECA 407.
- C. Examine panelboards before installation. Reject panelboards that are damaged, rusted, or have been subjected to water saturation.
- D. Examine elements and surfaces to receive panelboards for compliance with installation tolerances and other conditions affecting performance of the Work.
- E. Proceed with installation only after unsatisfactory conditions have been corrected.

900E3 3.2 INSTALLATION

- A. Coordinate layout and installation of panelboards and components with other construction that penetrates walls or is supported by them, including electrical and other types of equipment, raceways, piping, encumbrances to workspace clearance requirements, and adjacent surfaces. Maintain required workspace clearances and required clearances for equipment access doors and panels.
- B. Comply with NECA 1.
- C. Temporary Lifting Provisions: Remove temporary lifting eyes, channels, and brackets and temporary blocking of moving parts from panelboards.
- D. Mount panelboard cabinet plumb and rigid without distortion of box.
- E. Install overcurrent protective devices and controllers not already factory installed.
- F. Make grounding connections and bond neutral for services and separately derived systems to ground. Make connections to grounding electrodes, separate grounds for isolated ground bars, and connections to separate ground bars.
- G. Install filler plates in unused spaces.

900E3 3.3 IDENTIFICATION

- A. Create a directory to indicate installed circuit loads after balancing panelboard loads; incorporate Owner's final room designations. Obtain approval before installing. Handwritten directories are not acceptable. Install directory inside panelboard door.
- B. Panelboard Nameplates: Label each panelboard with a nameplate complying with requirements for identification specified in Section 260553 "Identification for Electrical Systems."
- C. Device Nameplates: Label each branch circuit device in power panelboards with a nameplate complying with requirements for identification specified in Section 260553 "Identification for Electrical Systems."
- D. Install warning signs complying with requirements in Section 260553 "Identification for Electrical Systems" identifying source of remote circuit.

900E3 3.4 FIELD QUALITY CONTROL

- A. Manufacturer's Field Service: Engage a factory-authorized service representative to inspect, test, and adjust components, assemblies, and equipment installations, including connections.
- B. Acceptance Testing Preparation:
 - 1. Test insulation resistance for each panelboard bus, component, connecting supply, feeder, and control circuit.
 - 2. Test continuity of each circuit.
- C. Tests and Inspections:
 - 1. Perform each visual and mechanical inspection and electrical test for low-voltage air circuit breakers stated in NETA ATS, Paragraph 7.6 Circuit Breakers. Certify compliance with test parameters.
 - 2. Correct malfunctioning units on-site, where possible, and retest to demonstrate compliance; otherwise, replace with new units and retest.
- D. Panelboards will be considered defective if they do not pass tests and inspections.
- E. Prepare test and inspection reports, including a certified report that identifies panelboards included and that describes scanning results, with comparisons of the two scans. Include notation of deficiencies detected, remedial action taken, and observations after remedial action.

900E3 3.5 ADJUSTING

- A. Load Balancing: After Substantial Completion, but not more than 60 days after Final Acceptance, measure load balancing and make circuit changes. Prior to making circuit changes to achieve load balancing, inform Architect of effect on phase color coding.
 - 1. Measure loads during period of normal facility operations.

2. Perform circuit changes to achieve load balancing outside normal facility operation schedule or at times directed by the Architect. Avoid disrupting services such as fax machines and on-line data processing, computing, transmitting, and receiving equipment.
3. After changing circuits to achieve load balancing, recheck loads during normal facility operations. Record load readings before and after changing circuits to achieve load balancing.
4. Tolerance: Maximum difference between phase loads, within a panelboard, shall not exceed 20 percent.

900E3 3.6 PROTECTION

- A. Temporary Heating: Prior to energizing panelboards, apply temporary heat to maintain temperature according to manufacturer's written instructions.

900E3 3.7 MEASUREMENT

- A. No measurement for payment under this item shall be made, as this item includes all work or materials that may be required.

900E3 3.8 PAYMENT

- A. Payment for this work is deemed included in items 900-A and 900-B of this contract and no separate payment will be made therefore.

END OF SECTION 900E3

ITEM 902- GALVANIZED STEEL DECORATIVE RAILING

902.1. WORK INCLUDED:

- A. Under this item the Contractor will be require to furnish and install a galvanized steel decorative railing as shown on the plans.

902.2. MATERIALS:

- A. All steel parts to be galvanized steel, powder coat black.
- B. Posts and rails powder coated black galvanized 1.9" OD schedule 40 steel welded.
- C. Wire mesh to be galvanizwed steel, hot dipped, welded trimmed 2" x 2" with 0.437" x 0.437" opening. Wire to be 0.063" (16 GA) diameter , 76" open area powder coated black.
- D. Contractor to submit shop drawings for approval.
- E. LED lighting shall Klik LEDpod 40, as manufactured by Klik USA, (262) 505-5124.
- F. The Contractor shall submit catalog cuts and installation instructions by the manufacturer, Klik USA for the LED lighting for approval prior to ordering equipment.

902.3. INSTALLATION:

- A. The Contractor shall submit catalog cuts and installation instructions by the manufacturer, Klik USA for the LED lighting on the railing for approval prior to ordering equipment.
- B. The Contractor shall erect the galvanized steel decorative railing as shown on the contract plans and as directed by the Engineer.

902.4. MEASUREMENT:

- A. Measurement for this item shall be by the number of linear feet of railing installed from end post to end post, measured along the foot of the rail system.

902.5. PAYMENT:

- A. The unit price bid per linear foot of railing shall include the cost of all labor and materials as shown on the plans to satisfactorily complete the work. This includes but may not be limited to: rails, posts, grid panels, LED lighting, fittings,

brackets, flange post installation, and all required fasteners.

<u>Item #</u>	<u>Description</u>	<u>Units</u>
902- A	Galvanized Steel Decorative Railing with Grid Panel & LED Lighting	per LF
902- B	Galvanized Steel Decorative Handrail	per LF

* * *

ITEM 1000 – BASKETBALL COURT SPORTSCOATING

1000.1. WORK INCLUDED:

- A. Under this item shall consist of furnishing all labor, equipment and material necessary or required to completely install basketball sportscoat in accordance with the plans and specifications.

1000.2. MATERIALS:

- A. Sportscoat shall be Action Pave Acrylic Color Coating System, as manufactured by Copeland Coating Company, Incorporated, P.O. Box 595, Nassau, New York, 12123, phone no. (518) 766-2932 (800) 303-4219, or approved equal.
- B. Sportscoating shall consist of three (3) coats: Acrylic Crack & Leveling Binder Patch, Acrylic Resurfacer, Acrylic Filler Coat, and as well as an acrylic white line paint, as shown on the plans and in these specifications.
- C. **Color shall be as shown on the layout details for the Basketball Court; see plan sheet C-8. Additional sand shall be added to the top course to provide extra slip resistance.**

1000.3. INSTALLATION:

A. **Action Pave Acrylic Crack and Leveling Binder Patch:**

1. DESCRIPTION: A super durable acrylic emulsion mixed on site to repair cracks and level and fill low spots. It is a three (3) component bonding emulsion for correcting major and minor non-structural cracks and can smooth over and temporarily repair structural cracks. It is very effective in filling low spots in 14" to 14" lifts. Multiple applications will be required to achieve a smooth, surfacable repair.
2. USE: After cracks and low spots are thoroughly clean, apply Action Pave Acrylic Crack & Leveling Binder Patch to the areas of repair. This repair should be done and completed in its entirety before any other ACTION PAVE products are applied.
3. APPLICATION: Apply to cracks using a horseshoe squeegee and to low spots using an aluminum straight edge.
4. MIX DESIGN: A three (3) component emulsion which is mixed on site using a hand drill or mortar mixer consists of:
 - (a) 1-part Action Pave Crack and Leveling Binder Patch;
 - (b) 1-part dry silica sand (75-100 mesh);

(c) $\frac{1}{3}$ -part Portland cement.

