Town of Clayton
405 Riverside Drive
Clayton, New York 13624
Telephone: (315) 686-3512
Fax: (315) 686-2651
www.townofclayton.com

TOWN BOARD WORKSHOP MEETING AGENDA

Wednesday, March 25, 2026 • 5:00pm • Cerow Recreation Park Arenal

1. **Pledge of Allegiance**

2. **Town Board Workshop Meeting**

   A. **Town Clerk**
   i. *Correspondence* that Needs Recording
   ii. *Minutes* from 03/11/26 Regular Meeting

   B. **Public**: *Comment on Agenda Items*

   C. **Workshop Discussion Items:**
   i. JT IMAs Discussion
   ii. Resolution 40 of 2026: Highway Work Permit Undertaking for NYS DOT
   iii. Resolution 41 of 2026: TIERS Agreement Amendment
   iv. Training: Buck Robinson- AOT Highway School-6/1-6/3 Registration fee-$175.00
   v. Redi Marina Bid & Project Update
   vi. Depauville Sewer Project Bid & Update

3. **Adjournment** **Next Meeting:** *Wednesday, April 8, 2026 @ 5:00pm Cerow Recreation Park Arena*

Charter
COMMUNICATIONS

Alice J. Kim
Senior Director, Government Affairs

March 20, 2026

RE: Charter Communications - Upcoming Changes

Dear Municipal Official:

This letter will serve as notice that on March 16, 2026, The Cowboy Channel rebranded to Cowboy Channel. There will be no change in programming. This change is out of Spectrum's Control.

If you have any questions, please feel free to contact me at 315-634-6170 or via email at Alice.Kim@charter.com.

Sincerely,

Alice J. Kim
Senior Director, Government Affairs
Charter Communications

815 ERIE BLVD. E. SYRACUSE, NY 13210 O (315) 634-6170 Alice.Kim@Charter.com

TOWN OF CLAYTON
GMAIL GROUPWARE

Rylee Babcock <deputyclerk@townofclayton.com>

Fwd: Municipal Notice of Full-Service Restaraunt.

1 message

Megan Badour <townclerk@townofclayton.com> Wed, Mar 11, 2026 at 9:39 AM
To: Rylee Babcock <deputyclerk@townofclayton.com>

Correspondence

---------- Forwarded message ----------
From: **Sam Tiffany** <sam@regattafrenchbay.com>
Date: Wednesday, March 11, 2026
Subject: Municipal Notice of Full-Service Restaraunt.
To: townclerk@townofclayton.com

Hi, my name is Sam Tiffany and I'm opening a new restaurant and bar at the A-frame building at French Bay Marina. Below I've attached a letter to notify you of our intent to operate and apply for a liquor license with NYSLA.

Please confirm receipt of this letter for our records, and if there is anything else you need from me just let me know.

Thank you!
Sam Tiffany

--
Megan Badour, *Town Clerk/Tax Collector*
Town of Clayton
405 Riverside Dr.
Clayton, NY 13624
townclerk@townofclayton.com
(315)686-3512

Municipal Notice (2).pdf
46K

NEW YORK STATE | Department of Environmental Conservation

KATHY HOCHUL
Governor

AMANDA LEFTON
Commissioner

CLAYTON/DEPAUVILLE SD
405 RIVERSIDE DRIVE
CLAYTON, NY 13624

March 12, 2026

Dear Colleagues in the Wastewater Community:

On March 11, 2026, the New York State Department of Environmental Conservation (DEC) published a Notice of Adoption in the *New York State Register* and in the *Environmental Notice Bulletin* to amend Parts 616, 650, and 750 of Title 6 of the Official Compilation of Codes, Rules, and Regulations of the State of New York (6 NYCRR). These new regulations add **wastewater cybersecurity and related regulations** for New York wastewater treatment facilities. Please share the following information with anyone in your municipality who may be impacted and encourage them to contact DEC with questions at watercyber@dec.ny.gov.

Cybersecurity Incident Reporting

On **March 26, 2026** the first requirement becomes effective. Under 6 NYCRR 750-2.7(h) all State Pollutant Discharge Elimination System (SPDES) permittees, both publicly and privately owned, **must report all cybersecurity incidents to DEC within 24-hours of becoming aware of the incident**. Please refer to the attached flyer entitled "*How to Report a Wastewater Cybersecurity Incident to DEC*" for more details.

Required Cybersecurity Training for Wastewater Operators

6 NYCRR 650.8 and 650.12 require that wastewater treatment plant operators, certified in accordance with Part 650, complete a minimum number of training hours on the topic of cybersecurity to renew their certification every five years.

Grades 1/1A and 2/2A operators are required to complete **two hours** of training in the topic of cybersecurity every five years, while Grades 3/3A and 4/4A operators are required to complete **four hours** of training in cybersecurity topics every five years. These hours are included within the overall number of required hours – they are not in addition to the total required hours.

DEC-approved trainings are listed on DEC's **Wastewater Cybersecurity Resources** webpage (https://dec.ny.gov/environmental-protection/water/water-quality/wastewater-treatment-resources/wastewater-cybersecurity-resources). Look for the "*Additional Cybersecurity Resources*" section and click on the plus sign next to "*Training*." If a training provider does not provide a DEC RTC number, operators should reach out to watercyber@dec.ny.gov *before* taking a training to ensure it will be counted toward the requirement. DEC does not guarantee that a course that is taken without prior DEC approval will be accepted.

Other New Requirements

Annual Certifications: The **principal executive officer or ranking elected official** (or duly-authorized executive-level official) of any municipality that is the legally responsible party (LRP) for a POTW must certify annually, by March 28th, that the POTW is complying with the new requirements. The **first required annual certifications will be due on or before March 28, 2027** through DEC's nForm platform.

Each of the following new requirements applies only to Publicly Owned Treatment Works (POTWs). Each of the following requirements is effective **March 11, 2027.**

- **Emergency Response Plan (ERP) and Cybersecurity Incident Response Plan (IRP)**: POTWs are required to use either existing plans (if certain requirements are met) or establish, maintain, and implement new plans using United States Environmental Protection Agency (EPA) templates incorporated by reference into the regulations. The cybersecurity IRP must be incorporated into the overall ERP. See 6 NYCRR 750-2.9(d) and 2.9(e)(3).
- **Access Control and Authentication**: POTWs must establish, maintain, and implement written rules and/or procedures that address password security, complexity and management; disallow use of default credentials; and require multi-factor authentication (MFA) for any allowable remote access to Operational Technology (OT). See 6 NYCRR 750-2.9(e)(1)(i).
- **Vulnerability Management**: POTWs must establish, maintain, and implement a written cybersecurity vulnerability management process that incorporates specific steps laid out in the regulation. See 6 NYCRR 750-2.9(e)(1)(ii).
- **Secure Network Structure:** POTWs must establish, maintain, and implement a written description of network structure that protects operational technology (OT) by separating it completely from information technology (IT) and external networks such as the internet, or by securing necessary connections using appropriate cybersecurity controls. See 6 NYCRR 750-2.9(e)(1)(iii).
- **Network Monitoring and Logging:** POTWs with design flows 10 million gallons per day (MGD) or more, must implement network monitoring and logging, unless: 1) there is no connection between IT/external networks and OT, or 2) the only connection

between OT and IT/external networks is devices that only allow, and are only capable of allowing, data to travel unidirectionally from OT. See 6 NYCRR 750-2.9(e)(2).

Documents Incorporated by Reference

DEC incorporated six new documents by reference into Part 750. See 6 NYCRR 750-2.9(e)(4) and 6 NYCRR 750-1.25(j) through (o). Although the emergency response planning and cybersecurity control requirements themselves are not effective until March 11, 2027, incorporation by reference becomes effective on **March 26, 2026**—this allows POTWs to begin to use these documents in to establish, maintain, and implement the requirements that are due on March 11, 2027.

Resources

DEC has created a variety of resources to assist POTWs and their legally responsible parties with understanding and implementing the new regulations. These include:

- DEC's **Wastewater Cybersecurity Resources** webpage (https://dec.ny.gov/environmental-protection/water/water-quality/wastewater-treatment-resources/wastewater-cybersecurity-resources) is the knowledge hub for all things related to wastewater cybersecurity in New York. On this page, you will find links to the newly adopted regulations, to the cybersecurity incident reporting portal, a list of DEC-approved cybersecurity training courses for wastewater operators, and to a variety of free cybersecurity services and resources offered by state and federal agencies. Also notably, at the request of stakeholders during regulation development, DEC prepared the following resources specifically to assist in understanding and implementing the new regulations:
  - A set of 1-2 page **factsheets** that explain each discrete requirement in the new regulations
  - A **compendium** of resources that are mapped to each regulatory requirement
  - Anticipated **frequently asked questions and answers** related to the new regulations
- Two *DEC Delivers* electronic bulletins (distribution lists), one focused on Wastewater Cybersecurity and one focused on Wastewater Operators. **Please note: DEC will distribute information about EFC's SECURE grant, which will provide funding for projects that enhance cyber protections, through DEC Delivers.**
  - The Wastewater Cybersecurity e-bulletin is used to communicate to the wastewater community about select cybersecurity alerts, cybersecurity training opportunities, funding opportunities, guidance and resources, and other cybersecurity-related topics. Future webinars on the new regulations will also be promoted through this distribution list. Subscribe to the Wastewater Cybersecurity Topic at the following link:

https://public.govdelivery.com/accounts/NYSDEC/subscriber/new?topic_id=NYSDEC_197

- The Wastewater Operators e-bulletin is used primarily to provide updates regarding wastewater operation, certification courses and renewal training opportunities. Subscribe to the Wastewater Operators topic at the following link: https://public.govdelivery.com/accounts/NYSDEC/subscriber/new?topic_id=NYSDEC_47.

- Please contact DEC Division of Water's Wastewater Cybersecurity Team at watercyber@dec.ny.gov if you have additional questions, or for the *DEC Delivers* subscription links described above.

Summary of Applicability and Effective Dates

Requirement	Applicability	Effective Date
Mandatory Cybersecurity Incident Reporting	All SPDES Permittees (publicly owned and privately owned)	March 26, 2026
Cybersecurity Training	NYS-certified Wastewater Operators	All certificates that expire on or after January 1, 2027
Emergency Response Plan (ERP) with Cybersecurity Incident Response Plan (IRP) incorporated	All POTWs	March 11, 2027
Written rules and/or procedures for access control and authentication	All POTWs	March 11, 2027
Written cybersecurity vulnerability management process (including cyber asset inventory)	All POTWs	March 11, 2027
Network Monitoring and Logging	POTWs with a design flow of greater than or equal to 10 million gallons per day (MGD)	March 11, 2027
Documents Incorporated by Reference	All POTWs	March 26, 2026 (to be used in establishment of cyber controls due on March 11, 2027)
Two Annual Certifications (one for ERP and one for all cyber controls)	Principal executive officer or ranking elected official of any municipality that is the legally responsible party for a POTW, or an executive level municipal official that is a duly authorized representative.	March 28, 2027

NEW YORK STATE | Department of Environmental Conservation

How to Report a Wastewater Cybersecurity Incident to NYS DEC

Follow these steps:

1. **Within 24 hours, complete the online Cybersecurity Incident Reporting Form at** https://dec.ny.gov/environmental-protection/water/water-quality/wastewater-treatment-resources/wastewater-cybersecurity-resources/cyber-incident-reporting.

   *This must be completed **within 24 hours** of becoming aware of the incident.*

   - Report details to the extent known at this time.
   - You will receive a Submission Tracking ID number. Write it down.

2. **Call your Regional Water Engineer (RWE).**

   *This phone call must take place **within 24 hours** after becoming aware of the incident.*

   - If you do not know how to reach or are unable to reach your RWE, call DEC Dispatch at **1-844-332-3267**.
   - You do not need to repeat the information submitted in the online form. You only need to identify yourself and your facility and inform your RWE or dispatch that you have reported online.

3. **Within 30 days, complete the 30-day Cybersecurity Incident Report at** https://dec.ny.gov/environmental-protection/water/water-quality/wastewater-treatment-resources/wastewater-cybersecurity-resources/cyber-incident-reporting.

   *This report must be completed **within 30 days** after becoming aware of the incident.*

   - You will need to enter the Submission Tracking ID from your initial report.
   - Report details to the extent known at this time.
   - You do not need to make a phone call to confirm that you submitted the 30-day report.

Town of Clayton Regular Meeting Minutes

Wednesday, March 11, 2026

The Town Board of the Town of Clayton held their regular meeting at 5:00 PM, located at Cerow Recreation Park, 600 East Line Rd, Clayton, NY.

The following persons attended:

Timothy Doney	Kenneth Knapp	Kevin Patchen	Steve Dorr, I.
James Kenney	Pamela McDowell	Mariah LaClair	Megan Badour
Raymond Robinson	James Jones	Christopher Badour	

1. Pledge of Allegiance: Supervisor Doney led the pledge of allegiance.

2. Guests: N/A

3. Town Clerk
   A. Correspondence that Needs Recording
      - Pivot Report (see attached)
   B. Minutes
      - Motion was made by Kevin Patchen, seconded by Kenneth Knapp, to approve workshop meeting minutes from 2/25/26. **Motion carried.**

4. Public: N/A

5. General Discussion Items:
   A. Bills & Transfers:
      i. Abstract #3 of 2026 in the amount of $275,569.19
      Motion was made by Steve Dorr, I., seconded by Kenneth Knapp, to approve abstract #3 of 2026, in the amount of $275,569.19. **Motion carried.**
      ii. Transfers: N/A
      iii. Budget Amendment: N/A
      iv. New Accounts/Special Entries: N/A
   B. Supervisor's Report & Bank Reconciliations:
   Motion was made by Kenneth Knapp, seconded by James Kenney to approve the Supervisor's Report and Bank Reconciliations for February 2026. **Motion carried.**
   C. Balance Sheets: February 2026
   D. Resignations, Appointments & Rate Changes
      i. Resignations & Appointments: Planning & Zoning Board of Appeals Alternates
         a. LORI ARNOT: PLANNING ALTERNATE
         Motion was made by James Kenney, seconded by Kevin Patchen, to appoint Lori Arnot as a Planning Board Alternate on behalf of the Town. **Motion carried.**
         At this time further discussion will be needed on approval of the Village of Clayton's proposal for their selected alternate.
      ii. Rate Changes: N/A
   E. Training:

i. Compost Site Operator Workshop:
Motion was made by Kenneth Knapp, seconded by Kevin Patchen, to authorize James E. Jones to attend the Compost Site Operator Workshop. **Motion carried.**
ii. Annual Compliance Training is scheduled for 4/28/26 @ Recreation Park Arena, 600 East Line Rd in Clayton to begin at 7 am. Justin Taylor will teach fire safety and Todd Cuafield will lead OSHA training.

F. Washington Island Bridge- Village Project Open House on 3/11/26 from 6-7pm at the Municipal Building.

G. NYS DOT Emergency Shared Service Agreement:
Motion was made by Kenneth Knapp, seconded by James Kenney to approve the NYS DOT Emergency Shared Service Agreement for a period of four years beginning 5/1/2026. **Motion carried.**

H. 2025 AFR: This has been filed, and a public notice has been sent to the paper stating there is a copy available in the Town Clerk's office for review.

I. TIERS Agreement Amendment: TIERS would like to officialize the increased tax levy and extension of the agreement through the end of the year with an amendment. The draft has been sent to legal for review at this time.

J. Veteran's Flags, Depauville:
Motion was made by Kenneth Knapp, seconded by Steve Dorr, to approve this request of a Veteran's Flags in Depauville as long as permission is granted by National Grid. **Motion carried.**

6. Supervisor's Report: Highway, Consolidated Health District, Youth Commission & Antique Boat Museum: Supervisor Doney indicated that at this time the American Legion is working to move forward with a plan for flags in Depauville.

7. Department Head Reports:

A. Highway Superintendent: Raymond Robinson reported that the Highway Department is preparing for Spring, this harsh Winter did take a toll on equipment.

B. Buildings & Grounds: James Jones reported that the ice is out: Irish Fest is this weekend, and then upcoming: DU Gun Bash, Boat Show and White's Home Show. Discussion with regards to the needs at the Opera House for work on the boiler and some work at the Depauville Library. Mr. Jones is looking into the possibility of vending machines at the arena.

C. Assessor: Christina Johnson: See Attached

D. Codes/Zoning: Richard Ingerson: See Attached

8. Council Reports:

A. Councilman Knapp: Libraries & Chamber of Commerce: Mr. Knapp reported Easter events planned for Haun Library. He also brought to discussion the end of Calumet Blvd and looking into a plan for that area.

B. Councilman Patchen: Buildings & Grounds, Cemeteries, and Purchasing & Personnel: Mr. Patchen reported that upon meeting with TIERS members, they shared how grateful they are for the relationship with the Town of Clayton and its Board Members.