Mix the silica sand and cement thoroughly in a clean mortar mixer or container utilizing a power hand drill. Be sure cement is thoroughly mixed with the silica sand, removing all lumps. Then add Action Pave Crack and Leveling Binder Patch with agitation. Mix until uniform. If the mix is too dry adjust by adding more Action Pave Crack and Leveling Binder Patch until a workable consistency is achieved.

Note: Never add water.

Upon completion of mixing apply material immediately. Clean up all mixing and application equipment immediately upon completion.

Note: Material sets up very rapidly

5. **COVERAGE:** Approximately six square feet per gallon of mixed emulsion at 14" depth. Approximately five linear feet per gallon of mixed emulsion at 14" width x 14" to 14" depth.
6. **SURFACE PREPARATION AND APPLICATION:** The surface for low spot patching must be clean and free of all dirt, debris and any film or mildew which may have accumulated due to the holding of water. Spread the mixed emulsion over the low spot using a squeegee, if size permits, floating the material into the low spot in manufacturer recommended lift thickness. Allow material to dry thoroughly. Scrape and repeat the process until desired level is achieved. Smooth surface and prepare it for Action Pave Acrylic Filler and Finish coats.

The filling of cracks requires surface cracks to be thoroughly clean and dry. Squeegee with a horseshoe squeegee, filling to refusal. Multiple applications may be required. For structural cracks rout, air blow and thoroughly clean and dry. Fill to refusal using a horseshoe squeegee. Multiple applications will be required. After final application, scrape areas of repair thoroughly and make final repairs before applying Action Pave Acrylic Resurfacer, Filler or Finish.

7. **LIMITATIONS:**

- (a) Do not apply Action Pave Acrylic Crack & Leveling Binder Patch when surface temperature is below 50°F (10°C) or when fog, rain or high humidity is imminent;
- (b) Do not apply if surface temperature is above 130°F (55°C);
- (c) Do not store in direct sunlight;
- (d) Close covers tightly;
- (e) Keep from freezing.

B. Action Pave Acrylic Resurfacer:

1. DESCRIPTION: Action Pave Acrylic Resurfacer (concentrated acrylic resurfacing emulsion) is a heavy bodied, 100% acrylic emulsion developed specifically for use on open or pitted asphalt surfaces to reduce porosity and provide a uniform surface texture prior to applying Action-pave Acrylic Color Coatings or Cushion Systems. Application of Action Pave Acrylic Resurfacer provides an economical means for filling voids in asphalt pavements.
2. USE: Apply over newly paved surfaces or old, severely oxidized, pitted surfaces.
3. APPLICATION: Use a standard, commercial quality, squeegee 24", 30" or 36" in width. Clean squeegee with water immediately after use.
4. MIX DESIGN: Action Pave Acrylic Resurfacer is concentrated and needs to be mixed on site with clean water. Thorough mixing is required. Mortar mixer offers the best results. The mix consists of:
 - (a) 2-parts Action Pave Acrylic Resurfacer;
 - (b) 1- part water.
5. COVERAGE: To surface the standard tennis court (800 square yards) seventy (70) gallons of concentrated Action Pave Acrylic Resurfacer is required. The amount of material needed will vary slightly due to variation in density of the asphalt substrate and the technique of application. Approximate coverage ratio = eight (8) square yards per gallon of concentrate.
6. SURFACE PREPARATION AND APPLICATION: The surface must be clean and free of grease, oil and any other foreign material. New asphalt shall cure a minimum of ten (10) days and may require a longer curing period in cold or dry climate areas. Check for ponding water by flooding the surface. After allowing surface to drain for one hour, any water remaining that covers a nickel should be marked out and corrected with Action Pave Fortified Acrylic Crack & Leveling Binder Patch. Fill all cracks prior to acrylic resurfacing with Action Pave Fortified Acrylic Crack and Leveling Binder Patch. Pour a ribbon of material along one end of the area to be surfaced. Spread evenly by walking in one direction and then reversing direction. Always maintain a wet edge and do not overwork material. Before applying the next coat of material, inspect coating and scrape off any ridges, lumps or other imperfections and then apply the next coat 90° to this coat.

7. LIMITATIONS:

- (a) Do not apply Action Pave Acrylic Resurfacer when surface temperature is below 50°F (10°C) or when fog, rain or high humidity is imminent;
- (b) Do not apply if surface temperature is above 130°F (55°C);
- (c) Do not store in direct sunlight;
- (d) Close cover tightly;
- (e) Keep from freezing.

C. **Action Pave Acrylic Filler Coat(s)**

1. **DESCRIPTION:** 100% acrylic emulsion, special reinforcing pigments and pure silica sand that provides a uniform and controlled texture which is extremely durable, however, remains flexible. Action Pave Acrylic Filler Coat(s) has been specifically engineered to protect asphalt and concrete surfaces from the harsh northeast weather conditions. Unlike other acrylic surfacing fillers, Action Pave Acrylic Filler is fully pigmented, resulting in longer lasting, richer, full depth color.
2. **USE:** Apply over existing color coated surfaces to rejuvenate and add texture. The Action Pave Acrylic Filler Coat(s) can be tailored to increase or decrease the speed of the surface. Apply over new surfaces which have had the Action Pave Acrylic Resurfacer properly applied and cured.
3. **APPLICATION:** Use a standard, commercial quality, squeegee 24", 30" or 36" in width. Clean squeegee with water immediately after use.
4. **MIX DESIGN:** Action Pave Acrylic Filler is concentrated and needs to be mixed on site with clean water. Thorough mixing is required. Mortar mixer offers the best results. The mix consists of:
 - (a) 2 parts Action Pave Acrylic Filler;
 - (b) 1 part water.
5. **COVERAGE:** To surface the standard tennis court (800 square yards) a one (1) coat application will require 60 gallons of concentrated Action Pave Acrylic Filler. A two (2) coat application will require 115 gallons of concentrated Action Pave Acrylic Filler. A three (3) coat application will require 165 gallons of concentrated Action Pave Acrylic Filler. Approximate coverage ratio for a standard two (2) coat application = 7 square yards per gallon of concentrate.
6. **SURFACE PREPARATION AND APPLICATION:** The surface must be clean and free of grease, oil and any other foreign material. Action Pave

Acrylic Filler coat is to be applied over previously color coated surfaces or new surfaces which have already had Action Pave Acrylic Resurfacer applied. All crack repair and other preparation must be completed.