C. Councilman Kenney: Safety Coordinator, Planning/Zoning, and Sewer Districts: N/A

D. Councilman Dorr: N/A

9. Public: N/A

10. Adjournment
Motion was made by Kenneth Knapp, seconded by Kevin Patchen, to adjourn regular meeting at 5:52 PM. **Motion carried.**

Next Board Meeting: Wednesday, March 25, 2026 @ 5:00pm, located at Cerow Rec Park Arena, 600 East Line Rd, Clayton, NY 13624.

Megan Badour, Town Clerk

RESOLUTION NO. 40 OF 2026

TOWN OF CLAYTON

A RESOLUTION AUTHORIZING THE HIGHWAY SUPERINTENDENT TO EXECUTE UNDERTAKINGS IN CONNECTION WITH HIGHWAY PERMITS BY NYS DEPARTMENT OF TRANSPORTATION AGREEMENT

Dated: March 25, 2026

At a regular meeting of the Town Board of Clayton, Jefferson County, New York held at the Cerow Recreation Park Arena, 600 East Line Road, Clayton, New York, on the 25th day of March, 2026 at 5:00 pm, prevailing time.

The meeting was called to order by Supervisor Doney and upon roll being called, the following were:

PRESENT: Timothy Doney, Supervisor

James Kenney, Councilman

Steve Dorr, Councilman

Kevin Patchen, Councilman

Kenneth Knapp, Councilman

ABSENT: None

WHEREAS, the Town of Clayton from time to time receives permits from the NYS Department of Transportation (DOT) to temporarily obstruct, install, construct, maintain, operate or replace any facilities within the bounds of a New York State highway right-of-way; and

WHEREAS, the Town of Clayton is required by NYS DOT to indemnify or hold harmless agencies and/or officials of the State of New York for such temporary obstructions, installments, constructions or maintenance.

NOW, THEREFORE, BE IT RESOLVED, that the Highway Superintendent of the Town of Clayton is authorized to execute the Undertaking in Connection with Highway Permits Issued by NYS DOT agreement.

The forgoing Resolution was offered by Board Member, _____, and seconded by Board Member, _____, and upon roll call vote of the Board was duly adopted as follows:

Timothy Doney, Supervisor	Yes ___	No___	Absent___
Kenneth Knapp, Councilman	Yes ___	No___	Absent___
James Kenney, Councilman	Yes ___	No___	Absent___
Steve Dorr, Councilman	Yes ___	No___	Absent___
Kevin Patchen, Councilman	Yes ___	No___	Absent___

Yes __ No__ Abstain__ Absent__ Dated: March 25, 2026

The Resolution was thereupon declared duly adopted and shall take effect immediately.

Certification:

I, Megan Badour, Town Clerk of the Town of Clayton, do hereby certify that the above resolution was adopted at a regular meeting of the Town Board of the Town of Clayton held on March 25, 2026 and it is on file and of record, and that said resolution has not been altered, amended or revoked and it's in full force and effect.

_____

[SEAL] Megan Badour, Town Clerk

UNDERTAKING

For the benefit of

The New York State Department of Transportation

In connection with work affecting state highways

(For use by New York municipalities and federal agencies

WHEREAS, the undersigned Town of Clayton (Municipality, County, Town, City or Village, or any agency of the federal government, hereinafter referred to as "Permittee") from time to time receives permits from the New York State Department of Transportation (hereinafter referred to as the "NYSDOT") and otherwise conducts activities and operations upon highways and/or within right-of-way controlled by the State of New York for such purposes as the obstruction, installation, construction, maintenance and/or operation of facilities; and

WHEREAS, Permittee's access and operation upon state right-of-way is conditioned upon compliance with Highway Law Sections 52, 103, 203 and/or 234, including the conditions that Permittee assume all responsibility for (a) the temporary control of all modes of traffic (including motorized and non-motorized travel) affected by Permittee's operations, (b) complete restoration of state facilities to their condition prior to permitted use or activity, and (c) all claims, damages, losses and expenses,

NOW, THEREFORE, in relation to all operations and/or actions undertaken within state right-of-way, Permittee hereby agrees to the following terms and conditions:

1. Permit Applications. Excepting only activities undertaken to protect public safety because of emergency conditions or incidents, Permittee shall provide timely written notice to NYSDOT of operations or activities affecting state right-of-way. Under normal circumstances, a minimum of five business days notice shall be provided. Notification of emergency activities shall be provided to NYSDOT as soon as practicable after the activity. The Permittee shall apply for project-specific permits for activities not allowed under any existing annual permit. Such application shall identify proposed project locations, desired dates/hours, proposed work/activities, traffic control, and site restoration

2. Applicable Rules, Regulations & Conditions. Permittee shall comply with all of the laws, rules and regulations applicable to construction, maintenance activities and operations and shall further comply with such terms and conditions that may be imposed by NYSDOT in connection with permitted activity or operations. Temporary Traffic Control, highway safety appurtenances, and restoration of state facilities shall be completed in accordance with NYSDOT regulations and standards.

3. Site Restoration. Permittee shall, at its own expense, promptly complete the work allowed under each permit and, within a reasonable time, restore State property damaged by its work/activities to substantially the same or equivalent condition as existed before such work was begun as determined by the Commissioner or his/her designee. In the event that the Permittee fails to so restore damaged State property within what the Commissioner deems to be a reasonable time, the Commissioner, after giving written notice to the Permittee, may restore the property to substantially the same or equivalent condition as existed before the Permittee's work/activities, in which case, Permittee agrees to reimburse the reasonable expenses in connection therewith.

4. Payment & Release of Liens. Permittee shall be responsible for the payment of all costs and materials relating to its work in the public right-of-way, and agrees to defend and save harmless NYSDOT against any and all lien claims made by persons supplying services or materials to Permittee in connection with Permittee's work.

5. Indemnity. In addition to the protection afforded to NYSDOT under any available insurance, NYSDOT shall not be liable for any damage or injury to the Permittee, its agents, employees, or to any other person, or to any property, occurring on the site or in any way associated with Permittee's activities or operations, whether undertaken by Permittee's own forces or by contractors or other agents working on Permittee's behalf. To the fullest extent permitted by law, the Permittee agrees to defend, indemnify and hold harmless the State of New York, NYSDOT, and their agents from and against all claims, damages, losses and expenses, including but not limited to, claims for personal injuries, property damage, wrongful death, and/or environmental claims and attorney fees arising out of any such claim, that are in any way associated with the Permittee's, activities or operations under any and all permits issued using this Undertaking.

FURTHERMORE, Permittee hereby warrants that the obligations of this Undertaking are backed by the full faith and credit of Permittee. Permittee may insure or bond any of the obligations set forth herein, or may rely upon self-insurance, budgeted funds, or funds for general operations.

This Undertaking shall be applicable to all permitted activities and operations undertaken after the date of execution and work initiated while this Undertaking is in effect. This Undertaking may be revoked by the Permittee or rejected by NYSDOT upon thirty days written notice but will continue to apply to all permitted activities/operations that were permitted by virtue of this Undertaking. Unless terminated for the purpose of future activities/operations, this Undertaking shall have a term of twenty (20) years and shall be kept on file to facilitate the issuance of future permits to which it will apply.

IN WITNESS WHEREOF, Town of Clayton (Municipality-County, Town, City, Village or federal agency) agrees to the terms of this Undertaking, and has caused its execution by the authorized officer or employee (attach Resolution of Approval).

_____	_____
Authorized Agent	Date
Timothy Doney, Town Supervisor	
Print Name/Title	
405 Riverside Drive	( )
Address	Phone number
Clayton, NY 13624	Townsupervisor@townofclayton.com
Address	e-mail

RESOLUTION NO. 41 OF 2026

TOWN OF CLAYTON

A RESOLUTION TO AMEND AGREEMENT FOR SERVICES WITH THOUSAND ISLANDS EMERGENCY RESCUE SERVICE (TIERS)

Dated: March 25, 2026

At a regular meeting of the Town Board of Clayton, Jefferson County, New York held at the Cerow Recreation Park Arena, 600 East Line Road, Clayton, New York, on the 14th day of January, 2026 at 5:00 pm, prevailing time.

The meeting was called to order by Supervisor Doney and upon roll being called, the following were:

PRESENT: Timothy Doney, Supervisor

James Kenney, Councilman

Steve Dorr, Councilman

Kevin Patchen, Councilman

Kenneth Knapp, Councilman

ABSENT: None

WHEREAS, the Town of Clayton, New York, on behalf of the Town of Clayton Ambulance District, previously entered into an August 26, 2021 service agreement (the "Agreement") with Thousand Islands Emergency Rescue Service, Inc. ("TIERS") whereby TIERS agreed to provide emergency medical and transportation services to the Town; and

WHEREAS, these services were in exchange for consideration in the amount of $128,000.00 per each year of the Agreement term; and

WHEREAS, the Agreement has an effective term of September 1, 2021 until August 31, 2026; and

WHEREAS, the Parties to the original Agreement are desirous of amending the

Agreement to reflect an increase in the amount of funds to be provided to TIERS for the 2026 calendar year; and

WHEREAS, TIERS has requested $161,200.00 be paid to TIERS as consideration for the services outlined under the original Agreement and $42,800.00 to be allocated to the Ambulance District capital reserve, both for the 2026 calendar year;

WHEREAS, the Town Board of the Town of Clayton agrees it is in the best interest of the Town to amend the original Agreement dated August 26, 2021 to reflect the increased consideration named herein solely for the 2026 calendar year.

WHEREAS, the Town Board of the Town of Clayton and TIERS both agree that the original Agreement expiring August 31, 2026 shall be amended to expire December 31, 2026;

NOW, THEREFORE, BE IT RESOLVED, by the Town Board for the Town of Clayton, New York as follows:

1. The forgoing recitations are incorporated herein and made a part hereof as if set forth hereafter.

2. The Town Board hereby approves the amendment to the agreement attached hereto as **Exhibit "A"**.

3. The Supervisor for the Town of Clayton, the Town Clerk, their respective agents and/or employees are hereby authorized to sign all documents and take all steps necessary to support to this resolution.

4. This Resolution shall take effect immediately.

The forgoing Resolution was offered by Board Member, _____, and seconded by Board Member, _____, and upon roll call vote of the Board was duly adopted as follows:

Timothy Doney, Supervisor	Yes___	No___	Absent___
Kenneth Knapp, Councilman	Yes ___	No___	Absent___
James Kenney, Councilman	Yes ___	No___	Absent___
Steve Dorr, Councilman	Yes ___	No___	Absent___
Kevin Patchen, Councilman	Yes ___	No___	Absent___

Yes _ No __ Abstain __ Absent __ Dated: March 25, 2026

The Resolution was thereupon declared duly adopted and shall take effect immediately.

Certification:

I, Megan Badour, Town Clerk of the Town of Clayton, do hereby certify that the above resolution was adopted at a regular meeting of the Town Board of the Town of Clayton held on March 25, 2026 and it is on file and of record, and that said resolution has not been altered, amended or revoked and it's in full force and effect.

_____

[SEAL] Megan Badour, Town Clerk

DASNY
Dormitory Authority of the State of New York

Kathy Hochul
Governor
Robert J. Rodriguez
President & CEO

March 23, 2026

Tim Doney
Supervisor
Town of Clayton
405 Riverside Drive
Clayton, New York 13624

Subject: Lake Ontario Resiliency and Economic Development Initiative ("REDI")
Install ~1,250 feet of shoreline stabilization measures; reconstruct dock system
Project ID: 19322

Dear Lance Peterson:

I am in receipt of your letter dated March 17, 2026 requesting an extension of time to complete the project funded by a Lake Ontario Resiliency and Economic Development Initiative ("REDI") grant. DASNY has reviewed your request and is granting a one-year time extension to your Grant Disbursement Agreement ("GDA"). This approval is subject to the provisions set forth in the GDA and will now expire on 12/31/2026.

Please keep a copy of this letter with your executed GDA. If you have any questions, please call me at (518) 257-3177. Thank you.

Sincerely,

Danielle M. DiSorbo

Danielle DiSorbo
Sr Grant Administrator

cc: Accounts Payable, DASNY

NOTICE TO BIDDERS

The Town of Clayton is accepting Sealed Bid Proposals for the following project:

Clayton Harbor Municipal Marina
REDI Project SJ.235
Clayton Harbor Municipal Upgrades
Phase Two
Floating Dock Expansion and Dredging Work

FLOATING DOCKS "D" PROCUREMENT BID

Contract #2

The Project consists of providing a floating dock system consisting of approximately 372 feet of main dock, approximately 20 feet of utility dock, and approximately 440 feet of finger and end docks of various widths and lengths. This work is to be bid as a single procurement contract, **Contract #2**.

Sealed bids will be received until 2:00 p.m. prevailing time, on Wednesday, April 15, 2026, at: Town of Clayton Municipal Office, 405 Riverside Drive, Clayton NY 13624

All bids must be made on the official Bid Form or an exact copy by reproduction thereof and enclosed in a sealed envelope. No Bidder may withdraw his bid within sixty calendar days after the actual date of the opening thereof. Each bid must be accompanied by a bid security in the amount of five percent of the base bid in accordance with the Instructions to Bidders.

The Issuing Office for the Bidding Documents is: Fourth Coast Inc., 745 Graves Street, Clayton, NY 13624. Bidding Documents are available electronically (as portable document format (PDF) files)by emailing plans@fourthcoast.com. Neither owner nor engineer will be responsible for full or partial sets of Bidding Documents, including Addenda if any, obtained from other sources.
Bidding Documents may be examined at Northern New York Builder's Exchange, Inc., 22074 Fabco Road, Watertown, NY 13601, or Syracuse Builders' Exchange 6543 Ridings Road, Syracuse, NY 13204; online at Northern New York Builder's Exchange – www.nnybe.com Or Syracuse Builder's Exchange – www.syrabex.com ; the office of the Town of Clayton, 405 Riverside Drive, Clayton, New York, on Mondays through Fridays between the hours of 8:00 am - 4:00 pm.

Each bidder agrees to waive any claim it has or may have against the Town, their consultants, and the respective employees, arising out of or in connection with the administration, evaluation or recommendation of any bid.

The Town reserves the right to reject any or all bids and to waive any informalities or defects in such bid either before or after opening.

By Order Of: Megan Badour

Date: March 16, 2026 Town Clerk

TOWN OF CLAYTON

Clayton Harbor Municipal Marina

REDI Project SJ.235

Clayton Harbor Municipal Upgrades

Phase Two

Floating Dock Expansion and Dredging Work

FLOATING DOCKS "D" PROCUREMENT BID

Contract #2

Prepared by:
ST LAWRENCE ENGINEERING, DPC
Project Engineer
FOURTH COAST, INC
Project Manager
745 Graves Street
Clayton NY 13624
Phone: 315/783.6384
Fax: 315/222.7454

Prepared for:
TOWN OF CLAYTON
Tim Doney, Supervisor
405 Riverside Drive
Clayton NY 13624
Phone: 315/686.3512
Fax: 315/686.2651

March 2026

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TOWN OF CLAYTON

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Contract #2

NOTICE TO BIDDERS

The Town of Clayton is accepting Sealed Bid Proposals for the following project:

Clayton Harbor Municipal Marina
REDI Project SJ.235
Clayton Harbor Municipal Upgrades
Phase Two
Floating Dock Expansion and Dredging Work

FLOATING DOCKS "D" PROCUREMENT BID

Contract #2

The Project consists of providing a floating dock system consisting of approximately 372 feet of main dock, approximately 20 feet of utility dock, and approximately 440 feet of finger and end docks of various widths and lengths. This work is to be bid as a single procurement contract, **Contract #2**.

Sealed bids will be received until 2:00 p.m. prevailing time, on Wednesday, April 15, 2026, at: Town of Clayton Municipal Office, 405 Riverside Drive, Clayton NY 13624

All bids must be made on the official Bid Form or an exact copy by reproduction thereof and enclosed in a sealed envelope. No Bidder may withdraw his bid within sixty calendar days after the actual date of the opening thereof. Each bid must be accompanied by a bid security in the amount of five percent of the base bid in accordance with the Instructions to Bidders.

The Issuing Office for the Bidding Documents is: Fourth Coast Inc., 745 Graves Street, Clayton, NY 13624. Bidding Documents are available electronically (as portable document format (PDF) files)by emailing plans@fourthcoast.com. Neither owner nor engineer will be responsible for full or partial sets of Bidding Documents, including Addenda if any, obtained from other sources.
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Each bidder agrees to waive any claim it has or may have against the Town, their consultants, and the respective employees, arising out of or in connection with the administration, evaluation or recommendation of any bid.

The Town reserves the right to reject any or all bids and to waive any informalities or defects in such bid either before or after opening.

By Order Of: Magen Badour
Town Clerk

Date: March 16, 2026

INSTRUCTIONS TO BIDDERS

ARTICLE 1 - DEFINED TERMS

1.01 Terms used in these Instructions to Bidders will have the meanings indicated in the General Conditions and Supplementary Conditions. Additional terms used in these Instructions to Bidders have the meanings indicated below.

A. *Issuing Office* – The office from which the Bidding Documents are to be issued and where the bidding procedures are to be administered.