Spread Action Pave Acrylic Filler coat evenly by walking in one direction and then reversing direction. Always maintain a wet edge and do not overwork the material. Avoid leaving any puddles when squeegeeing material back and forth. Before applying the next filler coat, or the final finish coat, allow coating to dry sufficiently and inspect it. Scrape off any ridges, lumps or other imperfections and then apply the next coat.

7. LIMITATIONS:

- (a) Do not apply Action Pave Acrylic Filler coat(s) when surface temperature is below 50°F (10°C) or when fog, rain or high humidity is imminent;
- (b) Do not apply if surface temperature is above 130°F (55°C);
- (c) Do not store in direct sunlight;
- (d) Close cover tightly;
- (e) Keep from freezing.

D. Action Pave Acrylic Finish Coat

1. DESCRIPTION: 100% acrylic emulsion, special pigmented prime color reinforcing pigments that provide a super durable, long lasting finish coat to all surfaces. Action Pave Acrylic Finish Coat has been specifically engineered to protect the entire Action Pave Athletic Surface System from the ultraviolet rays of the sun and to cool the surface for more pleasurable play. Unlike other acrylic surfacing finish coats, Action Pave Acrylic Finish is fully pigmented, resulting in longer lasting, richer, full depth color.
2. USE: Apply over existing color coated surfaces where no additional texture is needed. Apply over Action Pave Acrylic Filler coat(s) to finish off the Action Pave Athletic Surfacing System.
3. APPLICATION: Use a standard, commercial quality, squeegee or hair type applying brush 24", 30" or 36" in width. Clean squeegee/brush with water immediately after use.
4. MIX DESIGN: Action Pave Acrylic Finish is concentrated and needs to be mixed on site with clean water. Thorough mixing is required. Mortar mixer offers best results. The mix consists of:
 - (a) 2-parts Action Pave Acrylic Finish;
 - (b) 1-part water.

5. **COVERAGE:** To surface the standard tennis court (800 square yards) a one (1) coat application will require 55 gallons of concentrated Action Pave Acrylic Finish. A two (2) coat application will require 95 gallons of concentrated Action Pave Acrylic Finish. Approximate coverage ratio for a one (1) coat application = 15 square yards per gallon of concentrate.
6. **SURFACE PREPARATION AND APPLICATION:** The surface must be clean and free of grease, oil and any other foreign debris. Action Pave Acrylic Finish coat is to be applied over previously color coated or new surfaces which have already received Action Pave Acrylic Filler coat(s).

Spread Action Pave Acrylic Finish coat evenly by walking in one direction and then reversing direction. Always maintain a wet edge and do not overwork the material. Avoid leaving any puddles when squeegeeing material back and forth. Allow materials to dry sufficiently before applying Action Pave Acrylic White Line Paint

7. **LIMITATIONS:**
 - (a) Do not apply Action Pave Acrylic Finish coat(s) when surface temperature is below 50°F (10°C) or when fog, rain or high humidity is imminent;
 - (b) Do not apply if surface temperature is above 130°F (55°C);
 - (c) Do not store in direct sunlight;
 - (d) Close cover tightly;
 - (e) Keep from freezing.

E. Action Pave Acrylic White Line Paint

1. **DESCRIPTION:** Action Pave Acrylic White Line Paint is an extremely durable 100% acrylic emulsion carefully formulated for use on tennis and basketball courts, running tracks and any other indoor or outdoor recreational surface. It offers a neat, clean, permanent line of marking. It is designed to be applied over all other Action Pave products.
2. **USE:** Line and event markings for tennis and basketball courts, running tracks and any other indoor or outdoor recreational surface.
3. **APPLICATION:** Apply with a paint brush, roller or other suitable paint application equipment. Clean equipment with water immediately after use.
4. **MIX DESIGN:** Action Pave Acrylic White Line Paint is to be used as is. **DO NOT ADD WATER.**

5. COVERAGE: One gallon will be adequate to do one doubles tennis court.
6. SURFACE PREPARATION AND APPLICATION: The surface must be clean and free of grease, oil and any other foreign material. Apply as you would any other paint.
7. LIMITATIONS:
 - (a) Do not apply ACTION PAVE WHITE LINE PAINT coat(s) when surface temperature is below 50°F (10°C) or when fog, rain or high humidity is imminent.
 - (b) Do not apply if surface temperature is above 130°F (55°C):
 - (c) Do not store in direct sunlight:
 - (d) Close cover tightly;
 - (e) Keep from freezing.

1000.4. MEASUREMENT AND PAYMENT:

- A. As noted below, the price bid shall be either lump sum, or unit price per square foot of measurement of Sportscoating applied in-place complete. Bid prices shall include the cost of furnishing all labor, equipment, materials (including, but not limited to surface preparation, acrylic patch coat, acrylic resurfacer, acrylic filler and finish coats and white line paint) and incidentals required to install the work complete, in accordance with the drawings and specifications, to the satisfaction of the Engineer.

Payment shall be made under the following Items:

<u>Item</u>	<u>Description</u>	<u>Units</u>
Item 1000 - A	Furnish & Install Sportcoat Center Court Logo	Lump Sum
Item 1000 - B	Furnish & Install Sportcoat Surfacing for Basketball Court	Square Yard

* * *

ITEM 2220 – DEMOLITION, REMOVALS & SITE PREPARATION

2220.1. WORK INCLUDED

- A. Under this item, the Contractor will be required to furnish all labor, materials, and equipment necessary for the demolition, removal, and proper disposal of the specified items in accordance with sheet C-3 and the specifications and as ordered by the Engineer. The Demolition, Removals & Site Preparation item includes, but is not limited to: furnishing and installing orange snow fence @ tree protection locations; the removal of existing light poles & footings and existing electrical panel; existing basketball court pavements & subbase; removal of existing water vault, existing drainage structures, and piping; removal of a portion of the existing stone wall, and salvaging stones for the proposed stone seat wall adjacent to the pool area; and placement of 12 large boulders current on site to the proposed locations as per plans and as directed by the Engineer. All other removals will be paid for under other items of work respectively.
- B. Protect utilities during the work.
- C. Verify the location and status of all utilities within the street frontage.

2220.2. EXECUTION

- A. Preparation
 - 1. Sediment and erosion control measures shall be installed in accordance with Specification Section 800, the Project SWPPP and as directed by the Engineer.

2220.3. MEASUREMENT AND PAYMENT

- A. Payment for this item shall be deemed included in the Total Lump Sum Bid and shall include, but not be limited to, the cost of furnishing all labor, materials and equipment necessary for: furnishing and installing orange snow fence @ tree protection locations; the removal of existing light poles & footings and existing electrical panel; existing basketball court pavements & subbase; removal of existing water vault, existing drainage structures, and piping; removal of a portion of the existing stone wall, and salvaging stones for the proposed stone seat wall adjacent to the pool area; and placement of 12 large boulders current on site to the proposed locations as per plans, and as directed by the Engineer and as shown on the plans and as specified herein.

* * *

ITEM 3000 - CAST-IN-PLACE CONCRETE

3000.1.WORK INCLUDED:

- A. Under this item the Contractor shall furnish all labor, materials and equipment necessary to excavate and place a cast in place concrete, properly backfill, all in accordance with the drawings and these specifications.