ARTICLE 2 - BIDS RECEIVED

2.01 Refer to Notice to Bidders for information on receipt of Bids.

ARTICLE 3 - COPIES OF BIDDING DOCUMENTS

3.01 Complete sets of the Bidding Documents in the number and for the deposit sum, if any, stated in the advertisement or invitation to bid may be obtained from the Issuing Office

3.02 Complete sets of the Bidding Documents shall be used in preparing Bids; neither Buyer nor Engineer assumes any responsibility for errors or misinterpretations resulting from the use of incomplete sets of Bidding Documents.

3.03 Buyer and Engineer have made copies of Bidding Documents available on the above terms only for the purpose of obtaining Bids for furnishing Goods and Special Services and do not authorize or confer a license for any other use.

ARTICLE 4 - QUALIFICATIONS OF BIDDERS

4.01 To demonstrate Bidder's qualifications to furnish Goods and Special Services, within five days of Buyer's request Bidder shall submit written evidence, such as financial data and previous experience.

4.02 Bidder is advised to carefully review those portions of the Bid Form requiring Bidder's representations and certifications.

ARTICLE 5 - EXAMINATION OF BIDDING DOCUMENTS, OTHER RELATED DATA, AND POINT OF DESTINATION

5.01 Upon request Buyer will provide Bidder access to the Point of Destination and the site where Goods are to be installed so that Bidder may conduct such investigations, examinations, tests, and studies as Bidder deems necessary for submission of a Bid.

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

A. examine and carefully study the Bidding Documents, including any Addenda, and the related data identified in the Bidding Documents;

B. visit the Point of Destination and the site where the Goods are to be installed and Special Services are to be provided to become familiar with the local conditions if required by the Bidding Documents to do so, or if, in Bidder's judgment, any local condition may affect cost, progress, or the furnishing of Goods and Special Services;

C. become familiar with and satisfy itself as to all Laws and Regulations that may affect cost, progress, or the furnishing of the Goods and Special Services;

D. carefully study, consider, and correlate the information known to Bidder; information commonly known to sellers of similar goods doing business in the locality of the Point of Destination and the site where the Goods will be installed or where Special Services will be provided; information and observations obtained from Bidder's visits, if any, to the Point of Destination and the site where the Goods are to be installed or Special Services are to be provided; and any reports and drawings identified in the Bidding Documents regarding the Point of Destination and the site where the Goods will be installed or where Special Services will be provided, with respect to the effect of such information, observations, and documents on the cost, progress, and performance of Seller's obligations under the Contract Documents;

E. promptly give Engineer written notice of all conflicts, errors, ambiguities, or discrepancies that Bidder discovers in the Bidding Documents and confirm that the written resolution (if any) thereof by Engineer is acceptable to Bidder; and

F. determine that the Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for furnishing Goods and Special Services.

5.03 The submission of a Bid will constitute an incontrovertible representation by Bidder that Bidder has complied with every requirement of this Article 5, that without exception the Bid is premised upon furnishing Goods and Special Services required by the Bidding Documents, that Bidder has given Engineer written notice of all conflicts, errors, ambiguities and discrepancies that Bidder has discovered in the Bidding Documents and the written resolutions (if any) thereof by Engineer are acceptable to Bidder, and that the Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for furnishing Goods and Special Services.

ARTICLE 6 - INTERPRETATIONS AND ADDENDA

6.01 All questions about the meaning or intent of the Bidding Documents are to be submitted to Engineer in writing. Interpretations or clarifications considered necessary by Engineer in response to such questions will be issued by Addenda mailed or delivered to all parties recorded by Engineer as having received the Bidding Documents. Questions received less than five days prior to the date for opening of Bids will not be answered. Only answers in the Addenda will be binding. Oral statements, interpretations, and clarifications may not be relied upon and will not be binding or legally effective.

6.02 Addenda may be issued to clarify, correct, or change the Bidding Documents as deemed advisable by Buyer or Engineer.

ARTICLE 7 - BID SECURITY

7.01 A Bid must be accompanied by Bid security made payable to Buyer in an amount of 5 percent of Bidder's maximum Bid price and in the form of a certified check, bank money order, or a Bid Bond issued by a surety meeting the requirements of Paragraph 4.01.B of the General Conditions.

7.02 The Bid security of the Successful Bidder will be retained until such Bidder has executed the Contract Documents, furnished the required contract security (where required), and met the other conditions of the Notice of Award, whereupon the Bid security will be returned. If the Successful Bidder fails to execute and deliver the Contract Documents and furnish the required contract security (where required) within 15 days after the Notice of Award, Buyer may consider Bidder to be in default, annul the Notice of Award, and the Bid security of that Bidder will be forfeited. The Bid security of other Bidders that Buyer believes to have a reasonable chance of receiving the award may be retained by Buyer until the earlier of 7 days after the Effective Date of the Agreement or 61 days after the Bid opening, whereupon Bid security furnished by such Bidders will be returned.

7.03 Bid security of other Bidders that Buyer believes do not have a reasonable chance of receiving the award will be returned within seven days after the Bid opening.

ARTICLE 8 - CONTRACT TIMES

8.01 See applicable provisions in the Agreement.

ARTICLE 9 - LIQUIDATED DAMAGES

9.01 Any provisions for liquidated damages, such as those for *Seller's* failure to attain a Milestone, or to deliver the Goods *or furnish Special Services within the Contract Times*, are set forth in the Agreement.

ARTICLE 10 - "OR-EQUAL" ITEMS

10.01 The Contract, if awarded, will be on the basis of material and equipment specified or described in the Bidding Documents without consideration of possible "or-equal" items. Whenever it is specified or described in the Bidding Documents that an "or-equal" item of material or equipment may be furnished or used by Seller if acceptable to Engineer, application for such acceptance will not be considered by Engineer until after the Effective Date of the Agreement. The procedure for submittal of any such applica

10.02 tion by Seller and consideration by Engineer is set forth in the General Conditions and may be supplemented in the General Requirements.

10.03 The Contract, if awarded, will be on the basis of materials and equipment specified or described in the Bidding Documents, including the Addenda. Bidders may propose "or equal" materials and equipment, which if approved by Engineer will be identified by Addendum. The materials and

equipment described in the Bidding Documents establish a standard of required type, function, and quality to be met by any proposed "or-equal" item. No item of material or equipment will be considered by Engineer as an "or-equal" unless written request for approval has been submitted by Bidder and has been received by Engineer at least 15 days prior to the date for receipt of Bids. Each such request shall conform to the requirements of Paragraph 5.04 of the General Conditions. The burden of proof of the merit of the proposed item is upon Bidder. Engineer's decision of approval or disapproval of a proposed item will be final. Bidders shall not rely upon approvals unless set forth in an Addendum.

ARTICLE 11 - PREPARATION OF BID

11.01 The Bid Form is included with the Bidding Documents. Additional copies of Bidding Documents may be obtained from the Issuing Office.

11.02 All blanks on the Bid Form shall be completed in ink and the Bid Form signed in ink. Erasures or alterations shall be initialed in ink by the person signing the Bid Form. A Bid price shall be indicated for each item listed therein. In the case of optional alternates the words "No Bid," "No Change," or "Not Applicable" may be entered.

11.03 A Bid by a corporation shall be executed in the corporate name by the president or a vice-president or other corporate officer accompanied by evidence of authority to sign. The corporate seal shall be affixed and attested by the secretary or an assistant secretary. The corporate address and state of incorporation shall be shown.

11.04 A Bid by a partnership shall be executed in the partnership name and signed by a partner (whose title must appear under the signature), accompanied by evidence of authority to sign. The official address of the partnership shall be shown.

11.05 A Bid by a limited liability company shall be executed in the name of the firm by a member and accompanied by evidence of authority to sign. The state of formation of the firm and the official address of the firm shall be shown.

11.06 A Bid by an individual shall show the Bidder's name and official address.

11.07 A Bid by a joint venture shall be executed by each joint venturer in the manner indicated on the Bid Form. The official address of the joint venture shall be shown.

11.08 All names must be typed or printed in ink below the signature.

11.09 The Bid shall contain an acknowledgment of receipt of all Addenda, the numbers of which shall be filled in on the Bid Form.

11.10 Each Bidder shall list the postal address, e-mail address, and telephone number for communications regarding the Bid.

ARTICLE 12 - SUBMITTAL OF BID

12.01 With each copy of the Bidding Documents, a Bidder is furnished one separate unbound copy of the Bid Form, and, if required, the Bid Bond. The unbound copy of the Bid Form is to be completed and submitted with the Bid security. Also submit the following documents:

A. Statement of Non-Collusion
B. Corporate Resolution
C. Bid Security
D. Statement Concerning Authority to do Business in NYS or a certified copy of your Authority to Business in New York State. (Out-of-state bidders only)

12.02 A Bid shall be submitted no later than the date and time prescribed and at the place indicated in the advertisement or invitation to bid, and shall be enclosed in a plainly marked envelope with the Project title (and, if applicable, the designated portion of the Project for which the Bid is submitted) and the name and address of Bidder, and shall be accompanied by the Bid security and other required documents. If a Bid is sent by mail or other delivery system, the sealed envelope containing the Bid shall be enclosed in a separate package plainly marked on the outside with the notation "BID ENCLOSED". A mailed Bid shall be addressed to ***Town of Clayton, 405 Riverside Drive, Clayton, NY 13624.***

ARTICLE 13 - MODIFICATION OR WITHDRAWAL OF BID

13.01 A Bid may be modified or withdrawn by an appropriate document duly executed in the same manner that a Bid must be executed and delivered to the place where Bids are to be submitted prior to the date and time for the opening of Bids.

13.02 If, within 24 hours after Bids are opened, any Bidder files a duly signed written notice with Buyer and promptly thereafter demonstrates to the reasonable satisfaction of Buyer that there was a material and substantial mistake in the preparation of its Bid, that Bidder may withdraw its Bid, and the Bid security will be returned. Thereafter, if the Goods and Special Services are rebid, that Bidder will be disqualified from further bidding on the Goods and Special Services.

ARTICLE 14 - OPENING OF BIDS

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

ARTICLE 15 - BIDS TO REMAIN SUBJECT TO ACCEPTANCE

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

ARTICLE 16 - EVALUATION OF BIDS AND AWARD OF CONTRACT

16.01 Buyer reserves the right to reject any and all Bids, including without limitation, nonconforming, nonresponsive, unbalanced, or conditional Bids. Buyer further reserves the right to reject the Bid of any Bidder that Buyer finds, after reasonable inquiry and evaluation, to be nonresponsible. Buyer may also reject the Bid of any Bidder if Buyer believes that it would not be in the best interest of the Project to make an award to that Bidder. Buyer also reserves the right to waive all informalities not involving price, time, or changes in the Goods and Special Services, and to negotiate contract terms with the Successful Bidder.

16.02 More than one Bid for the same Goods and Special Services from an individual or entity under the same or different names will not be considered. Reasonable grounds for believing that any Bidder has an interest in more than one Bid for the Goods and Special Services shall be cause for disqualification of that Bidder and the rejection of all Bids in which that Bidder has an interest.

16.03 In evaluating Bids, Buyer will consider whether or not the Bids comply with the prescribed requirements, and such alternates, unit prices, and other data as may be requested in the Bid Form or may be requested from Bidders prior to a Notice of Award.

16.04 Buyer may conduct such investigations as Buyer deems necessary to establish the responsibility, qualifications, and financial ability of Bidder.

16.05 If the Contract is to be awarded, Buyer will award the Contract to the Bidder whose Bid is in the best interest of the Project.

ARTICLE 17 - CONTRACT SECURITY AND INSURANCE (WHEN REQUIRED)

17.01 Article 4 of the General Conditions and Article 4 of the Supplementary Conditions set forth Buyer's requirements as to performance and payment bonds and insurance. When the Successful Bidder delivers the executed Agreement to Buyer, it must be accompanied by such bonds.

ARTICLE 18 - SIGNING OF AGREEMENT

18.01 When Buyer issues a Notice of Award to the Successful Bidder, it shall be accompanied by the required number of unsigned counterparts of the Agreement with the other Contract Documents that are to be identified in the Agreement and attached thereto. Within 15 days thereafter, Successful Bidder shall sign and deliver the required number of counterparts of the Agreement and attached documents to Buyer. Within 10 days thereafter, Buyer shall deliver one fully signed counterpart to Successful Bidder with a complete set of Drawings with appropriate identification.

ARTICLE 19 - SALES AND USE TAXES

19.01 Buyer is exempt from New York state sales and use taxes on materials and equipment to be incorporated in the Project. Said taxes shall not be included in the Bid. Refer to Paragraph 5.05 of the Supplementary Conditions for additional information.

ARTICLE 20 - RETAINAGE (WHEN REQUIRED)

20.01 Provisions concerning Seller's rights to deposit securities in lieu of retainage are set forth in the Agreement.

ARTICLE 21 - DELEGATED DESIGN REQUIREMENTS

21.01 Elements of the project requiring the performance of design services pursuant to Section 29.3 (b) of the Rules of the Board of Regents are specified in Section(s) 355113.01 and 355113.03 of these Contract Documents.

21.02 Delegated design functions required by the Contract Documents shall be performed in accordance with Section 29.3 (b) of the Rules of the Board of Regents, by Design professionals currently licensed to practice the professions of professional engineering, architecture, landscape architecture, and land surveying [Section 29.3(b)(2)(iv) and 29.3(b)(3)(iii)].

21.03 The licensee who is to design the delegated item shall review thoroughly the criteria set forth in the Contract Documents to ensure a full understanding of the intent. Requests for clarification shall be in writing to the principal design firm. The delegated design shall be performed in accordance with the performance specifications and all parameters provided by the principal design firm [Section 29.3(b)(2)(iii)].

21.04 The provider of the delegated design services shall certify in a manner acceptable to St. Lawrence Engineering DPC that the work has been performed in accordance with Section 29.3(b) and the prevailing standards of practice expected of licensed design professionals in

New York State for projects of similar size and complexity [Section 29.3(b)(iv) and 29.3(b)(3)(iv)]

End of Section

BID FORM

TOWN OF CLAYTON
Clayton Harbor Municipal Marina
REDI Project SJ.235
Clayton Harbor Municipal Upgrades
Phase Two
Floating Dock Expansion and Dredging Work

FLOATING DOCKS "D" PROCUREMENT BID
Contract #2

TABLE OF ARTICLES

BID FORM

ARTICLE 1 - BID RECIPIENT

1.01 This Bid shall be submitted to:

Town of Clayton
405 Riverside Drive
Clayton, NY 13624

1.02 The undersigned Bidder proposes and agrees, if this Bid is accepted, to enter into a Contract with Buyer in the form included in the Bidding Documents to furnish the Goods and Special Services as specified or indicated in the Bidding Documents, for the prices and within the times indicated in this Bid, and in accordance with the other terms and conditions of the Bidding Documents.

ARTICLE 2 - BIDDER'S ACKNOWLEDGMENTS

2.01 Bidder accepts all of the terms and conditions of the Instructions to Bidders, including without limitation those dealing with the disposition of Bid security. This Bid will remain subject to acceptance for 60 days after the Bid opening, or for such longer period of time that Bidder may agree to in writing upon request of Buyer.

ARTICLE 3 - BIDDER'S REPRESENTATIONS

3.01 In submitting this Bid, Bidder represents that:

A. Bidder has examined and carefully studied the Bidding Documents, the related data identified in the Bidding Documents, and the following Addenda, receipt of which is hereby acknowledged:

Addendum No.	Addendum Date
_____	_____
_____	_____
_____	_____

B. Bidder is familiar with and is satisfied as to all Laws and Regulations in effect as of the date of the Bid that may affect cost, progress, and the furnishing of Goods and Special Services.

C. Bidder has carefully studied, considered, and correlated the information known to Bidder; information commonly known to sellers of similar goods doing business in the locality of the Point of Destination and the site where the Goods will be installed or

D. where Special Services will be provided; information and observations obtained from Bidder's visits, if any, to the Point of Destination and the site where the Goods will be installed or Special Services will be provided; and any reports and drawings identified in the Bidding Documents regarding the Point of Destination and the site where the Goods will be installed or where Special Services will be provided, with respect to the effect of such information, observations, and documents on the cost, progress, and performance of Seller's obligations under the Bidding Documents.

E. Bidder has given Engineer written notice of all conflicts, errors, ambiguities, and discrepancies that Bidder has discovered in the Bidding Documents, and the written resolution (if any) thereof by Engineer is acceptable to Bidder.

F. The Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for furnishing the Goods and Special Services for which this Bid is submitted.