3000.2.SUMMARY

- A. This Section specifies cast-in place concrete, including formwork, reinforcing, mix design, placement procedures, and finishes.
- B. Cast-in-place concrete includes the following:
 - 1. Foundations and footings.
 - 2. Slabs-on-grade.
 - 3. Foundation walls.

3000.3.SUBMITTALS

- A. General: Submit the following according to Conditions of the Contract including General and Special Conditions Sections.
- B. Product data for proprietary and non-proprietary materials and items, including but not limited to reinforcement and forming accessories, admixtures, patching compounds, joint systems, curing compounds, dry-shake finish materials, and others if requested by Engineer.
- C. Shop drawings for reinforcement detailing fabricating, bending, and placing concrete reinforcement. Comply with ACI 315 "Manual of Standard Practice for Detailing Reinforced Concrete Structures" showing bar schedules, stirrup spacing, bent bar diagrams, and arrangement of concrete reinforcement. Include special reinforcing required for openings through concrete structures.
- D. Shop drawings for formwork indicating fabrication and erection of forms for specific finished concrete surfaces. Show form construction including jointing, special form joints or reveals, location and pattern of form tie placement, and other items that affect exposed concrete visually.
 - 1. Engineer's review is for general engineering applications and features only. Designing formwork for structural stability and efficiency is Contractor's responsibility.

- E. Samples of materials as requested by Engineer, including names, sources, and descriptions, as follows:
 - 1. Color finishes.
 - 2. Normal weight aggregates.
 - 3. Filter fabric.
 - 4. Drain board.
 - 5. Form liners.
 - 6. Preformed joint filler and sealer.
- F. Material certificates in lieu of material laboratory test reports when permitted by Engineer. Material certificates shall be signed by manufacturer and Contractor, certifying that each material item complies with or exceeds specified requirements. Provide certification from admixture manufacturers that chloride content complies with specification requirements.

3000.4.QUALITY ASSURANCE

- A. Codes and Standards: Comply with provisions of the following codes, specifications, and standards, except where more stringent requirements are shown or specified:
 - 1. American Concrete Institute (ACI) 301, "Specifications for Structural Concrete for Buildings."
 - 2. ACI 318, "Building Code Requirements for Reinforced Concrete."
 - 3. Concrete Reinforcing Steel Institute (CRSI) "Manual of Standard Practice."

3000.5.FORM MATERIALS

- 1. Forms for Exposed Finish Concrete: Plywood, metal, metal-framed plywood faced, or other acceptable panel-type materials to provide continuous, straight, smooth, exposed surfaces. Furnish in largest practicable sizes to minimize number of joints and to conform to joint system shown on drawings.
- 2. Forms for Unexposed Finish Concrete: Plywood, lumber, metal, or another acceptable material. Provide lumber dressed on at least two edges and one side for tight fit.
- 3. Form Ties: Factory-fabricated, adjustable-length, removable or snap-off metal form ties designed to prevent form deflection and to prevent spalling of concrete

upon removal. Provide units that will leave no metal closer than 1-1/2 inches to the plane of the exposed concrete surface.

1. Provide ties that, when removed, will leave holes not larger than 1 inch in diameter in the concrete surface.

3000.6.MATERIALS

A. Reinforcing

1. Reinforcing Bars: ASTM A 615 Grade 60, deformed.
2. Steel Wire: ASTM A 82, plain, cold-drawn steel.
3. Welded Wire Fabric: ASTM A 185, welded steel wire fabric.
4. Supports for Reinforcement: Bolsters, chairs, spacers, and other devices for spacing, supporting, and fastening reinforcing bars and welded wire fabric in place. Use wire bar-type supports complying with CRSI specifications.

B. Concrete

1. Portland Cement: ASTM C 150, Type I.
2. Use one brand of cement throughout Project unless otherwise acceptable to Engineer.
3. Fly Ash: ASTM C 618, Type F.
4. Normal-Weight Aggregates: ASTM C 33 and as specified. Provide aggregates from a single source for exposed concrete.
5. For exposed exterior surfaces, do not use fine or coarse aggregates that contain substances that cause spalling.
6. Local aggregates not complying with ASTM C 33 that have been shown to produce concrete of adequate strength and durability by special tests or actual service may be used when acceptable to Engineer.
7. Lightweight Aggregates: ASTM C 330.
8. Water: Potable.
9. Admixtures, General: Provide concrete admixtures that contain not more than 0.1 percent chloride ions.

C. Related Materials

1. Drain board shall be Mirafi G-Series G100N or approved equal.
2. Filter fabric shall meet all provisions for needle punched-non-woven geotextile Section 737.0101 of the New York State Specifications, Construction and materials shall apply except as modified herein:
3. $\frac{3}{4}$ " stone : All materials shall conform to the New York State Department of Transportation Standard Specifications, latest revision, except that no limestone or crushed slag shall be permitted Stone sizes referred to are as specified in Table 703-4 of the latest NYSDOT specifications. The stone size to be supplied shall be as specified on the plan or in the proposal or as ordered in the field by the Engineer.
4. 6" perforated drain pipe as per item 11P-6 technical specification.
5. 3"-diameter PVC weep hole sleeves.
6. Preformed joint filler and sealer.

3000.7.PROPORTIONING AND DESIGNING MIXES

- A. Prepare design mixes for each type and strength of concrete by either laboratory trial batch or field experience methods as specified in ACI 301. For the trial batch method, use an independent testing agency acceptable to Engineer for preparing and reporting proposed mix designs.
- B. Do not use the same testing agency for field quality control testing.
- C. Limit use of fly ash to not exceed 25 percent of cement content by weight.
- D. Submit written reports to Engineer of each proposed mix for each class of concrete at least 15 days prior to start of Work. Do not begin concrete production until proposed mix designs have been reviewed by Engineer.
- E. Design mixes to provide normal weight concrete with the following properties as indicated on drawings and schedules:
 1. 3000 psi (for footings, walls), 28-day compressive strength; water-cement ratio, 0.58 maximum (non-air-entrained) 0.46 maximum (air-entrained).
 2. 4000 psi (for slab-on-grade), 28-day compressive strength; water-cement ratio, 0.58 maximum (non-air-entrained) 0.46 maximum (air-entrained).
- F. Water-Cement Ratio: Provide concrete for following conditions with maximum water-cement (W/C) ratios as follows:
 1. Subjected to freezing and thawing: W/C 0.45.

2. Subjected to deicers/watertight: W/C 0.40.
 3. Subjected to brackish water, salt spray, or deicers: W/C 0.40.
- G. Slump Limits: Proportion and design mixes to result in concrete slump at point of placement as follows:
- H. Reinforced foundation systems: Not less than 1 inch and not more than 3 inches.
- I. Adjustment to Concrete Mixes: Mix design adjustments may be requested by Contractor when characteristics of materials, job conditions, weather, test results, or other circumstances warrant, as accepted by Engineer. Laboratory test data for revised mix design and strength results must be submitted to and accepted by Engineer before using in Work.