ARTICLE 4 - BIDDER'S CERTIFICATIONS

4.01 Bidder certifies that:

A. This Bid is genuine and not made in the interest of or on behalf of any undisclosed individual or entity and is not submitted in conformity with any collusive agreement or rules of any group, association, organization, or corporation;

B. Bidder has not directly or indirectly induced or solicited any other Bidder to submit a false or sham Bid;

C. Bidder has not solicited or induced any individual or entity to refrain from bidding; and

D. Bidder has not engaged in corrupt, fraudulent, collusive, or coercive practices in competing for the Contract. For the purposes of this Paragraph 4.01.D:

1. "corrupt practice" means the offering, giving, receiving, or soliciting of any thing of value likely to influence the action of a public official in the bidding process;

2. "fraudulent practice" means an intentional misrepresentation of facts made (a) to influence the bidding process to the detriment of Buyer, (b) to establish bid prices at artificial non-competitive levels, or (c) to deprive Buyer of the benefits of free and open competition;

3. "collusive practice" means a scheme or arrangement between two or more Bidders, with or without the knowledge of Buyer, a purpose of which is to establish bid prices at artificial, non-competitive levels; and

4. "coercive practice" means harming or threatening to harm, directly or indirectly, persons or their property to influence their participation in the bidding process.

ARTICLE 5 - BASIS OF BID

5.01 Bidder will furnish the Goods and Special Services in accordance with the Contract Documents for the following price(s):

DESCRIPTION OF BASE BID

Polyethylene Pontoon Floating Dock System: Work under this contract may generally be described to include, but not be limited to the following:

General requirements, aluminum framed floating dock system utilizing polyethylene pontoons. Including design, submittals, fabrication, tariffs (If any), and delivery to project site. Provision of an on-site technical representative to assist dock installation is also included. [Reference Section 355113.01]

TOTAL BASE BID _____

_____ DOLLARS $_____
(In Words)

Delivery from date of award (In weeks) _____Weeks

DESCRIPTION OF ALTERNATE BID

Steel Pontoon Floating Dock System: Work under this contract may generally be described to include, but not be limited to the following:

General requirements, steel framed floating dock system utilizing steel pontoons. Including design, submittals, fabrication, tariffs (If any), and delivery to project site. Provision of an on-site technical representative to assist dock installation is also included. [Reference Section 355113.03]

TOTAL ALTERNATE BID

_____ DOLLARS $_____
(In Words)

Delivery from date of award (In weeks) _____Weeks

The manufacturers are advised that they can Bid on the Base Bid, Alternate Bid, or on Both as listed above.

The Owner reserves the right to accept the dock system of their choice.

ARTICLE 6 - TIME OF COMPLETION

6.01 Bidder agrees that the furnishing of Goods and Special Services will conform to the schedule set forth in Article 5 of the Agreement.

6.02 Bidder accepts the provisions of the Agreement as to liquidated damages.

ARTICLE 7 - ATTACHMENTS TO THIS BID

7.01 The following documents are attached to and made a condition of this Bid:

A. Required Bid security in the form of a certified check, bank money order or a Bid bond.

B. Statement of Non-Collusion

C. Corporate Resolution

D. Statement Concerning Authority to do Business in NYS or a certified copy of your Authority to do Business in New York State (Out-of-state bidders only)

ARTICLE 8 - DEFINED TERMS

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

ARTICLE 9 - BID SUBMITTAL

9.01 This Bid submitted by:

If Bidder is:

An Individual

Name (typed or printed): _____

By: _____

(Individual's signature)

Doing business as: _____

Business address: _____

_____

Phone: _____ Facsimile: _____

E-mail address: _____

A Partnership

Partnership Name: _____

(SEAL)

By: _____

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

Name (typed or printed): _____

Business address: _____

_____

Phone: _____ Facsimile: _____

E-mail address: _____

A Corporation

Corporation Name: _____

State of Incorporation: _____

Type (General Business, Professional, Service, other): _____

By: _____

(Signature - attach evidence of authority to sign)

Name (typed or printed): _____

Title: _____

(CORPORATE SEAL)

Attest _____

(Signature of Corporate Secretary)

Business address: _____

_____

Phone: _____ Facsimile: _____

E-mail address: _____

A Limited Liability Company (LLC)

LLC Name: _____

State in which organized: _____

By: _____

(Signature - attach evidence of authority to sign)

Name (typed or printed): _____

Title: _____

Business address: _____

_____

Phone: _____ Facsimile: _____

E-mail address: _____

A Joint Venture

First Joint Venturer Name: _____ (SEAL)

By: _____

(Signature - attach evidence of authority to sign)

Name (typed or printed): _____

Title: _____

Business address: _____

_____

Phone: _____ Facsimile: _____

E-mail address: _____

Second Joint Venturer Name: _____ (SEAL)

By: _____

(Signature - attach evidence of authority to sign)

Name (typed or printed): _____

Title: _____

Business address: _____

_____

Phone: _____ Facsimile: _____

E-mail address: _____

Phone and Facsimile Number, and Address for receipt of official communications to Joint Venture:_____

_____

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

STATEMENT OF NON-COLLUSION

I, the undersigned, do hereby certify that: (a) this bid or proposal has been independently arrived at without collusion with any other bidder or with any competitor or potential competitor: (b) this bid or proposal has not knowingly been disclosed, prior to the opening of bids or proposals for this project, to any other bidder, competitor or potential competitor; (c) no attempt has been or will be made to induce any other person, partnership, or corporation to submit or not to submit a bid or proposal; (d) the person signing this bid or proposal certified that he has fully informed himself regarding the accuracy of the statements contained in this certification, and under the penalties of perjury, affirms the truth thereof, such penalties being applicable to the bidder as well as to the person signing in its behalf; (e) that attached hereto (if a corporate bidder) is a certified copy of the resolution authorizing the execution of this certificate by the signature of this bid or proposal in behalf of the corporate bidder.

Signature: _____

Date: _____

CORPORATE RESOLUTION

In the case of Corporate Bidders a resolution in the following form must accompany the bids.

Resolved that _____ be authorized to sign and submit the
(Name)

bid or proposal for the following project _____
(Project)

and to include with such proposal the certificate as to non-collusion required by section one hundred three-d of the General Municipal Law as the act and deed of such corporation, and for any inaccuracies or misstatements in such certificate this corporate bidder shall be liable under penalties of perjury.

The foregoing is a true and correct copy of the resolution adopted by
(Name of Corporation)

Corporation at a meeting of its board of directors held on the _____ day of _____ 20-_____.

Statement Concerning Authority to do Business
in the State of New York for non-New York State Companies

Please complete all requested information in both sections below.

A certificate of authority is required of out of state companies if the company has property, employees or agents used in conducting its business activities within the state of New York. Generally, business activities are defined as having an office in the state, making sales or promotional calls within the state, delivering products or merchandise and/or making service calls within the state.

Companies conducting mail order activities with New York customers are not considered doing business within New York State if the company **has no property, employees, agents and/or representatives in or, traveling into the state.** _____ is such a mail order company, and as such, is not
Fill in company name
required to hold a Certificate of Authority.

Performance under the attached bid will not result in any action that would result in a requirement to obtain a Certificate as all commerce will be conducted by mail. It is the opinion of the legal counsel for this firm:

Name _____
Address _____ Complete the information
Address _____
Telephone _____

that this firm is not required to file an Authority to do Business in New York State as required by Section 1301 of the NYS Business Corporate Law.

==========

Complete one of the following two acknowledgements in addition to above information.

Individual Acknowledgment for Sole Proprietors or Partnerships

_____
Signature

State of
County of ss.
On this _____ day of _____ two thousand and _____
before me, the subscriber, personally appeared _____
to me personally known and known to me to be the same person described in and who executed the within Instrument, and he acknowledged to me that he executed the same.

_____
Notary Public

Corporate Acknowledgment for corporations or LLC's

_____
Signature

State of
County of ss.
On this _____ day of _____, two thousand and _____ before me personally known,

who, being by me duly sworn did depose and say that he resides in _____ that he is the _____ of _____ the corporation described in, and which executed, the above Instrument; that he knows the seal of said corporation; that the seal affixed to said Instrument is such corporate seal; that it was so affixed by order of the Board of Directors of said corporation; and that he signed his/her name thereto by like order.

_____

Notary Public

AGREEMENT

THIS AGREEMENT is by and between Town of Clayton ("Buyer") and _____ _____("Seller").

Buyer and Seller hereby agree as follows:

ARTICLE 1 – GOODS AND SPECIAL SERVICES

1.01 Seller shall furnish the Goods and Special Services as specified or indicated in the Contract Documents. The Goods and Special Services to be furnished are described in the Floating Docks B & C Procurement, October 2014 Technical Specifications.

ARTICLE 2 – THE PROJECT

2.01 The Project, of which the Goods and Special Services may be the whole or only a part, is identified as follows:

ARTICLE 3 – ENGINEER

3.01 The Contract Documents for the Goods and Special Services have been prepared by St. Lawrence Engineering, DPC. ("Engineer"), which is to act as Buyer's representative, assume all duties and responsibilities, and have the rights and authority assigned to Engineer in the Contract Documents in connection with Seller's furnishing of Goods and Special Services.

ARTICLE 4 – POINT OF DESTINATION

4.01 The Point of Destination is designated as: Town of Clayton 405 Riverside Drive, Clayton, NY 13624 or as directed by the Engineer to a town owned or rented location in the Town of Clayton.

ARTICLE 5 – CONTRACT TIMES

5.01 *Time of the Essence*

A. All time limits for Milestones, if any, including the submittal of Shop Drawings and Samples, the delivery of Goods, and the furnishing of Special Services as stated in the Contract Documents, are of the essence of the Contract.

5.02 *Milestones*

A. Days for Submittal of Shop Drawings (including design calculations) and Samples: Seller shall submit all Shop Drawings and Samples required by the Contract Documents to Buyer for Engineer's review and approval within 21 days after the Contract award date. It is the intent of the parties that (1) Engineer conduct such review and issue its approval, or a denial accompanied by substantive comments regarding information needed to gain approval, within

15 days of Seller's submittal of such Shop Drawings and Samples; and (2) resubmittals be limited whenever possible. If more than one resubmittal is necessary for reasons not the fault and beyond the control of Seller, then Seller shall be entitled to seek appropriate relief under Paragraph 7.02.B of the General Conditions.

A. *Date for Delivery of Goods:* The Goods are to be delivered to the Point of Destination and ready for Buyer's receipt of delivery between April 1, 2015 and April 30, 2015. No delivery may be made without first contracting the Engineer for scheduling the unloading by the Town and provision of the Town's storage location.

5.03 *Buyer's Final Inspection*

A. Final Inspection: Buyer shall make its final inspection of the Goods within the last day of installation supervision or as agreed upon in writing between the Seller and Buyer.

5.04 *Liquidated Damages*

A. Buyer and Seller recognize that Buyer will suffer financial loss if the Goods are not delivered at the Point of Destination and ready for receipt of delivery by Buyer within the times specified in Paragraph 5.02 above, plus any extensions thereof allowed in accordance with Article 7 of the General Conditions. The parties also recognize that the timely performance of services by others involved in the Project is materially dependent upon Seller's specific compliance with the requirements of Paragraph 5.02. Further, they recognize the delays, expense, and difficulties involved in proving the actual loss suffered by Buyer if complete acceptable Goods are not delivered on time. Accordingly, instead of requiring such proof, Buyer and Seller agree that as liquidated damages for delay (but not as a penalty) Seller shall pay Buyer $750 for each day that expires after the time specified in Paragraph 5.02.B for delivery of acceptable Goods.

ARTICLE 6 – CONTRACT PRICE

6.01 *Buyer shall pay Seller for furnishing the Goods and Special Services in accordance with the Contract Documents as follows:*

A. A Lump Sum of $_____.

ARTICLE 7 – PAYMENT PROCEDURES

7.01 *Submittal and Processing of Payment*

A. The Buyer shall not approve or release any payment under this Contract until the Docks and Gangway have been delivered to the Buyer and installation supervision/training has been completed.

7.02 *Progress Payments; Retainage*

A. Progress payments shall not be made under this Contract.

B. Payment shall be made only after delivery of the Docks and Gangway and completion of installation supervision/training as specified in Section

7.03 *Progress Payments*

A. The Buyer shall make a single payment on account of the Contract Price upon satisfaction of the following conditions:

1. Delivery and receipt of the Docks and Gangway by the Buyer.

2. Completion of installation supervision and training by the Seller.

3. Acceptance of the delivered equipment by the Buyer and the Buyer's Engineer.

4. Submission of all required closeout documentation, including warranties and any required certifications.

B. Upon completion of the above requirements, the Seller may submit an Application for Payment in the amount of one hundred percent (100%) of the Contract Price.

7.04 *Final Payment*

A. Final payment shall be made following written acceptance by the Buyer and the Buyer's Engineer confirming that the Docks and Gangway have been delivered, installation supervision/training has been completed, and all required documents have been submitted.

ARTICLE 8 – INTEREST

8.01 All monies not paid when due as provided in Article 10 of the General Conditions shall bear interest of 10 percent per annum.

ARTICLE 9 – SELLER'S REPRESENTATIONS

9.01 In order to induce Buyer to enter into this Agreement, Seller makes the following representations:

A. Seller has examined and carefully studied the Contract Documents and the other related data identified in the Bidding Documents, as applicable to Seller's obligations identified in Article 1 above.

B. If required by the Seller a site visit to the Buyer's Point of Destinations(s) can be arranged with two day notice. A visit to the site where the Goods are to be installed or Special Services will be provided. If in the Seller's judgment, any local condition may affect cost, progress, or the furnishing of the Goods and Special Services, Seller has visited the Point of

Destination and site where the Goods are to be installed or Special Services will be provided and become familiar with and is satisfied as to the observable local conditions that may affect cost, progress, and the furnishing of the Goods and Special Services.

C. Seller is familiar with and is satisfied as to all Laws and Regulations that may affect cost, progress, and the furnishing of the Goods and Special Services.

D. Seller has carefully studied, considered, and correlated the information known to Seller; information commonly known to sellers of similar goods doing business in the locality of the Point of Destination and the site where the Goods will be installed or where Special Services will be provided; information and observations obtained from Seller's visits, if any, to the Point of Destination and site where the Goods are to be installed or Services will be provided; and any reports and drawings identified in the Bidding Documents regarding the Point of Destination and the site where the Goods will be installed or where Special Services will be provided, with respect to the effect of such information, observations, and documents on the cost, progress, and performance of Seller's obligations under the Contract Documents.

E. Seller has given Engineer written notice of all conflicts, errors, ambiguities, or discrepancies that Seller has discovered in the Contract Documents, and the written resolution (if any) thereof by Engineer is acceptable to Seller.

F. The Contract Documents are generally sufficient to indicate and convey understanding of all terms and conditions for furnishing Goods and Special Services.

ARTICLE 10 – CONTRACT DOCUMENTS

10.01 *Contents*

A. The Contract Documents consist of the following:

1. This Agreement (pages __ to _, inclusive);
2. Performance Bond (pages __ to __, inclusive);
3. Payment Bond (pages ____ to ____, inclusive);
4. Other bonds
   a. _____ (pages _ to ____, inclusive);
   b. _____ (pages ___ to ___, inclusive);
   c. _____ (pages ___to ___, inclusive);
5. General Conditions (pages ___ to ___, inclusive);

6. Supplementary Conditions (pages ___ to ___, inclusive);

7. Specifications as listed in table of contents of the Project Manual;

8. Drawings, consisting of a cover sheet and sheets numbered _____ through _____, inclusive, with each sheet bearing the following general title:

9. Addenda (Numbers ___ to ___, inclusive);

10. Exhibits to this Agreement (enumerated as follows):

    a. Documentation submitted by Seller prior to Notice of Award (pages __ to __, inclusive);

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

    a. Notice to Proceed;

    b. Change Order(s);

    c. Work Change Directive(s).

B. The documents listed in Paragraph 10.01.A are attached to this Agreement (except as expressly noted otherwise above).

C. There are no Contract Documents other than those listed above in this Article 10.

D. The Contract Documents may only be amended, or supplemented as provided in Paragraph 3.04 of the General Conditions.

ARTICLE 11 – MISCELLANEOUS

11.01 *Terms*

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

11.02 *Successors and Assigns*

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

11.03 *Severability*

A. Any provision or part of the Contract Documents held to be void or unenforceable under any Law or Regulation shall be deemed stricken, and all remaining provisions shall continue

to be valid and binding upon Buyer and Seller. The Contract Documents shall be reformed to replace such stricken provision or part thereof with a valid and enforceable provision that comes as close as possible to expressing the intention of the stricken provision.

11.04 *Seller's Certifications*

A. Seller certifies that it has not engaged in corrupt, fraudulent, collusive, or coercive practices in competing for or in executing the Contract. For the purposes of this Paragraph 11.04:

1. "corrupt practice" means the offering, giving, receiving, or soliciting of anything of value likely to influence the action of a public official in the bidding process or in the Contract execution;

2. "fraudulent practice" means an intentional misrepresentation of facts made (a) to influence the bidding process or the execution of the Contract to the detriment of Buyer, (b) to establish Bid or Contract prices at artificial non-competitive levels, or (c) to deprive Buyer of the benefits of free and open competition;

3. "collusive practice" means a scheme or arrangement between two or more Bidders, with or without the knowledge of Buyer, a purpose of which is to establish Bid prices at artificial, non-competitive levels; and

4. "coercive practice" means harming or threatening to harm, directly or indirectly, persons or their property to influence their participation in the bidding process or affect the execution of the Contract.

11.05 *Limitations*

A. Buyer and Seller waive against each other, and against the other's officers, directors, members, partners, employees, agents, consultants, and subcontractors, any and all claims for or entitlement to incidental, indirect, or consequential damages arising out of, resulting from, or related to the Contract. Upon assignment the terms of this Paragraph 11.06.A shall be binding upon the assignee with respect to Seller and assignor. The terms of this mutual waiver do not apply to or limit any claim by either Buyer or Seller against the other based on any of the following: (a) contribution or indemnification, (b) costs, losses, or damages attributable to personal or bodily injury, sickness, disease, or death, or to injury to or destruction of the tangible property of others, (c) intentional or reckless wrongful conduct, or (d) rights conferred by any bond provided by Seller under this Contract.

B. Upon assignment the terms of this Paragraph 11.06.B shall be binding upon both the assignor and assignee with respect to Seller's liability, and upon Seller with respect to both assignor's and assignee's liabilities. The terms of this mutual limitation do not apply to or limit any claim by either Buyer or Seller against the other based on any of the following: (a) contribution or indemnification with respect to third-party claims, losses, and damages; (b) costs, losses, or damages attributable to personal or bodily injury, sickness, disease, or death, or to injury to or destruction of the tangible property of others, (c) intentional or

reckless wrongful conduct, or (d) rights conferred by any bond provided by Seller under this Contract.

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

This Agreement will be effective on ***[insert date]*** (which is the Effective Date of the Agreement).

Buyer: _____

By: _____
[Corporate Seal]

Attest: _____

Address for giving notice:
_____
_____
_____

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

Designated Representative:
Name: _____
Title: _____
Address: _____
Phone: _____
Facsimile: _____

Seller: _____

By: _____
[Corporate Seal]

Attest: _____

Address for giving notice:
_____
_____
_____

Agent for service of process:
_____
_____
_____
_____

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

Designated Representative:
Name: _____
Title: _____
Address: _____
Phone: _____
Facsimile: _____

STANDARD GENERAL CONDITIONS
FOR PROCUREMENT CONTRACTS

ARTICLE 1 – DEFINITIONS AND TERMINOLOGY

1.01 *Defined Terms*

A. Whenever used in the Bidding Requirements or Contract Documents and printed with initial capital letters, the terms listed below will have the meanings indicated which are applicable to the singular or plural thereof. In addition to terms specifically defined, terms with initial capital letters in the Contract Documents include references to identified articles and paragraphs, and the titles of other documents or forms.

1. *Addenda*—Written or graphic instruments issued prior to the opening of Bids which clarify, correct, or change the Bidding Requirements or the proposed Contract Documents.

2. *Agreement*—The written instrument signed by both Buyer and Seller covering the Goods and Special Services and which lists the Contract Documents in existence on the Effective Date of the Agreement.

3. *Application for Payment*—The form acceptable to Buyer which is used by Seller in requesting progress and final payments and which is accompanied by such supporting documentation as is required by the Contract Documents.

4. *Bid*— The offer or proposal of a Seller submitted on the prescribed form setting forth the prices for the Goods and Special Services to be provided.

5. *Bidder*—The individual or entity that submits a Bid directly to Buyer.

6. *Bidding Documents*—The Bidding Requirements and the proposed Contract Documents (including all Addenda).

7. *Bidding Requirements*—The advertisement or invitation to bid, Instructions to Bidders, Bid security of acceptable form, if any, and Bid Form with any supplements.

8. *Buyer*—The individual or entity purchasing the Goods and Special Services.

9. *Change Order*—A document which is signed by Seller and Buyer and authorizes an addition, deletion, or revision to the Contract Documents or an adjustment in the Contract Price or the Contract Times, issued on or after the Effective Date of the Agreement. Change Orders may be the result of mutual agreement by Buyer and Seller, or of resolution of a Claim.

10. *Claim*—A demand or assertion by Buyer or Seller seeking an adjustment of Contract Price or Contract Times, or both, or other relief with respect to the terms of the Contract. A demand for money or services by a third party is not a Claim.

11. *Contract*—The entire and integrated written agreement between Buyer and Seller concerning the Goods and Special Services. The Contract supersedes prior negotiations, representations, or agreements, whether written or oral.

12. *Contract Documents*—Those items so designated in the Agreement. Shop Drawings and other Seller submittals are not Contract Documents, even if accepted, reviewed, or approved by Engineer or Buyer.

13. *Contract Price*—The moneys payable by Buyer to Seller for furnishing the Goods and Special Services in accordance with the Contract Documents as stated in the Agreement.

14. *Contract Times*—The times stated in the Agreement by which the Goods must be delivered and Special Services must be furnished.

15. *Drawings*—That part of the Contract Documents prepared or approved by Engineer which graphically shows the scope, extent, and character of the Goods and Special Services to be furnished by Seller. Shop Drawings and other Seller submittals are not Drawings as so defined.

16. *Effective Date of the Agreement*—The date indicated in the Agreement on which it becomes effective, but if no such date is indicated, it means the date on which the Agreement is signed and delivered by the last of the two parties to sign and deliver.

17. *Engineer*—The individual or entity designated as such in the Agreement.

18. *Field Order*—A written order issued by Engineer which requires minor changes in the Goods or Special Services but which does not involve a change in the Contract Price or Contract Times.

19. *General Requirements*—Sections of Division 1 of the Specifications. The General Requirements pertain to all sections of the Specifications.

20. *Goods*—The tangible and movable personal property that is described in the Contract Documents, regardless of whether the property is to be later attached to realty.

21. *Goods and Special Services*—The full scope of materials, equipment, other items, and services to be furnished by Seller, including Goods, as defined herein, and Special Services, if any, as defined herein. This term refers to both the Goods and the Special Services, or to either the Goods or the Special Services, and to any portion of the Goods or the Special Services, as the context requires.

22. *Laws and Regulations; Laws or Regulations*—Any and all applicable laws, rules, regulations, ordinances, codes, and orders of any and all governmental bodies, agencies, authorities, and courts having jurisdiction.

23. *Milestone*—A principal event specified in the Contract Documents relating to an intermediate completion date or time prior to the Contract Times.

24. *Notice of Award*—The written notice by Buyer to the Successful Bidder stating that upon timely compliance by the Successful Bidder with the conditions precedent listed therein, Buyer will sign and deliver the Agreement.

25. *Notice to Proceed*—A written notice given by Buyer to Seller fixing the date on which the Contract Times commence to run and on which Seller shall start to perform under the Contract.

26. *Point of Destination*—The specific address of the location where delivery of the Goods shall be made, as stated in the Agreement.

27. *Project*—The total undertaking of which the Goods and Special Services may be the whole, or only a part.

28. *Project Manual*—The documentary information prepared for bidding and furnishing the Goods and Special Services. A listing of the contents of the Project Manual is contained in its table of contents.

29. *Samples*—Physical examples of materials, equipment, or workmanship that are representative of some portion of the Goods and Special Services and which establish the standards by which such portion of the Goods and Special Services will be judged.

30. *Seller*—The individual or entity furnishing the Goods and Special Services.

31. *Shop Drawings*—All drawings, diagrams, illustrations, schedules, and other data or information which are specifically prepared or assembled by or for Seller and submitted by Seller to illustrate some portion of the Goods and Special Services.

32. *Special Services*—Services associated with the Goods to be furnished by Seller as required by the Contract Documents.

33. *Specifications*—That part of the Contract Documents consisting of written requirements for materials, equipment, systems, standards and workmanship as applied to the furnishing of the Goods and Special Services, and certain administrative requirements and procedural matters applicable thereto.

34. *Successful Bidder*—The Bidder submitting a responsive Bid, to whom Buyer makes an award.

35. *Supplementary Conditions*—That part of the Contract Documents which amends or supplements these General Conditions.

36. *Work Change Directive*—A written statement to Seller issued on or after the Effective Date of the Agreement and signed by Buyer ordering an addition, deletion, or other revision in the Contract Documents with respect to the Goods and Special Services. A Work Change Directive will not change the Contract Price or the Contract Times but is evidence that the parties expect

that the change ordered or documented by a Work Change Directive will be incorporated in a subsequently issued Change Order following negotiations by the parties as to its effect, if any, on the Contract Price or Contract Times.

1.02 *Terminology*

A. The words and terms discussed in Paragraphs 1.02.B and 1.02.C are not defined, but have the indicated meanings when used in the Bidding Requirements or Contract Documents.

B. *Intent of Certain Terms or Adjectives:*

1. The Contract Documents include the terms "as allowed," "as approved," "as ordered," "as directed" or terms of like effect or import to authorize an exercise of professional judgment by Engineer. In addition, the adjectives "reasonable," "suitable," "acceptable," "proper," "satisfactory," or adjectives of like effect or import are used to describe an action or determination of Engineer as to the Goods and Special Services. It is intended that such exercise of professional judgment, action, or determination will be commercially reasonable and will be solely to evaluate, in general, the Goods and Special Services for compliance with the requirements of and information in the Contract Documents and conformance with the design concept of the completed Project as a functioning whole as shown or indicated in the Contract Documents (unless there is a specific statement indicating otherwise). The use of any such term or adjective shall not be effective to assign to Engineer any duty or authority to supervise or direct the furnishing of Goods or Special Services or any duty or authority to undertake responsibility contrary to any other provision of the Contract Documents.

2. The word "non-conforming" when modifying the words "Goods and Special Services," "Goods," or "Special Services," refers to Goods and Special Services that fail to conform to the Contract Documents.

3. The word "receipt" when referring to the Goods, shall mean the physical taking and possession by the Buyer under the conditions specified in Paragraph 8.01.B.3.

4. The word "day" means a calendar day of 24 hours measured from midnight to the next midnight.

5. The word "furnish," when used in connection with the Goods and Special Services shall mean to supply and deliver said Goods to the Point of Destination (or some other specified location) and to perform said Special Services fully, all in accordance with the Contract Documents.

C. Unless stated otherwise in the Contract Documents, words or phrases that have a well-known technical or construction industry or trade meaning are used in the Contract Documents in accordance with such recognized meaning.

ARTICLE 2 – PRELIMINARY MATTERS

2.01 *Delivery of Bonds*

A. When Seller delivers the executed counterparts of the Agreement to Buyer, Seller also shall deliver such bonds as Seller may be required to furnish.

2.02 *Evidence of Insurance*

A. When Seller delivers the executed counterparts of the Agreement to Buyer, Seller shall deliver to Buyer, with copies to each additional insured identified by name in the Supplementary Conditions, certificates of insurance (and other evidence of insurance which either of them or any additional insured may reasonably request) which Seller is required to purchase and maintain in accordance with Article 4.

2.03 *Copies of Documents*

A. Buyer shall furnish Seller up to five printed or hard copies of the Contract Documents. Additional copies will be furnished upon request at the cost of reproduction.

2.04 *Commencement of Contract Times; Notice to Proceed*

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

2.05 *Designated Representatives*

A. Buyer and Seller shall each designate its representative at the time the Agreement is signed. Each representative shall have full authority to act on behalf of and make binding decisions in any matter arising out of or relating to the Contract.

2.06 *Progress Schedule*

A. Within 15 days after the Contract Times start to run, Seller shall submit to Buyer and Engineer an acceptable progress schedule of activities, including at a minimum, Shop Drawing and Sample submittals, tests, and deliveries as required by the Contract Documents. No progress payment will be made to Seller until an acceptable schedule is submitted to Buyer and Engineer.

B. The progress schedule will be acceptable to Buyer and Engineer if it provides an orderly progression of the submittals, tests, and deliveries to completion within the specified Milestones and the Contract Times. Such acceptance will not impose on Buyer or Engineer responsibility for the progress schedule, for sequencing, scheduling, or progress of the work nor interfere with or relieve Seller from Seller's full

responsibility therefor. Such acceptance shall not be deemed to acknowledge the reasonableness and attainability of the schedule.

2.07 *Preliminary Conference*

A. Within 20 days after the Contract Times start to run, a conference attended by Seller, Buyer, Engineer and others as appropriate will be held to establish a working understanding among the parties as to the Goods and Special Services and to discuss the schedule referred to in Paragraph 2.06.A, procedures for handling Shop Drawings and other submittals, processing Applications for Payment, and maintaining required records.

2.08 *Safety*

A. Buyer and Seller shall comply with all applicable Laws and Regulations relating to the safety of persons or property, or to the protection of persons or property from damage, injury, or loss. When Seller's personnel, or the personnel of any subcontractor to Seller, are present at the Point of Destination or any work area or site controlled by Buyer, the Seller shall be responsible for the compliance by such personnel with any applicable requirements of Buyer's safety programs that are made known to Seller.

ARTICLE 3 – CONTRACT DOCUMENTS: INTENT AND AMENDING

3.01 *Intent*

A. The Contract Documents are complementary; what is called for by one is as binding as if called for by all.

B. Any labor, documentation, services, materials, or equipment that may reasonably be inferred from the Contract Documents or from prevailing custom or trade usage as being required to produce or furnish the indicated Goods and Special Services will be provided, whether or not specifically called for, at no additional cost to Buyer.

C. Clarifications and interpretations of, or notifications of minor variations and deviations in, the Contract Documents, will be issued by Engineer as provided in Article 9.

3.02 *Standards, Specifications, Codes, Laws and Regulations*

A. Reference to standards, specifications, manuals, or codes of any technical society, organization, or association, or to Laws and Regulations, whether such reference be specific or by implication, shall mean the standard, specification, manual, code, or Laws and Regulations in effect at the time of opening of Bids (or on the Effective Date of the Agreement if there were no Bids), except as may be otherwise specifically stated in the Contract Documents.

B. No provision of any such standard, specification, manual or code, or any instruction of a supplier shall be effective to change the duties or responsibilities of Buyer or Engineer, or any of their subcontractors, consultants, agents, or employees from those set forth in the Contract Documents, nor shall any such provision or instruction be effective to assign to Buyer or Engineer, or any of their consultants, agents,

or employees any duty or authority to supervise or direct the performance of Seller's obligations or any duty or authority to undertake responsibility inconsistent with the provisions of the Contract Documents.

3.03 *Reporting and Resolving Discrepancies*

A. *Reporting Discrepancies:*

1. *Seller's Review of Contract Documents Before the Performance of the Contract*: Before performance of the Contract, Seller shall carefully study and compare the Contract Documents and check and verify pertinent figures therein and all applicable field measurements. Seller shall promptly report in writing to Engineer any conflict, error, ambiguity, or discrepancy which Seller discovers or has actual knowledge of and shall obtain a written interpretation or clarification from Engineer before proceeding with the furnishing of any Goods and Special Services affected thereby.

2. *Seller's Review of Contract Documents During the Performance of the Contract:* If, during the performance of the Contract, Seller discovers any conflict, error, ambiguity, or discrepancy within the Contract Documents or between the Contract Documents and any provision of any Law or Regulation applicable to the performance of the Contract, any standard, specification, manual or code, or of any instruction of any Supplier, Seller shall promptly report it to Engineer in writing. Seller shall not proceed with the furnishing of the Goods and Special Services affected thereby until an amendment to or clarification of the Contract Documents has been issued.

3. Seller shall not be liable to Buyer or Engineer for failure to report any conflict, error, ambiguity, or discrepancy in the Contract Documents unless Seller had actual knowledge thereof.

B. *Resolving Discrepancies:* Except as may be otherwise specifically stated in the Contract Documents, the provisions of the Contract Documents shall take precedence in resolving any conflict, error, ambiguity, or discrepancy between the provisions of the Contract Documents and:

1. the provisions of any standard, specification, manual, code, or instruction (whether or not specifically incorporated by reference in the Contract Documents); or

2. the provisions of any Laws or Regulations applicable to the furnishing of the Goods and Special Services (unless such an interpretation of the provisions of the Contract Documents would result in violation of such Law or Regulation).

3.04 *Amending and Clarifying Contract Documents*

A. The Contract Documents may be amended to provide for additions, deletions, and revisions to the Goods and Special Services or to modify contractual terms and conditions by a Change Order.

B. Buyer may issue a Work Change Directive providing for additions, deletions, or revisions to the Goods and Special Services, in which case (1) the Contract Price shall be equitably adjusted to account for any reasonable and necessary credits to Buyer for any such deletion, or for costs (including reasonable

overhead and profit) incurred by Seller to accommodate such an addition or revision and (2) the Contract Times shall be equitably adjusted to account for any impact on progress and completion of performance. Such adjustments subsequently shall be duly set forth in a Change Order.

C. The requirements of the Contract Documents may be supplemented, and minor variations and deviations in the Goods and Special Services may be authorized, by one or more of the following ways:

1. A Field Order;

2. Engineer's approval of a Shop Drawing or Sample (subject to the provisions of Paragraph 5.06.D.3); or

3. Engineer's written interpretation or clarification.

ARTICLE 4 – BONDS AND INSURANCE

4.01 *Bonds*

A. Seller shall furnish to Buyer performance and payment bonds, each in an amount at least equal to the Contract Price, as security for the faithful performance and payment of all of Seller's obligations under the Contract Documents. These bonds shall remain in effect until 1) one year after the date when final payment becomes due or 2) completion of the correction period specified in Paragraph 8.03, whichever is later, except as provided otherwise by Laws or Regulations or by the Contract Documents. Seller shall also furnish such other bonds as are required by the Contract Documents.