3000.8.ADMIXTURES

- A. Use water-reducing admixture or high-range water-reducing admixture (superplasticizer) in concrete, as required, for placement and workability.
- B. Use accelerating admixture in concrete slabs placed at ambient temperatures below 50 deg F.
- C. Use air-entraining admixture in exterior exposed concrete unless otherwise indicated. Add air-entraining admixture at manufacturer's prescribed rate to result in concrete at point of placement having total air content with a tolerance of plus or minus 1-1/2 percent within the following limits:
1. Concrete structures and slabs exposed to freezing and thawing, deicer chemicals, or hydraulic pressure:
 - (a) 4.5 percent (moderate exposure); 5.5 percent (severe exposure) for 1-1/2 inch maximum aggregate.
 - (b) 4.5 percent (moderate exposure); 6.0 percent (severe exposure) for 1 inch maximum aggregate.
 - (c) 5.0 percent (moderate exposure); 6.0 percent (severe exposure) for 3/4 inch maximum aggregate.
 - (d) 5.5 percent (moderate exposure); 7.0 percent (severe exposure) for 1/2 inch maximum aggregate.
 2. Other concrete not exposed to freezing, thawing, or hydraulic pressure, or to receive a surface hardener: 2 to 4 percent air.

3000.9.CONCRETE MIXING

- A. Ready-Mixed Concrete: Comply with requirements of ASTM C 94, and as specified.
 - 1. When air temperature is between 85 deg F and 90 deg F, reduce mixing and delivery time from 1-1/2 hours to 75 minutes, and when air temperature is above 90 deg F, reduce mixing and delivery time to 60 minutes.

3000.10. GENERAL

- A. Coordinate the installation of joint materials, filter fabric, and other related materials with placement of forms and reinforcing steel.

3000.11. FORMS

- A. General: Design, erect, support, brace, and maintain formwork to support vertical, lateral, static, and dynamic loads that might be applied until concrete structure can support such loads. Construct formwork so concrete members and structures are of correct size, shape, alignment, elevation, and position.
- B. 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 openings, offsets, sinkages, keyways, recesses, moldings, rustications, reglets, chamfers, blocking, screeds, bulkheads, anchorages and inserts, and other features required in the Work. Use selected materials to obtain required finishes. Solidly butt joints and provide backup at joints to prevent cement paste from leaking.
- C. 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 for easy removal.
- D. Provide temporary openings for clean-outs and inspections where interior area of formwork is inaccessible before and during concrete placement. Securely brace temporary openings and set tightly to forms to prevent losing concrete mortar. Locate temporary openings in forms at inconspicuous locations.
- E. Chamfer exposed corners and edges as indicated, using wood, metal, PVC, or rubber chamfer strips fabricated to produce uniform smooth lines and tight edge joints.
- F. 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.
- G. Cleaning and Tightening: Thoroughly clean forms and adjacent surfaces to receive concrete. Remove chips, wood, sawdust, dirt, or other debris just before placing

concrete. Retighten forms and bracing before placing concrete, as required, to prevent mortar leaks and maintain proper alignment.

3000.12. PLACING REINFORCEMENT

- A. General: Comply with Concrete Reinforcing Steel Institute's recommended practice for "Placing Reinforcing Bars," for details and methods of reinforcement placement and supports and as specified.
- B. Avoiding cutting or puncturing filter fabric during reinforcement placement and concreting operations. Repair damages before placing concrete.
- C. Clean reinforcement of loose rust and mill scale, earth, ice, and other materials that reduce or destroy bond with concrete.
- D. Accurately position, support, and secure reinforcement against displacement. Locate and support reinforcing by metal chairs, runners, bolsters, spacers, and hangers, as approved by Engineer.
- E. Place reinforcement to maintain minimum coverages as indicated for concrete protection. 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.
- F. Install welded wire fabric in lengths as long as practicable. Lap adjoining pieces at least one full mesh and lace splices with wire. Offset laps of adjoining widths to prevent continuous laps in either direction.

3000.13. JOINTS

- A. Construction Joints: Locate and install construction joints so they do not impair strength or appearance of the structure, as acceptable to Engineer.
- B. Provide keyways at least 1-1/2 inches deep in construction joints in walls and slabs and between walls and footings. Bulkheads designed and accepted for this purpose may be used for slabs.
- C. Place construction joints perpendicular to main reinforcement. Continue reinforcement across construction joints except as indicated otherwise. Do not continue reinforcement through sides of strip placements.
- D. Use bonding agent on existing concrete surfaces that will be joined with fresh concrete.

3000.14. INSTALLING EMBEDDED ITEMS

- A. General: Set and build into formwork anchorage devices and other embedded items required for other work that is attached to or supported by cast-in-place concrete. Use setting drawings, diagrams, instructions, and directions provided by suppliers of items to be attached.
- B. Install reglets to receive top edge of foundation sheet waterproofing and to receive through-wall flashings in outer face of concrete frame at exterior walls, and other conditions.
- C. Forms for Slabs: Set edge forms, bulkheads, and intermediate screed strips for slabs to achieve required elevations and contours in finished surfaces. Provide and secure units to support screed strips using strike-off templates or compacting-type screeds.

3000.15. PREPARING FORM SURFACES

- A. General: Coat contact surfaces of forms with an approved, nonresidual, low-VOC, form-coating compound before placing reinforcement.
- B. Do not allow excess form-coating material to accumulate in forms or come into contact with in-place concrete surfaces against which fresh concrete will be placed. Apply according to manufacturer's instructions.
- C. Coat steel forms with a nonstaining, rust-preventative material. Rust-stained steel formwork is not acceptable.
- D. Form Liner as per item 3001 technical specification.

3000.16. CONCRETE PLACEMENT

- A. Inspection: Before placing concrete, inspect and complete formwork installation, reinforcing steel, and items to be embedded or cast in. Notify other trades to permit installation of their work.
- B. General: Comply with ACI 304, "Guide for Measuring, Mixing, Transporting, and Placing Concrete," and as specified.
- C. Deposit concrete continuously or in layers of such thickness that no new concrete will be placed on concrete that has hardened sufficiently to cause seams or planes of weakness. If a section cannot be placed continuously, provide construction joints as specified. Deposit concrete to avoid segregation at its final location.
- D. Placing Concrete in Forms: Deposit concrete in forms in horizontal layers no deeper than 24 inches and in a manner to avoid inclined construction joints. Where placement consists of several layers, place each layer while preceding layer is still plastic to avoid cold joints.