B. All bonds shall be in the form prescribed by the Contract Documents except as provided otherwise by Laws or Regulations, and shall be executed by such sureties as are named in the current list of "Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies" as published in Circular 570 (amended) by the Financial Management Service, Surety Bond Branch, U.S. Department of the Treasury. All bonds signed by an agent or attorney-in-fact must be accompanied by a certified copy of that individual's authority to bind the surety. The evidence of authority shall show that it is effective on the date the agent or attorney-in-fact signed each bond.

C. If the surety on any bond furnished by Seller is declared bankrupt or becomes insolvent or its right to do business is terminated in any state where any part of the Project is located or it ceases to meet the requirements of Paragraph 4.01.B, Seller shall promptly notify Buyer and Engineer and shall, within 20 days after the event giving rise to such notification, provide another bond and surety, both of which shall comply with the requirements of Paragraphs 4.01.B and 4.02.

4.02 *Insurance*

A. Seller shall provide insurance of the types and coverages and in the amounts stipulated in the Supplementary Conditions.

B. Failure of Buyer to demand certificates of insurance or other evidence of Seller's full compliance with these insurance requirements or failure of Buyer to identify a deficiency in compliance from the evidence provided shall not be construed as a waiver of Seller's obligation to maintain such insurance.

C. Upon assignment of this Contract, Seller shall comply with the written request of assignee to provide certificates of insurance to assignee.

D. Buyer does not represent that insurance coverage and limits established in this Contract necessarily will be adequate to protect Seller.

E. The insurance and insurance limits required herein shall not be deemed as a limitation on Seller's liability under the indemnities granted to Buyer in the Contract Documents.

4.03 *Licensed Sureties and Insurers*

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

ARTICLE 5 – SELLER'S RESPONSIBILITIES

5.01 *Supervision and Superintendence*

A. Seller shall supervise, inspect, and direct the furnishing of the Goods and Special Services competently and efficiently, devoting such attention thereto and applying such skills and expertise as may be necessary to perform its obligations in accordance with the Contract Documents. Seller shall be solely responsible for the means, methods, techniques, sequences, and procedures necessary to perform its obligations in accordance with the Contract Documents. Seller shall not be responsible for the negligence of Buyer or Engineer in the design or specification of a specific means, method, technique, sequence, or procedure that is shown or indicated in and expressly required by the Contract Documents.

5.02 *Labor, Materials and Equipment*

A. Seller shall provide competent, qualified and trained personnel in all aspects of its performance of the Contract.

B. All Goods, and all equipment and material incorporated into the Goods, shall be as specified, and unless specified otherwise in the Contract Documents, shall be:

1. new, and of good quality;

2. protected, assembled, connected, cleaned, and conditioned in accordance with the original manufacturer's instructions; and

3. shop assembled to the greatest extent practicable.

5.03 *Laws and Regulations*

A. Seller shall give all notices required by and shall comply with all Laws and Regulations applicable to the performance of its obligations in accordance with the Contract Documents. Except where otherwise expressly required by such Laws and Regulations, neither Buyer nor Engineer shall be responsible for monitoring Seller's compliance with any Laws or Regulations.

B. If Seller furnishes Goods and Special Services knowing or having reason to know that such furnishing is contrary to Laws or Regulations, Seller shall bear all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such performance. It shall not be Seller's responsibility to make certain that the Specifications and Drawings are in accordance with Laws and Regulations, but this provision shall not relieve Seller of Seller's obligations under Paragraph 3.03.

C. Changes in Laws or Regulations not known at the time of opening of Bids (or, on the Effective Date of the Agreement if there were no Bids) having an effect on the cost or time of performance shall be the subject of an adjustment in Contract Price or Contract Times. If Buyer and Seller are unable to agree on entitlement to or on the amount or extent, if any, of any such adjustment, a Claim may be made therefor as provided in Paragraph 9.06.

5.04 *Or Equals*

A. Whenever the Goods, or an item of material or equipment to be incorporated into the Goods, are specified or described in the Contract Documents by using the name of a proprietary item or the name of a particular supplier or manufacturer, the specification or description is intended to establish the type, function, appearance, and quality required. Unless the specification or description contains or is followed by words reading that no like, equivalent, or "or-equal" item is permitted, other items of material or equipment or material or equipment of other suppliers or manufacturers may be submitted to Buyer for Engineer's review.

1. If in Engineer's sole discretion, such an item of material or equipment proposed by Seller is functionally equal to that named and sufficiently similar so that no change in related work will be required, it may be considered by Engineer as an "or-equal" item.

2. For the purposes of this paragraph, a proposed item of material or equipment may be considered functionally equal to an item so named only if:

a. in the exercise of reasonable judgment, Engineer determines that: 1) it is at least equal in quality, durability, appearance, strength, and design characteristics; 2) it will reliably perform at least equally well the function imposed by the design concept of the completed Project as a functioning whole; 3) it has an acceptable record of performance and availability of responsive service; and

b. Seller certifies that if approved: 1) there will be no increase in any cost, including capital, installation or operating costs, to Buyer; and 2) the proposed item will conform substantially to the detailed requirements of the item named in the Contract Documents.

B. *Engineer's Evaluation:* Engineer will be allowed a reasonable time within which to evaluate each proposal or submittal made pursuant to Paragraph 5.04.A. Engineer will be the sole judge of whether to accept or reject such a proposal or submittal. No "or-equal" will be ordered, manufactured or utilized until Engineer's review is complete, which will be evidenced by an approved Shop Drawing. Engineer will advise Buyer and Seller in writing of any negative determination. Notwithstanding Engineer's approval of an "or-equal" item, Seller shall remain obligated to comply with the requirements of the Contract Documents.

C. *Special Guarantee:* Buyer may require Seller to furnish at Seller's expense a special performance guarantee or other surety with respect to any such proposed "or-equal."

D. *Data:* Seller shall provide all data in support of any such proposed "or-equal" at Seller's expense.

5.05 *Taxes*

A. Seller shall be responsible for all taxes and duties arising out of the sale of the Goods and the furnishing of Special Services. All taxes are included in the Contract Price, except as noted in the Supplementary Conditions.

5.06 *Shop Drawings and Samples*

A. Seller shall submit Shop Drawings and Samples to Buyer for Engineer's review and approval in accordance with the schedule required in Paragraph 2.06.A. All submittals will be identified as required and furnished in the number of copies specified in the Contract Documents. The data shown on the Shop Drawings will be complete with respect to quantities, dimensions, specified performance and design criteria, materials, and similar data to show Engineer the services, materials, and equipment Seller proposes to provide.

B. Where a Shop Drawing or Sample is required by the Contract Documents, any related work performed prior to Engineer's approval of the pertinent submittal will be at the sole expense and responsibility of Seller.

C. *Submittal Procedures:*

1. Before submitting each Shop Drawing or Sample, Seller shall have determined and verified:

a. all field measurements (if required), quantities, dimensions, specified performance criteria, installation requirements, materials, catalog numbers, and similar information with respect thereto; and

b. that all materials are suitable with respect to the indicated application, fabrication, shipping, handling, storage, assembly, and installation pertaining to the furnishing of Goods and Special Services.

2. Seller shall also have reviewed and coordinated each Shop Drawing or Sample with the Contract Documents.

3. Each submittal shall bear a stamp or include a written certification from Seller that Seller has reviewed the subject submittal and confirmed that it is in compliance with the requirements of the Contract Documents. Both Buyer and Engineer shall be entitled to rely on such certification from Seller.

4. With each submittal, Seller shall give Buyer and Engineer specific written notice of any variations that the Shop Drawing or Sample may have from the requirements of the Contract Documents. This notice shall be both in a written communication separate from the submittal and by specific notation on each Shop Drawing or Sample.

D. *Engineer's Review:*

1. Engineer will provide timely review of Shop Drawings and Samples.

2. Engineer's review and approval will be only to determine if the Goods and Special Services covered by the submittals will, after installation or incorporation in the Project, conform to the information given in the Contract Documents and be compatible with the design concept of the completed Project as a functioning whole.

3. Engineer's review and approval shall not relieve Seller from responsibility for any variation from the requirements of the Contract Documents unless Seller has complied with the requirements of Paragraph 5.06.C.4 and Engineer has given written approval of each such variation by specific written notation thereof incorporated in or accompanying the Shop Drawing or Sample. Engineer's review and approval shall not relieve Seller from responsibility for complying with the requirements of Paragraph 5.06.C.1.

E. *Resubmittal Procedures:*

1. Seller shall make corrections required by Engineer and shall return the required number of corrected copies of Shop Drawings and submit, as required, new Samples for review and approval. Seller shall direct specific attention in writing to any revisions other than the corrections called for by Engineer on previous submittals.

5.07 *Continuing Performance*

A. Seller shall adhere to the progress schedule established in accordance with Paragraph 2.06.A., and the Goods shall be delivered and the Special Services furnished within the Contract Times specified in the Agreement.

B. Seller shall carry on furnishing of the Goods and Special Services and adhere to the progress schedule during all disputes or disagreements with Buyer. No furnishing of Goods and Special Services shall be delayed or postponed pending resolution of any disputes or disagreements, except as permitted by Paragraphs 11.03 or 11.04, or as Buyer and Seller may otherwise agree in writing.

5.08 *Seller's Warranties and Guarantees*

A. Seller warrants and guarantees to Buyer that the title to the Goods conveyed shall be proper, its transfer rightful, and free from any security interest, lien, or other encumbrance. Seller shall defend, indemnify, and hold Buyer harmless against any liens, claims, or demands contesting or affecting title of the Goods conveyed.

B. Seller warrants and guarantees to Buyer that all Goods and Special Services will conform with the Contract Documents, and with the standards established by any Samples approved by Engineer. Engineer shall be entitled to rely on Seller's warranty and guarantee. If the Contract Documents do not otherwise specify the characteristics or the quality of the Goods, the Goods shall comply with the requirements of Paragraph 5.02.B.

C. Seller's warranty and guarantee hereunder excludes defects or damage caused by:

1. abuse, improper modification, improper maintenance, or improper operation by persons other than Seller; or

2. corrosion or chemical attack, unless corrosive or chemically-damaging conditions were disclosed by Buyer in the Contract Documents and the Contract Documents required the Goods to withstand such conditions;

3. use in a manner contrary to Seller's written instructions for installation, operation, and maintenance; or

4. normal wear and tear under normal usage.

D. Seller's obligation to furnish the Goods and Special Services in accordance with the Contract Documents shall be absolute. None of the following will constitute an acceptance of Goods and Special Services that are non-conforming, or a release of Seller's obligation to furnish the Goods and Special Services in accordance with the Contract Documents:

1. observations by Buyer or Engineer;

2. recommendation by Engineer or payment by Buyer of any progress or final payment;

3. use of the Goods by Buyer;

4. any acceptance by Buyer (subject to the provisions of Paragraph 8.02.D.1) or any failure to do so;

5. the issuance of a notice of acceptance by Buyer pursuant to the provisions of Article 8;

6. any inspection, test or approval by others; or

7. any correction of non-conforming Goods and Special Services by Buyer.

E. Buyer shall promptly notify Seller of any breach of Seller's warranties or guarantees.

F. Seller makes no implied warranties under this Contract.

5.09 *Indemnification*

A. To the fullest extent permitted by Laws and Regulations, Seller shall indemnify and hold harmless Buyer and Engineer, and the officers, directors, members, partners, employees, agents, consultants, contractors, and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to the performance of Seller's obligations under the Contract Documents, provided that any such claim, cost, loss, or damages attributable to bodily injury, sickness, disease, or death, or to injury to or destruction of tangible property (other than the Goods themselves), including the loss of use resulting therefrom, but only to the extent cause by any negligent act or omission of Seller, or any individual or entity directly or indirectly employed by Seller or anyone for whose acts Seller may be liable.

B. In any and all claims against Buyer or Engineer or any of their respective assignees, consultants, agents, officers, directors, members, partners, employees, agents, consultants, contractors, or subcontractors, by any employee (or the survivor or personal representative of such employee) of Seller, any subcontractor, any supplier, or any individual or entity directly or indirectly employed by any of them to furnish any of the Goods and Special Services, or anyone for whose acts any of them may be liable, the indemnification obligation under Paragraph 5.09.A shall not be limited in any way by any limitation on the amount or type of damages, compensation, or benefits payable by or for seller or any such subcontractor, supplier, or other individual or entity under workers' compensation acts, disability benefit acts, or other employee benefit acts.

C. The indemnification obligations of Seller under Paragraph 5.09.A shall not extend to the liability of Engineer and Engineer's officers, directors, partners, employees, agents, and consultants arising out of:

1. the preparation or approval of, or the failure to prepare or approve, maps, Drawings, opinions, reports, surveys, Change Orders, designs, or Specifications; or

2. giving directions or instructions, or failing to give them, if that is the primary cause of the injury or damage.

5.10 *Delegation of Professional Design Services*

A. Seller will not be required to provide professional design services unless such services are specifically required by the Contract Documents or unless such services are required to carry out Seller's responsibilities for furnishing the Goods and Special Services. Seller shall not be required to provide professional services in violation of applicable law.

B. If professional design services or certifications by a design professional related to the Goods and Special Services are specifically required of Seller by the Contract Documents, Buyer and Engineer will specify all performance and design criteria that such services must satisfy. Seller shall cause such services or

certifications to be provided by a properly licensed professional, whose signature and seal shall appear on all drawings, calculations, specifications, certifications, Shop Drawings and other submittals prepared by such professional. Shop Drawings and other submittals related to the Goods and Special Services designed or certified by such professional, if prepared by others, shall bear such professional's written approval when submitted to Engineer.

C. Buyer and Engineer shall be entitled to rely upon the adequacy, accuracy and completeness of the services, certifications or approvals performed by such design professionals, provided Buyer and Engineer have specified to Seller all performance and design criteria that such services must satisfy.

D. Pursuant to this Paragraph 5.10, Engineer's review and approval of design calculations and design drawings will be only for the limited purpose of checking for conformance with performance and design criteria given and the design concept expressed in the Contract Documents. Engineer's review and approval of Shop Drawings and other submittals (except design calculations and design drawings) will be only for the purpose stated in Paragraph 5.06.D.2.

E. Seller shall not be responsible for the adequacy of the performance or design criteria required by the Contract Documents.

ARTICLE 6 – SHIPPING AND DELIVERY

6.01 *Shipping*

A. Seller shall select the carrier and bear all costs of packaging, transportation, insurance, special handling and any other costs associated with shipment and delivery.

6.02 *Delivery*

A. Seller shall deliver the Goods F.O.B. the Point of Destination in accordance with the Contract Times set forth in the Agreement, or other date agreed to by Buyer and Seller.

B. Seller shall provide written notice to Buyer at least 10 days before shipment of the manner of shipment and the anticipated delivery date. The notice shall also include any instructions concerning special equipment or services required at the Point of Destination to unload and care for the Goods. Seller shall also require the carrier to give Buyer at least 24 hours notice by telephone prior to the anticipated time of delivery.

C. Buyer will be responsible and bear all costs for unloading the Goods from carrier.

D. Buyer will assure that adequate facilities are available to receive delivery of the Goods during the Contract Times for delivery set forth in the Agreement, or another date agreed by Buyer and Seller.

E. No partial deliveries shall be allowed, unless permitted or required by the Contract Documents or agreed to in writing by Buyer.

6.03 *Risk of Loss*

A. Risk of loss and insurable interests transfer from Seller to Buyer upon Buyer's receipt of the Goods.

B. Notwithstanding the provisions of Paragraph 6.03.A, if Buyer rejects the Goods as non-conforming, the risk of loss on such Goods shall remain with Seller until Seller corrects the non-conformity or Buyer accepts the Goods. If rejected Goods remain at the Point of Destination pending modification and acceptance, then Seller shall be responsible for arranging adequate protection and maintenance of the Goods at Seller's expense.

6.04 *Progress Schedule*

A. Seller shall adhere to the progress schedule established in accordance with Paragraph 2.06 as it may be adjusted from time to time as provided below.

1. Seller shall submit to Engineer for acceptance (to the extent indicated in Paragraph 2.06) proposed adjustments in the progress schedule that will not result in changing the Contract Times. Such adjustments will comply with any provisions of the General Requirements applicable thereto.

2. Proposed adjustments in the progress schedule that will change the Contract Times shall be submitted in accordance with the requirements of Article 7. Adjustments in Contract Times may only be made by a Change Order.

ARTICLE 7 – CHANGES: SCHEDULE AND DELAY

7.01 *Changes in the Goods and Special Services*

A. Buyer may at any time, without notice to any surety, make an addition, deletion, or other revision to the Contract Documents with respect to the Goods and Services, within the general scope of the Contract, by a Change Order or Work Change Directive. Upon receipt of any such document, Seller shall promptly proceed with performance pursuant to the revised Contract Documents (except as otherwise specifically provided).

B. If Seller concludes that a Work Change Directive issued by Buyer affects the Contract Price or Contract Times, then Seller shall notify Buyer within 15 days after Seller has received the Work Change Directive, and submit written supporting data to Buyer within 45 days after such receipt. If Seller fails to notify Buyer within 15 days, Seller waives any Claim for such adjustment. If Buyer and Seller are unable to agree on entitlement to, or on the amount or extent, if any, of an adjustment in the Contract Price or Contract Times, or both, that should be allowed as a result of a Work Change Directive, a Claim may be made therefor as provided in Paragraph 9.06.

C. Seller shall not suspend performance while Buyer and Seller are in the process of making such changes and any related adjustments to Contract Price or Contract Times.

7.02 *Changing Contract Price or Contract Times*

A. The Contract Price or Contract Times may only be changed by a Change Order.

B. Any Claim for an adjustment in the Contract Price or Contract Times shall be based on written notice submitted by the party making the Claim to the Engineer and the other party to the Contract in accordance with the provisions of Paragraph 9.06.

C. If Seller is prevented from delivering the Goods or performing the Special Services within the Contract Times for any unforeseen reason beyond its control and not attributable to its actions or inactions, then Seller shall be entitled to an adjustment of the Contract Times to the extent attributable to such reason. Such reasons include but are not limited to acts or neglect by Buyer, inspection delays, fires, floods, epidemics, abnormal weather conditions, acts of God, and other like matters. If such an event occurs and delays Seller's performance, Seller shall notify Buyer in writing within 15 days of knowing or having reason to know of the beginning of the event causing the delay, stating the reason therefor.

D. Seller shall not be entitled to an adjustment in Contract Price or Contract Times for delays within the control of Seller. Delays attributable to and within the control of Seller's subcontractors or suppliers shall be deemed to be delays within the control of Seller.

E. If Seller is prevented from delivering the Goods or furnishing the Special Services within the Contract Times due to the actions or inactions of Buyer, Seller shall be entitled to any reasonable and necessary additional costs arising out of such delay to the extent directly attributable to Buyer.

F. Neither Buyer nor Seller shall be entitled to any damages arising from delays which are beyond the control of both Buyer and Seller, including but not limited to fires, floods, epidemics, abnormal weather conditions, acts of God, and other like matters.

ARTICLE 8 – BUYER'S RIGHTS

8.01 *Inspections and Testing*

A. *General:*

1. The Contract Documents specify required inspections and tests. Buyer shall have the right to perform, or cause to be performed, reasonable inspections and require reasonable tests of the Goods at Seller's facility, and at the Point of Destination. Seller shall allow Buyer a reasonable time to perform such inspections or tests.

2. Seller shall reimburse Buyer for all expenses, except for travel, lodging, and subsistence expenses of Buyer's and Engineer's representatives, for inspections and tests specified in the Contract Documents. If as the result of any such specified testing the Goods are determined to be non-conforming, then Seller shall also bear the travel, lodging, and subsistence expenses of Buyer's and Engineer's representatives, and all expenses of re-inspection or retesting.

3. Buyer shall bear all expenses of inspections and tests that are not specified in the Contract Documents (other than any re-inspection or retesting resulting from a determination of non-

conformity, as set forth in Paragraph 8.01.A.2 immediately above); provided, however, that if as the result of any such non-specified inspections or testing the Goods are determined to be non-conforming, then Seller shall bear all expenses of such inspections and testing, and of any necessary re-inspection and retesting.

4. Seller shall provide Buyer timely written notice of the readiness of the Goods for all inspections, tests, or approvals which the Contract Documents specify are to be observed by Buyer prior to shipment.

5. Buyer will give Seller timely notice of all specified tests, inspections, and approvals of the Goods which are to be conducted at the Point of Destination.

6. If, on the basis of any inspections or testing, the Goods appear to be conforming, Buyer will give Seller prompt notice thereof. If on the basis of said inspections or testing, the Goods appear to be non-conforming, Buyer will give Seller prompt notice thereof and will advise Seller of the remedy Buyer elects under the provisions of Paragraph 8.02.

7. Neither payments made by Buyer to Seller prior to any tests or inspections, nor any tests or inspections shall constitute acceptance of non-conforming Goods, or prejudice Buyer's rights under the Contract.

B. Inspection on Delivery:

1. Buyer or Engineer will visually inspect the Goods upon delivery solely for purposes of identifying the Goods and general verification of quantities and observation of apparent condition in order to provide a basis for a progress payment. Such visual inspection will not be construed as final or as receipt of any Goods and Special Services that, as a result of subsequent inspections and tests, are determined to be non-conforming.

2. Within ten days of such visual inspection, Buyer shall provide Seller with written notice of Buyer's determination regarding conformity of the Goods. In the event Buyer does not provide such notice, it will be presumed that the Goods appear to be conforming and that Buyer has acknowledged their receipt upon delivery.

3. If, on the basis of the visual inspection specified in Paragraph 8.01.B.1, the Goods appear to be conforming, Buyer's notice thereof to Seller will acknowledge receipt of the Goods.

C. Final Inspection:

1. After all of the Goods have been incorporated into the Project, tested in accordance with such testing requirements as are specified, and are functioning as indicated, Buyer or Engineer will make a final inspection.

2. If, on the basis of the final inspection, the Goods are conforming, Buyer's notice thereof will constitute Buyer's acceptance of the Goods.

3. If, on the basis of the final inspection, the Goods are non-conforming, Buyer will identify the non-conformity in writing.

8.02 *Non-Conforming Goods and Special Services*

A. If, on the basis of inspections and testing prior to delivery, the Goods and Special Services are found to be non-conforming, or if at any time after Buyer has acknowledged receipt of delivery and before the expiration of the correction period described in Paragraph 8.03, Buyer determines that the Goods and Special Services are non-conforming, then Seller shall promptly, without cost to Buyer and in response to written instructions from Buyer, either correct such non-conforming Goods and Special Services, or, if Goods are rejected by Buyer, remove and replace the non-conforming Goods with conforming Goods, including all work required for reinstallation.

B. Buyer's Rejection of Non-Conforming Goods:

1. If Buyer elects to reject the Goods in whole or in part, Buyer's notice to Seller will describe in sufficient detail the non-conforming aspect of the Goods. If Goods have been delivered to Buyer, Seller shall promptly, and within the Contract Times, remove and replace the rejected Goods.

2. Seller shall bear all costs, losses and damages attributable to the removal and replacement of the non-conforming Goods as provided in Paragraph 8.02.E.

3. Upon rejection of the Goods, Buyer retains a security interest in the Goods to the extent of any payments made and expenses incurred in their testing and inspection.

C. Remedying Non-Conforming Goods and Special Services:

1. If Buyer elects to permit the Seller to modify the Goods to correct the non-comformance, then Seller shall promptly provide a schedule for such modifications and shall make the Goods conforming within a reasonable time.

2. If Buyer notifies Seller in writing that any of the Special Services are non-conforming, Seller shall promptly provide conforming services acceptable to Buyer. If Seller fails to do so, Buyer may delete the Special Services and reduce the Contract Price a commensurate amount.

D. Buyer's Acceptance of Non-Conforming Goods:

Instead of requiring correction or removal and replacement of non-conforming Goods discovered either before or after final payment, Buyer may accept the non-conforming Goods. Seller shall bear all reasonable costs, losses, and damages attributable to Buyer's evaluation of and determination to accept such non-conforming Goods as provided in Paragraph 8.02.E.

E. Seller shall pay all claims, costs, losses, and damages, including but not limited to all fees and charges for re-inspection, retesting and for any engineers, architects, attorneys and other professionals, and all court or arbitration or other dispute resolution costs arising out of or relating to the non-conforming Goods and Special Services. Seller's obligations shall include the costs of the correction or removal and

replacement of the non-conforming Goods and the replacement of property of Buyer and others destroyed by the correction or removal and replacement of the non-conforming Goods, and obtaining conforming Special Services from others.

F. *Buyer's Rejection of Conforming Goods:*

If Buyer asserts that Goods and Special Services are non-conforming and such Goods and Special Services are determined to be conforming, or if Buyer rejects as non-conforming Goods and Special Services that are later determined to be conforming, then Seller shall be entitled to reimbursement from Buyer of costs incurred by Seller in inspecting, testing, correcting, removing, or replacing the conforming Goods and Special Services, including but not limited to fees and charges of engineers, architects, attorneys and other professionals, and all court or arbitration or other dispute resolution costs associated with the incorrect assertion of non-conformance or rejection of conforming Goods and Special Services.

8.03 *Correction Period*

A. Seller's responsibility for correcting all non-conformities in the Goods and Special Services will extend for a period of one year after the earlier of the date on which Buyer has placed the Goods in continuous service or the date of final payment, or for such longer period of time as may be prescribed by Laws or Regulations or by the terms of any specific provisions of the Contract Documents.

ARTICLE 9 – ROLE OF ENGINEER

9.01 *Duties and Responsibilities*

A. The duties and responsibilities and the limitations of authority of Engineer are set forth in the Contract Documents.

9.02 *Clarifications and Interpretations*

A. Engineer will issue with reasonable promptness such written clarifications or interpretations of the Contract Documents as Engineer may determine necessary, which shall be consistent with or reasonably inferable from the overall intent of the Contract Documents. Such written clarifications and interpretations will be binding on Buyer and Seller. If either Buyer or Seller believes that a written clarification or interpretation justifies an adjustment in the Contract Price or Contract Times, either may make a Claim therefor.

9.03 *Authorized Variations*

A. Engineer may authorize minor deviations or variations in the Contract Documents by: 1) written approval of specific variations set forth in Shop Drawings when Seller has duly noted such variations as required in Paragraph 5.06.C.4, or 2) a Field Order.

9.04 *Rejecting Non-Conforming Goods and Special Services*

A. Engineer will have the authority to disapprove or reject Goods and Special Services that Engineer believes to be non-conforming. Engineer will also have authority to require special inspection or testing of the Goods or Special Services as provided in Paragraph 8.01 whether or not the Goods are fabricated or installed, or the Special Services are completed.

9.05 *Decisions on Requirements of Contract Documents*

A. Engineer will be the initial interpreter of the Contract Documents and judge of the acceptability of the Goods and Special Services. Claims, disputes and other matters relating to the acceptability of the Goods and Special Services or the interpretation of the requirements of the Contract Documents pertaining to Seller's performance will be referred initially to Engineer in writing with a request for a formal decision in accordance with this paragraph.

B. When functioning as interpreter and judge under this Paragraph 9.05, Engineer will not show partiality to Buyer or Seller and will not be liable in connection with any interpretation or decision rendered in good faith in such capacity. The rendering of a decision by Engineer pursuant to this Paragraph 9.05 with respect to any such Claim, dispute, or other matter (except any which have been waived by the making or acceptance of final payment as provided in Paragraph 10.07) will be a condition precedent to any exercise by Buyer or Seller of such rights or remedies as either may otherwise have under the Contract Documents or by Laws or Regulations in respect of any such Claim, dispute, or other matter.

9.06 *Claims and Disputes*

A. *Notice*: Written notice of each Claim relating to the acceptability of the Goods and Special Services or the interpretation of the requirements of the Contract Documents pertaining to either party's performance shall be delivered by the claimant to Engineer and the other party to the Agreement within 15 days after the occurrence of the event giving rise thereto, and written supporting data shall be submitted to Engineer and the other party within 45 days after such occurrence unless Engineer allows an additional period of time to ascertain more accurate data.

B. *Engineer's Decision*: Engineer will review each such Claim and render a decision in writing within 30 days after receipt of the last submittal of the claimant or the last submittal of the opposing party, if any.

C. If Engineer does not render a formal written decision on a Claim within the time stated in Paragraph 9.06.B., Engineer shall be deemed to have issued a decision denying the Claim in its entirety 31 days after receipt of the last submittal of the claimant or the last submittal of the opposing party, if any.

D. Engineer's written decision on such Claim or a decision denying the Claim in its entirety that is deemed to have been issued pursuant to Paragraph 9.06.C, will be final and binding upon Buyer and Seller 30 days after it is issued unless within 30 days of issuance Buyer or Seller appeals Engineer's decision by initiating the mediation of such Claim in accordance with the dispute resolution procedures set forth in Article 13.

E. If Article 13 has been amended to delete the mediation requirement, then Buyer or Seller may appeal Engineer's decision within 30 days of issuance by following the alternative dispute resolution process set forth in Article 13, as amended; or if no such alternative dispute resolution process has been set forth, Buyer or Seller may appeal Engineer's decision by 1) delivering to the other party within 30 days of the date of such decision a written notice of intent to submit the Claim to a court of competent jurisdiction, and 2) within 60 days after the date of such decision instituting a formal proceeding in a court of competent jurisdiction.

F. No Claim for an adjustment in Contract Price or Contract Times will be valid if not submitted in accordance with this Paragraph 9.06.

G. The parties agree to endeavor to avoid or resolve Claims through direct, good faith discussions and negotiations whenever practicable. Such discussions and negotiations should at the outset address whether the parties mutually agree to suspend the time periods established in this Paragraph 9.06; if so, a written record of such mutual agreement should be made and jointly executed.

ARTICLE 10 – PAYMENT

10.01 *Applications for Progress Payments*

A. Seller shall submit to Buyer for Engineer's review Applications for Payment filled out and signed by Seller and accompanied by such supporting documentation as is required by the Contract Documents and also as Buyer or Engineer may reasonably require. The timing and amounts of progress payments shall be as stipulated in the Agreement.

1. The first application for Payment will be submitted after review and approval by Engineer of all Shop Drawings and of all Samples required by the Contract Documents.

2. The second Application for Payment will be submitted after receipt of the Goods has been acknowledged in accordance with Paragraph 8.01.B and will be accompanied by a bill of sale, invoice, or other documentation reasonably satisfactory to Buyer warranting that Buyer has rightfully received good title to the Goods from Seller and that, upon payment, the Goods will be free and clear of all liens. Such documentation will include releases and waivers from all parties with viable lien rights. In the case of multiple deliveries of Goods, additional Applications for Payment accompanied by the required documentation will be submitted as Buyer acknowledges receipt of additional items of the Goods.

10.02 *Review of Applications for Progress Payments*

A. Engineer will, within ten days after receipt of each Application for Payment, either indicate in writing a recommendation of payment and present the Application to Buyer, or return the Application to Seller indicating in writing Engineer's reasons for refusing to recommend payment. In the latter case, Seller may make the necessary corrections and resubmit the Application.

1. Engineer's recommendation of payment requested in the first Application for Payment will constitute a representation by Engineer, based on Engineer's review of the Application for

Payment and the accompanying data, that the Shop Drawings and Samples have been reviewed and approved as required by the Contract Documents and Seller is entitled to payment of the amount recommended.

2. Engineer's recommendation of payment requested in the Application for Payment submitted upon Buyer's acknowledgment of receipt of the Goods will constitute a representation by Engineer, based on Engineer's review of the Application for Payment and the accompanying data Seller is entitled to payment of the amount recommended. Such recommendation will not constitute a representation that Engineer has made a final inspection of the Goods, that the Goods are free from non-conformities, acceptable or in conformance with the Contract Documents, that Engineer has made any investigation as to Buyer's title to the Goods, that exhaustive or continuous inspections have been made to check the quality or the quantity of the Goods beyond the responsibilities specifically assigned to Engineer in the Contract Documents or that there may not be other matters or issues between the parties that might entitle Seller to additional payments by Buyer or Buyer to withhold payment to Seller.

3. Engineer may refuse to recommend that all or any part of a progress payment be made, or Engineer may nullify all or any part of any payment previously recommended if, in Engineer's opinion, such recommendation would be incorrect or if on the basis of subsequently discovered evidence or subsequent inspections or tests Engineer considers such refusal or nullification necessary to protect Buyer from loss because the Contract Price has been reduced, Goods are found to be non-conforming, or Seller has failed to furnish acceptable Special Services.

10.03 *Amount and Timing of Progress Payments*

A. Subject to Paragraph 10.02.A., the amounts of the progress payments will be as provided in the Agreement. Buyer shall within 30 days after receipt of each Application for Payment with Engineer's recommendation pay Seller the amount recommended; but, in the case of the Application for Payment upon Buyer's acknowledgment of receipt of the Goods, said 30-day period may be extended for so long as is necessary (but in no event more than 60 days) for Buyer to examine the bill of sale and other documentation submitted therewith. Buyer shall notify Seller promptly of any deficiency in the documentation and shall not unreasonably withhold payment.

10.04 *Suspension of or Reduction in Payment*

A. Buyer may suspend or reduce the amount of progress payments, even though recommended for payment by Engineer, under the following circumstances:

1. Buyer has reasonable grounds to conclude that Seller will not furnish the Goods or the Special Services in accordance with the Contract Documents, and

2. Buyer has requested in writing assurances from Seller that the Goods and Special Services will be delivered or furnished in accordance with the Contract Documents, and Seller has failed to provide adequate assurances within ten days of Buyer's written request.