- E. Consolidate placed concrete by mechanical vibrating equipment supplemented by hand-spading, rodding, or tamping. Use equipment and procedures for consolidation of concrete complying with ACI 309.
- F. Do not use vibrators to transport concrete inside forms. Insert and withdraw vibrators vertically at uniformly spaced locations no farther than the visible effectiveness of the machine. Place vibrators to rapidly penetrate placed layer and at least 6 inches into preceding layer. Do not insert vibrators into lower layers of concrete that have begun to set. At each insertion, limit duration of vibration to time necessary to consolidate concrete and complete embedment of reinforcement and other embedded items without causing mix to segregate.
- G. Placing Concrete Slabs: Deposit and consolidate concrete slabs in a continuous operation, within limits of construction joints, until completing placement of a panel or section.
- H. Consolidate concrete during placement operations so that concrete is thoroughly worked around reinforcement, other embedded items and into corners.
- I. Bring slab surfaces to correct level with a straightedge and strike off. Use bull floats or darbies to smooth surface free of humps or hollows. Do not disturb slab surfaces prior to beginning finishing operations.
- J. Maintain reinforcing in proper position on chairs during concrete placement.
- K. Cold-Weather Placement: Comply with provisions of ACI 306 and as follows. Protect concrete work from physical damage or reduced strength that could be caused by frost, freezing actions, or low temperatures.
- L. When air temperature has fallen to or is expected to fall below 40 deg F, uniformly heat water and aggregates before mixing to obtain a concrete mixture temperature of not less than 50 deg F and not more than 80 deg F at point of placement.
 - 1. Do not use frozen materials or materials containing ice or snow. Do not place concrete on frozen subgrade or on subgrade containing frozen materials.
 - 2. Do not use calcium chloride, salt, or other materials containing antifreeze agents or chemical accelerators unless otherwise accepted in mix designs.
- M. Hot-Weather Placement: When hot weather conditions exist that would impair quality and strength of concrete, place concrete complying with ACI 305 and as specified.
 - 1. Cool ingredients before mixing to maintain concrete temperature at time of placement to below 90 deg F. Mixing water may be chilled or chopped ice may be used to control temperature, provided water equivalent of ice is calculated to

total amount of mixing water. Using liquid nitrogen to cool concrete is Contractor's option.

2. Cover reinforcing steel with water-soaked burlap if it becomes too hot, so that steel temperature will not exceed the ambient air temperature immediately before embedding in concrete.
 3. Fog spray forms, reinforcing steel, and subgrade just before placing concrete. Keep subgrade moisture uniform without puddles or dry areas.
- N. Use water-reducing retarding admixture when required by high temperatures, low humidity, or other adverse placing conditions, as acceptable to Engineer.

3000.17. FINISHING FORMED SURFACES

- A. Rough-Formed Finish: Provide a rough-formed finish on formed concrete surfaces not exposed to view in the finished Work or concealed by other construction. This is the concrete surface having texture imparted by form-facing material used, with tie holes and defective areas repaired and patched, and fins and other projections exceeding 1/4 inch in height rubbed down or chipped off.
- B. Smooth-Formed Finish: Provide a smooth-formed finish on formed concrete surfaces exposed to view or to be covered with a coating material applied directly to concrete, or a covering material applied directly to concrete, such as waterproofing, dampproofing, veneer plaster, painting, or another similar system. This is an as-cast concrete surface obtained with selected form-facing material, arranged in an orderly and symmetrical manner with a minimum of seams. Repair and patch defective areas with fins and other projections completely removed and smoothed.
- C. Related Unformed Surfaces: At tops of walls, horizontal offsets, and similar unformed surfaces adjacent to formed surfaces, strike-off smooth and finish with a texture matching adjacent formed surfaces. Continue final surface treatment of formed surfaces uniformly across adjacent unformed surfaces unless otherwise indicated.

3000.18. MONOLITHIC SLAB FINISHES

- A. Float Finish: Apply float finish to monolithic slab surfaces to receive trowel finish and other finishes as specified; slab surfaces to be covered with membrane or elastic waterproofing, membrane or elastic roofing, or sand-bed terrazzo; and where indicated.
1. After screeding, consolidating, and leveling concrete slabs, do not work surface until ready for floating. Begin floating, using float blades or float shoes only, when surface water has disappeared, or when concrete has stiffened sufficiently to permit operation of power-driven floats, or both. Consolidate surface with power-driven floats or by hand-floating if area is small or inaccessible to power units.

Finish surfaces to tolerances of F(F) 18 (floor flatness) and F(L) 15 (floor levelness) measured according to ASTM E 1155. Cut down high spots and fill low spots. Uniformly slope surfaces to drains. Immediately after leveling, refloat surface to a uniform, smooth, granular texture.

- B. Trowel Finish: Apply a trowel finish to monolithic slab surfaces exposed to view and slab surfaces to be covered with resilient flooring, carpet, ceramic or quarry tile, paint, or another thin film-finish coating system.
- C. After floating, begin first trowel-finish operation using a power-driven trowel. Begin final troweling when surface produces a ringing sound as trowel is moved over surface. Consolidate concrete surface by final hand-troweling operation, free of trowel marks, uniform in texture and appearance, and finish surfaces to tolerances of F(F) 20 (floor flatness) and F(L) 17 (floor levelness) measured according to ASTM E 1155. Grind smooth any surface defects that would telegraph through applied floor covering system.
- D. Nonslip Broom Finish: Apply a nonslip broom finish to exterior concrete platforms, steps, and ramps, and elsewhere as indicated.
- E. Immediately after float finishing, slightly roughen concrete surface by brooming with fiber-bristle broom perpendicular to main traffic route. Coordinate required final finish with Engineer before application.
- F. Nonslip Aggregate Finish: Apply nonslip aggregate finish to concrete stair treads, platforms, ramps, sloped walks, and where indicated.
- G. After completing float finishing and before starting trowel finish, uniformly spread dampened nonslip aggregate at a rate of 25 lb per 100 sq. ft. of surface. Tamp aggregate flush with surface using a steel trowel, but do not force below surface. After broadcasting and tamping, apply trowel finishing as specified.
- H. After curing, lightly work surface with a steel wire brush or an abrasive stone, and water to expose nonslip aggregate.

3000.19. MISCELLANEOUS CONCRETE ITEMS

- A. Filling In: Fill in holes and openings left in concrete structures for passage of work by other trades, unless otherwise shown or directed, after work of other trades is in place. Mix, place, and cure concrete as specified to blend with in-place construction. Provide other miscellaneous concrete filling shown or required to complete Work.
- B. Curbs: Provide monolithic finish to interior curbs by stripping forms while concrete is still green and by steel-troweling surfaces to a hard, dense finish with corners, intersections, and terminations slightly rounded.

3000.20. CONCRETE CURING AND PROTECTION

- A. General: Protect freshly placed concrete from premature drying and excessive cold or hot temperatures. In hot, dry, and windy weather protect concrete from rapid moisture loss before and during finishing operations with an evaporation-control material. Apply according to manufacturer's instructions after screeding and bull floating, but before power floating and troweling.
- B. Start initial curing as soon as free water has disappeared from concrete surface after placing and finishing. Weather permitting, keep continuously moist for not less than 7 days.
- C. Curing Methods: Cure concrete by curing compound, by moist curing, by moisture-retaining cover curing, or by combining these methods, as specified.

3000.21. REMOVING FORMS

- A. General: Formwork not supporting weight of concrete, such as sides of beams, walls, columns, and similar parts of the work, may be removed after cumulatively curing at not less than 50 deg F for 24 hours after placing concrete, provided concrete is sufficiently hard to not be damaged by form-removal operations, and provided curing and protection operations are maintained.

3000.22. REUSING FORMS

- A. Clean and repair surfaces of forms to be reused in the Work. Split, frayed, delaminated, or otherwise damaged form-facing material will not be acceptable for exposed surfaces. Apply new form-coating compound as specified for new formwork.
- B. When forms are extended for successive concrete placement, thoroughly clean surfaces, remove fins and laitance, and tighten forms to close joints. Align and secure joint to avoid offsets. Do not use patched forms for exposed concrete surfaces except as acceptable to Engineer.

3000.23. CONCRETE SURFACE REPAIRS

- A. Patching Defective Areas: Repair and patch defective areas with cement mortar immediately after removing forms, when acceptable to Engineer.
- B. Mix dry-pack mortar, consisting of one-part Portland cement to 2-1/2 parts fine aggregate passing a No. 16 mesh sieve, using only enough water as required for handling and placing.
- C. Cut out honeycombs, rock pockets, voids over 1/4 inch in any dimension, and holes left by tie rods and bolts down to solid concrete but in no case to a depth less than 1 inch. Make edges of cuts perpendicular to the concrete surface. Thoroughly clean, dampen with water, and brush-coat the area to be patched with bonding agent. Place patching mortar before bonding agent has dried.

- D. For surfaces exposed to view, blend white portland cement and standard portland cement so that, when dry, patching mortar will match surrounding color. Provide test areas at inconspicuous locations to verify mixture and color match before proceeding with patching. Compact mortar in place and strike-off slightly higher than surrounding surface.
- E. Repairing Formed Surfaces: Remove and replace concrete having defective surfaces if defects cannot be repaired to satisfaction of Engineer. Surface defects include color and texture irregularities, cracks, spalls, air bubbles, honeycomb, rock pockets, fins and other projections on the surface, and stains and other discolorations that cannot be removed by cleaning. Flush out form tie holes and fill with dry-pack mortar or precast cement cone plugs secured in place with bonding agent.
- F. Repair concealed formed surfaces, where possible, containing defects that affect the concrete's durability. If defects cannot be repaired, remove and replace the concrete.
- G. Repairing Unformed Surfaces: Test unformed surfaces, such as monolithic slabs, for smoothness and verify surface tolerances specified for each surface and finish. Correct low and high areas as specified. Test unformed surfaces sloped to drain for trueness of slope and smoothness by using a template having the required slope.
- H. Repair finished unformed surfaces containing defects that affect the concrete's durability. Surface defects include crazing and cracks in excess of 0.01 inch wide or that penetrate to the reinforcement or completely through nonreinforced sections regardless of width, spalling, popouts, honeycombs, rock pockets, and other objectionable conditions.
- I. Correct high areas in unformed surfaces by grinding after concrete has cured at least 14 days.
- J. Correct low areas in unformed surfaces during or immediately after completing surface finishing operations by cutting out low areas and replacing with patching mortar. Finish repaired areas to blend into adjacent concrete. Proprietary underlayment compounds may be used when acceptable to Engineer.
- K. Repair defective areas, except random cracks and single holes not exceeding 1 inch in diameter, by cutting out and replacing with fresh concrete. Remove defective areas with clean, square cuts and expose reinforcing steel with at least 3/4 inch clearance all around. Dampen concrete surfaces in contact with patching concrete and apply bonding agent. Mix patching concrete of same materials to provide concrete of same type or class as original concrete. Place, compact, and finish to blend with adjacent finished concrete. Cure in same manner as adjacent concrete.
- L. Perform structural repairs with prior approval of Engineer for method and procedure, using specified epoxy adhesive and mortar.

- M. Repair methods not specified above may be used, subject to acceptance of Engineer.

3000.24. QUALITY CONTROL TESTING DURING CONSTRUCTION

- A. General: The Owner will designate a testing agency to perform tests and to submit test reports. The Contractor shall bear all costs and related expenses for testing, to be performed.
- B. Sampling and testing for quality control during concrete placement may include the following, as directed by Engineer.
- C. Sampling Fresh Concrete: ASTM C 172, except modified for slump to comply with ASTM C 94.
1. Slump: ASTM C 143; one test at point of discharge for each day's pour of each type of concrete; additional tests when concrete consistency seems to have changed.
 2. Air Content: ASTM C 173, volumetric method for lightweight or normal weight concrete; ASTM C 231, pressure method for normal weight concrete; one for each day's pour of each type of air-entrained concrete.
 3. Concrete Temperature: ASTM C 1064; one test hourly when air temperature is 40 deg F and below, when 80 deg F and above, and one test for each set of compressive-strength specimens.
 4. Compression Test Specimen: ASTM C 31; one set of four standard cylinders for each compressive-strength test, unless otherwise directed. Mold and store cylinders for laboratory-cured test specimens except when field-cured test specimens are required.
 5. Compressive-Strength Tests: ASTM C 39; one set for each day's pour exceeding 5 cu. yd. plus additional sets for each 50 cu. yd. more than the first 25 cu. yd. of each concrete class placed in any one day; one specimen tested at 7 days, two specimens tested at 28 days, and one specimen retained in reserve for later testing if required.
 6. When frequency of testing will provide fewer than five strength tests for a given class of concrete, conduct testing from at least five randomly selected batches or from each batch if fewer than five are used.
 7. When total quantity of a given class of concrete is less than 50 cu. yd., Engineer may waive strength testing if adequate evidence of satisfactory strength is provided.

8. When strength of field-cured cylinders is less than 85 percent of companion laboratory-cured cylinders, evaluate current operations and provide corrective procedures for protecting and curing the in-place concrete.
 9. Strength level of concrete will be considered satisfactory if averages of sets of three consecutive strength test results equal or exceed specified compressive strength and no individual strength test result falls below specified compressive strength by more than 500 psi.
- D. Test results will be reported in writing to Engineer, Structural Engineer, ready-mix producer, and Contractor within 24 hours after tests. Reports of compressive strength tests shall contain the Project identification name and number, date of concrete placement, name of concrete testing service, concrete type and class, location of concrete batch in structure, design compressive strength at 28 days, concrete mix proportions and materials, compressive breaking strength, and type of break for both 7-day tests and 28-day tests.
- E. Nondestructive Testing: Impact hammer, sonoscope, or other nondestructive device may be permitted but shall not be used as the sole basis for acceptance or rejection.
- F. Additional Tests: The testing agency will make additional tests of in-place concrete when test results indicate specified concrete strengths and other characteristics have not been attained in the structure, as directed by Engineer. Testing agency may conduct tests to determine adequacy of concrete by cored cylinders complying with ASTM C 42, or by other methods as directed.
- 3000.25. INSTALLATION:
- A. Excavation
1. The Contractor shall cut and remove any asphalt paving curbs, drives, or other surface material required to make the excavations. The Contractor shall make all excavations in such a manner and to such widths as will provide ample room for properly installing the cast in place concrete walls, and to permit the thorough compacting of the backfill material.
 2. The Contractor shall excavate to the depth shown on the plans and to a width of one (1) foot on each side of the outside of the concrete walls. Hand excavation shall be employed wherever, in the opinion of the Engineer, it is necessary for the protection of existing utilities, trees, pavements or other structures, at no additional cost.
 3. The Contractor shall keep the excavation area free from water. This shall be done as part of this item.
 4. The concrete footings shall rest on suitable material. If the soil encountered at the invert is unsuitable (i.e. soft, spongy, etc.) it shall be excavated and removed.

Excavation shall be from a point one foot below the design invert of the structure to the bottom of the excavation for a width of one (1) foot on each side of the structure and to a depth as called for by the Engineer. There shall be no payment for the first foot of extra depth under the Miscellaneous Earth Excavation item. Payment for the first foot shall be included as part of this item. The Contractor shall replace the excavated material with No. 2 crushed stone, which shall be thoroughly compacted. Payment of the excavation of the unstable bottom shall be under the Miscellaneous Earth Excavation item.

5. The Contractor shall provide adequate sheeting, bracing, and pumping of the excavation, whenever necessary to provide safe working conditions, prevent damage to pavement, structures, pipes and utilities or shifting of materials and shall be completely responsible for its adequacy and all damages resulting from its installation, removal, failure or omission. Such sheeting, shoring or bracing shall be included as part of this item.

B. Sheeting and Bracing

1. Trenches shall be properly sheeted, shored and braced as necessary to prevent shifting of materials, to prevent damage to structures, pavement and pipes and to provide safe working conditions.
2. The Contractor shall be responsible for submitting site-specific sheeting designs to the Engineer for review & approval. Sheeting designs must be signed and sealed by a licensed professional in the State of New York.
3. The Contractor shall be responsible for providing, installation of and for the adequacy of all sheeting and bracing used and for all damage resulting from its failure or from placing, maintaining and removing it. No payment will be made for sheeting and bracing if it is removed, or if it is left in place for the Contractor's convenience. If the sheeting and bracing is ordered to be left in place by the Engineer after having been constructed, the Contractor shall be entitled to the cost of materials so left in place.
4. If there is a space between the sheeting and the side of the trench, the space shall be backfilled with suitable material thoroughly compacted in place. Where adjacent structures, pavement or pipes may be damaged by the removal of sheeting, the Contractor shall not remove the sheeting all sheeting left in place shall be cut off at least two (2) feet below the surface of the ground. Where sheeting or shoring is to be removed, the removal shall be in such a manner as to prevent loss of ground.
5. The Contractor's attention is drawn to the NYS Dept. of Labor Industrial Code Rule #23 and O.S.H.A. regulations, which must be strictly adhered to. Prefabricated sheeting boxes may be used only with the approval of the Engineer as to the box itself and the method of use.

C. Backfill

1. After the concrete walls have been properly constructed and inspected, the space between the walls and the sides of the trench shall be backfilled and compacted in nine inch layers. Water may be required by the inspector to be added to the backfill material, to insure its compaction to a degree at least equal to that of the surrounding earth. No stones larger than two (2) cubic feet shall be allowed in the backfill within three (3) feet from the sides of the structure.
2. Excess material and unsuitable backfill material shall be removed from the site and replaced with suitable backfill as determined by the Engineer.
3. Placement of select structural fill will be pay under item 700A

3000.26. MEASUREMENT:

- A. The measurement for this item shall be by the cubic yard of concrete placed for the retaining wall footing, wall, and slab.

3000.27. PAYMENT:

- A. The payment shall be at the unit price per cubic yard. This price shall include, but not limited to, all labor, materials and equipment necessary to construct the concrete retaining wall in accordance with the plans and details.
- B. Excavation shall be included under this item.
- C. Unless otherwise noted all material referenced in this specification shall be paid for under this item. No separate payment will be made for $\frac{3}{4}$ " stone or crushed stone, filter fabric, drain board, 3" weep hole sleeves, 6" perforated PVC pipe and connections to drainage structures, joint filler, in accordance with the plans and details.
- D. Payment shall be at the unit price bid includes, but not limited to, a completed, accepted cast in place concrete walls, stairs, and ramps, constructed as specified herein. Said payment shall be for providing all labor, materials and equipment for the cast in place concrete, joint filler, sheeting and shoring, $\frac{3}{4}$ " stone, filter fabric, 6" perforated PVC pipe, 3" weep hole sleeves, drain board, maintaining excavation, construction, and backfilling.
- E. Select Structural Fill will be paid for under item 700A.

PAYMENT FOR CAST IN PLACE CONCRETE SHALL BE AS FOLLOWS:

<u>Item</u>	<u>Description</u>	<u>Units</u>
3000A	Cast in place concrete retaining walls & footing over 4 ft	CY

Village of Dobbs Ferry
Gould Park Improvements
Project No. 3327OC-3

3000B	Cast in place concrete retaining walls & footing for stairs	CY
3000C	Cast in place concrete retaining walls & footing under 4 ft & ramp	CY

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ITEM 3001 - CONCRETE FORM LINERS

Description: Work under this item shall consist of furnishing, installing and removing concrete form liners that will be used to produce a simulated stone facing on the exposed faces of the cast-in-place concrete, wingwalls and end blocks as shown on the plans, as directed by the Engineer and in accordance with these specifications. All form lined concrete surfaces shall be stained.

Materials: The concrete form liner shall conform to:

Wood Pattern (to be determined) by Sika Architectural Concrete Formliners or approved equal. Shop drawings shall be submitted for review and approval by the Engineer and the Village of Dobbs Ferry.

Concrete Stain shall be as determined by the Engineer and the Village of Dobbs Ferry

Form Liners – The form liners shall be reusable, made of high-strength urethane and not compress more than 3/16” when concrete is poured at a rate of 10 vertical feet per hour. All form liners for the project shall be from a single supplier.

Release Agent – The release agent shall be compatible with the form liners as recommended by the manufacturer.

Form Ties – The form ties shall be designed to separate at least 1 inch back from the finished surface, leaving only a neat hole that can be plugged with patching material. Patching material shall be Portland Cement Mortar of a suitable type.

Construction Methods: The Contractor shall submit the following for approval by the Engineer prior to beginning the forming operations:

Form Tie Sample – A sample, description and demonstration of the form tie the Contractor proposes to use.

Layout Plans (3 copies) – Layout plans shall be the plan, elevation and details showing the overall pattern, joint locations, form tie locations, weep-hole locations and any other special conditions.

Concrete Facing Test Panel – A concrete test panel is to be built on site, using the same materials and methods of work force that will be used for the project. The Village of Dobbs Ferry shall approve the location of the test panel and review the constructed test panel along with the Engineer. The form liner pattern and color stain will be completed to the satisfaction of the Village of Dobbs Ferry for their viewing and approval. Upon review of the test panel the Town shall provide a written approval to the Contractor to use the form liner pattern and color stain on the retaining walls. The concrete test panel shall conform to the following:

1. The size of the test panel shall be 50 square feet, or larger if needed to adequately illustrate the pattern selected.

CONCRETE FORM LINERS

2. The test panel shall contain an area demonstrating the continuation of the pattern through an expansion joint.
3. The curing period of the wall concrete shall be complete to the satisfaction of the Engineer before a stain can be applied to the form lined surface.
4. The test panel shall be removed when it is no longer needed, to the satisfaction of the Engineer

Wall Patching – After the form liners are removed, all honeycombed areas and tie holes shall be filled and textured to match the surrounding areas. Seam lines and other unnatural protrusions shall be ground down to match adjacent areas with a hand-held power grinder using disks made for concrete. Patching of tie holes & honeycombed areas and grinding of seams shall be performed immediately after removal of the form liners. The process of wall patching shall be to the satisfaction of the Engineer.

Method of Measurement: No measurement for payment under this item shall be made, as this item includes all work or materials that may be required.

Basis of Payment: Payment for this work is deemed included in items 3000A, 3000B and 3000C of this contract and no separate payment will be made therefore.