B. If Buyer refuses to make payment of the full amount recommended by Engineer, Buyer will provide Seller and Engineer immediate written notice stating the reason for such action and promptly pay Seller any amount remaining after deduction of the amount withheld. Buyer shall promptly pay Seller the amount withheld when Seller corrects the reason for such action to Buyer's satisfaction.

10.05 *Final Application for Payment*

A. After Seller has corrected all non-conformities to the reasonable satisfaction of Buyer and Engineer, furnished all Special Services, and delivered all documents required by the Contract Documents, Engineer will issue to Buyer and Seller a notice of acceptance. Seller may then make application for final payment following the procedure for progress payments. The final Application for Payment will be accompanied by all documentation called for in the Contract Documents, a list of all unsettled Claims, and such other data and information as Buyer or Engineer may reasonably require.

10.06 *Final Payment*

A. If, on the basis of final inspection and the review of the final Application for Payment and accompanying documentation, Engineer is reasonably satisfied that Seller has furnished the Goods and Special Services in accordance with the Contract Documents, and that Seller's has fulfilled all other obligations under the Contract Documents, then Engineer will, within ten days after receipt of the final Application for Payment, recommend in writing final payment subject to the provisions of Paragraph 10.07 and present the Application to Buyer. Otherwise, Engineer will return the Application to Seller, indicating the reasons for refusing to recommend final payment, in which case Seller shall make the necessary corrections and resubmit the Application for payment. If the Application and accompanying documentation are appropriate as to form and substance, Buyer shall, within 30 days after receipt thereof, pay Seller the amount recommended by Engineer, less any sum Buyer is entitled to set off against Engineer's recommendation, including but not limited to liquidated damages to which Buyer is entitled.

10.07 *Waiver of Claims*

A. The making and acceptance of final payment will constitute:

1. a waiver of all Claims by Buyer against Seller, except Claims arising from unsettled liens from non-conformities in the Goods or Special Services appearing after final payment, from Seller's failure to comply with the Contract Documents or the terms of any special guarantees specified therein, or from Seller's continuing obligations under the Contract Documents; and

2. a waiver of all Claims by Seller against Buyer (other than those previously made in accordance with the requirements herein and listed by Seller as unsettled as required in Paragraph 10.05.A, and not resolved in writing).

ARTICLE 11 – CANCELLATION, SUSPENSION, AND TERMINATION

11.01 *Cancellation*

A. Buyer has the right to cancel the Contract, without cause, at any time prior to delivery of the Goods by written notice. Cancellation pursuant to the terms of this paragraph shall not constitute a breach of contract by Buyer. Upon cancellation:

1. Buyer shall pay Seller for the direct costs incurred in producing any Goods that Seller has specially manufactured for the Project, plus a fair and reasonable amount for overhead and profit.

2. For Goods that are not specially manufactured for the Project, Seller shall be entitled to a restocking charge of 10 percent of the unpaid Contract Price of such Goods.

11.02 *Suspension of Performance by Buyer*

A. Buyer has the right to suspend performance of the Contract for up to a maximum of ninety days, without cause, by written notice. Upon suspension under this paragraph, Seller shall be entitled to an increase in the Contract Times and Contract Price caused by the suspension, provided that performance would not have been suspended or delayed for causes attributable to Seller.

11.03 *Suspension of Performance by Seller*

A. Subject to the provisions of Paragraph 5.07.B, Seller may suspend the furnishing of the Goods and Special Services only under the following circumstance:

1. Seller has reasonable grounds to conclude that Buyer will not perform its future payment obligations under the Contract; and,

2. Seller has requested in writing assurances from Buyer that future payments will be made in accordance with the Contract, and Buyer has failed to provide such assurances within ten days of Seller's written request.

11.04 *Breach and Termination*

A. Buyer's Breach:

1. Buyer shall be deemed in breach of the Contract if it fails to comply with any material provision of the Contract Documents, including but not limited to:

a. wrongful rejection or revocation of Buyer's acceptance of the Goods,

b. failure to make payments in accordance with the Contract Documents, or

c. wrongful repudiation of the Contract.

2. Seller shall have the right to terminate the Contract for cause by declaring a breach should Buyer fail to comply with any material provisions of the Contract. Upon termination, Seller shall be entitled to all remedies provided by Laws and Regulations.

    a. In the event Seller believes Buyer is in breach of its obligations under the Contract, Seller shall provide Buyer with reasonably prompt written notice setting forth in sufficient detail the reasons for declaring that it believes a breach has occurred. Buyer shall have seven days from receipt of the written notice declaring the breach (or such longer period of time as Seller may grant in writing) within which to cure or to proceed diligently to cure such alleged breach.

B. Seller's Breach:

1. Seller shall be deemed in breach of the Contract if it fails to comply with any material provision of the Contract Documents, including, but not limited to:

    a. failure to deliver the Goods or perform the Special Services in accordance with the Contract Documents,

    b. wrongful repudiation of the Contract, or

    c. delivery or furnishing of non-conforming Goods and Special Services.

2. Buyer may terminate Seller's right to perform the Contract for cause by declaring a breach should Seller fail to comply with any material provision of the Contract Documents. Upon termination, Buyer shall be entitled to all remedies provided by Laws and Regulations.

    a. In the event Buyer believes Seller is in breach of its obligations under the Contract, and except as provided in Paragraph 11.04.B.2.b, Buyer shall provide Seller with reasonably prompt written notice setting forth in sufficient detail the reasons for declaring that it believes a breach has occurred. Seller shall have seven days from receipt of the written notice declaring the breach (or such longer period of time as Buyer may grant in writing) within which to cure or to proceed diligently to cure such alleged breach.

    b. If and to the extent that Seller has provided a performance bond under the provisions of Paragraph 4.01, the notice and cure procedures of that bond, if any, shall supersede the notice and cure procedures of Paragraph 11.04.B.2.a.

ARTICLE 12 – LICENSES AND FEES

12.01 *Intellectual Property and License Fees*

A. Unless specifically stated elsewhere in the Contract Documents, Seller is not transferring any intellectual property rights, patent rights, or licenses for the Goods delivered. However, in the event the Seller is manufacturing to Buyer's design, Buyer retains all intellectual property rights in such design.

B. Seller shall pay all license fees and royalties and assume all costs incident to the use or the furnishing of the Goods, unless specified otherwise by the Contract Documents.

12.02 *Seller's Infringement*

A. Subject to Paragraph 12.01.A, Seller shall indemnify and hold harmless Buyer, Engineer and their officers, directors, members, partners, employees, agents, consultants, contractors, and subcontractors from and against all claims, costs, losses, damages, and judgments (including but not limited to all reasonable fees and charges of engineers, architects, attorneys and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to any infringement or alleged infringement of any United States or foreign patent or copyright by any of the Goods as delivered hereunder.

B. In the event of suit or threat of suit for intellectual property infringement, Buyer will promptly notify Seller of receiving notice thereof.

C. Seller shall promptly defend the claim or suit, including negotiating a settlement. Seller shall have control over such claim or suit, provided that Seller agrees to bear all expenses and to satisfy any adverse judgment thereof.

1. If Seller fails to defend such suit or claim after written notice by Buyer, Seller will be bound in any subsequent suit or claim against Seller by Buyer by any factual determination in the prior suit or claim.

2. If Buyer fails to provide Seller the opportunity to defend such suit or claim after written notice by Seller, Buyer shall be barred from any remedy against Seller for such suit or claim.

D. If a determination is made that Seller has infringed upon intellectual property rights of another, Seller may obtain the necessary licenses for Buyer's benefit, or replace the Goods and provide related design and construction as necessary to avoid the infringement at Seller's own expense.

12.03 *Buyer's Infringement*

A. Buyer shall indemnify and hold harmless Seller, and its officers, directors, partners, employees, agents, consultants, contractors, and subcontractors from and against all claims, costs, losses, damages, and judgments (including but not limited to all reasonable fees and charges of engineers, architects, attorneys and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to any infringement or alleged infringement of any United States or foreign patent or copyright caused by Seller's compliance with Buyer's design of the Goods or Buyer's use of the Goods in combination with other materials or equipment in any process (unless intent of such use was known to Seller and Seller had reason to know such infringement would result).

B. In the event of suit or threat of suit for intellectual property infringement, Seller must after receiving notice thereof promptly notify Buyer.

C. Upon written notice from Seller, Buyer shall be given the opportunity to defend the claim or suit, including negotiating a settlement. Buyer shall have control over such claim or suit, provided that Buyer agrees to bear all expenses and to satisfy any adverse judgment thereof.

1. If Buyer fails to defend such suit or claim after written notice by Seller, Buyer will be bound in any subsequent suit or claim against Buyer by Seller by any factual determination in the prior suit or claim.

2. If Seller fails to provide Buyer the opportunity to defend such suit or claim after written notice by Buyer, Seller shall be barred from any remedy against Buyer for such suit or claim.

12.04 *Reuse of Documents*

A. Neither Seller nor any other person furnishing any of the Goods and Special Services under a direct or indirect contract with Seller shall: (1) acquire any title to or ownership rights in any of the Drawings, Specifications, or other documents (or copies of any thereof) prepared by or bearing the seal of Engineer or its consultants, including electronic media versions; or ~~(~~2) reuse any of such Drawings, Specifications, other documents, or copies thereof on any other project without written consent of Buyer and Engineer and specific written verification or adaptation by Engineer. This prohibition will survive termination or completion of the Contract. Nothing herein shall preclude Seller from retaining copies of the Contract Documents for record purposes.

12.05 *Electronic Data*

A. Unless otherwise stated in the Supplementary Conditions, copies of data furnished by Buyer or Engineer to Seller, or by Seller to Buyer or Engineer that may be relied upon are limited to the printed copies (also known as hard copies). Files in electronic media format of text, data, graphics, or other types are furnished only for the convenience of the receiving party. Any conclusion or information obtained or derived from such electronic files will be at the user's sole risk. If there is a discrepancy between the electronic files and the hard copies, the hard copies govern.

B. Because data stored in electronic media format can deteriorate or be modified inadvertently or otherwise without authorization of the data's creator, the party receiving electronic files agrees that it will perform acceptance tests or procedures within 60 days, after which the receiving party shall be deemed to have accepted the data thus transferred. The transferring party will correct any errors detected within the 60-day acceptance period.

C. When transferring documents in electronic media format, the transferring party makes no representations as to long term compatibility, usability, or readability of documents resulting from the use of software application packages, operating systems, or computer hardware differing from those used by the data's creator.

ARTICLE 13 – DISPUTE RESOLUTION

13.01 *Dispute Resolution Method*

A. Either Buyer or Seller may initiate the mediation of any Claim decided in writing by Engineer under Paragraph 9.06.B or 9.06.C before such decision becomes final and binding. The mediation will be governed by the Construction Industry Mediation Rules of the American Arbitration Association in effect as of the Effective Date of the Agreement. The request for mediation shall be submitted in writing to the American Arbitration Association and the other party to the Contract. Timely submission of the request shall stay the Engineer's decision from becoming final and binding.

B. Buyer and Seller shall participate in the mediation process in good faith. The process shall be concluded within 60 days of filing of the request. The date of termination of the mediation shall be determined by application of the mediation rules referenced above.

C. If the mediation process does not result in resolution of the Claim, then Engineer's written decision under Paragraph 9.06.B or a denial pursuant to Paragraph 9.06.C shall become final and binding 30 days after termination of the mediation unless, within that time period, Buyer or Seller:

1. elects in writing to invoke any dispute resolution process provided for in the Supplementary Conditions, or

2. agrees with the other party to submit the Claim to another dispute resolution process, or

3. if no dispute resolution process has been provided for in the Supplementary Conditions, delivers to the other party written notice of the intent to submit the Claim to a court of competent jurisdiction, and within 60 days of the termination of the mediation institutes such formal proceeding.

ARTICLE 14 – MISCELLANEOUS

14.01 *Giving Notice*

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

14.02 *Controlling Law*

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

B. In the case of any conflict between the express terms of this Contract and the Uniform Commercial Code, as adopted in the state whose law governs, it is the intent of the parties that the express terms of this Contract shall apply.

14.03 *Computation of Time*

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

14.04 *Cumulative Remedies*

A. The duties and obligations imposed by these General Conditions and the rights and remedies available hereunder to the parties hereto are in addition to, and are not to be construed in any way as a limitation of, any rights and remedies available to any or all of them which are otherwise imposed or available by Laws or Regulations, by special warranty or guarantee, or by other provisions of the Contract Documents, and the provisions of this paragraph will be as effective as if repeated specifically in the Contract Documents in connection with each particular duty, obligation, right, and remedy to which they apply.

14.05 *Survival of Obligations*

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

14.06 *Entire Agreement*

A. Buyer and Seller agree that this Agreement is the complete and final agreement between them, and supersedes all prior negotiations, representations, or agreements, either written or oral. This Agreement may not be altered, modified, or amended except in writing signed by an authorized representative of both parties.

**SUPPLEMENTARY CONDITIONS FOR
PROCUREMENT CONTRACTS (EJCDC P-700 (2010 Edition))**

The Supplementary Conditions for Procurement contracts are hereby designated part of the Contract Documents, and amend and supplement, and in some cases, void portions of the Standard General Conditions for Procurement contracts (EJCDC P-700 (2010 Edition)) as set forth below, and except as hereby amended and supplemented (or voided) EJCDC and Standard General Conditions for Procurement contracts shall remain in full force and effect. The article numbers set forth in the Supplementary Conditions correspond to (or are in addition to) the Article numbers set forth in the Standard Conditions for Procurement contracts (EJCDC P-700 (2010 Edition)).

The Standard General Conditions for Procurement Contracts, EJCDC P-700 (2010 Edition), Articles 1 through 15 inclusive, and other provisions of the Contract Documents are hereby designed as one of the Contract Documents, and shall govern the work under this Contract. The terms used in these Supplementary Conditions will have the meanings indicated in the General Conditions. Additional terms used in these Supplementary Conditions have the meanings indicated below, which are applicable to both the singular and plural thereof. The specific modifications to the Standard General Conditions for Procurement contracts are noted below.

SC-2.03 Delete Paragraph 2.03.A in its entirety and insert the following in its place:

A. Buyer shall furnish Seller One (1) electronic file and two (2) hard copies of the Contract Documents.

SC-2.04 Delete Paragraph 2.04.A in its entirety and insert the following in its place:

A. The Contract times will commence on the date of Award.

SC-2.07 Delete Paragraph 2.07.A in its entirety and insert the following in its place:

A. Within 3 days after the date of Award , a phone conference between the Seller, Buyer, Engineer and others as appropriate will be held to establish a working understanding among the parties as to the Goods and Special Services and to discuss the schedule referred to in Paragraph 2.06.A, procedures for handling Shop Drawings and other submittals, processing Applications for Payment, and maintaining required records.

SC-4.01 Add the following new paragraph immediately after Paragraph 4.01.C:

D. The seller may furnish a supply bond in lieu of the performance and payment bonds in the amount at least equal to the Contract Price.

E. **As an alternative to providing performance and payment bonds, the Seller may elect to receive payment only upon final completion of the delivery of all items specified, including technical representative. If Seller agrees in writing to this deferred payment arrangement, and Owner approves in writing, the requirements**

for furnishing performance and payment bonds under this Paragraph 4.01.A shall be waived.

SC-4.02 Add the following new paragraphs immediately after Paragraph 4.02.E:

F. Seller shall purchase and maintain such liability and other insurance as is appropriate for the furnishing of Goods and Special Services and as will provide protection from claims set forth below which may arise out of or result from Seller's furnishing of the Goods or Special Services and Seller's other obligations under the Contract Documents, whether the furnishing of Goods and Special Services or other obligations are to be performed by Seller, any subcontractor or supplier, or by anyone directly or indirectly employed by any of them to furnish the Goods and Special Services, or by anyone for whose acts any of them may be liable:

1. claims under workers' compensation, disability benefits, and other similar employee benefit acts;
2. claims for damages because of bodily injury, occupational sickness or disease, or death of Seller's employees;
3. claims for damages because of bodily injury, sickness or disease, or death of any person other than Seller's employees;
4. claims for damages insured by reasonably available personal injury liability coverage which are sustained: (i) by any person as a result of an offense directly or indirectly related to the employment of such person by Seller, or (ii) by any other person for any other reason;
5. claims for damages, other than to the Goods, because of injury to or destruction of tangible property wherever located, including loss of use resulting therefrom; and
6. claims for damages because of bodily injury or death of any person or property damage arising out of the ownership, maintenance or use of any motor vehicle.

G. The policies of insurance so required by this Paragraph 4.02 to be purchased and maintained shall:

1. with respect to insurance required by Paragraphs SC-4.02.F.3 through SC-4.02.F.6 inclusive, include as additional insureds (subject to any customary exclusion in respect of professional liability) Buyer, Engineer, their consultants, and Fourth Coast, Inc., Clayton Harbor Hotel, LLC ,The Krog Corporation, The State of New York and . all of whom shall be listed as additional insureds, and include coverage for the respective officers, directors, partners, employees, agents, and other consultants and subcontractors of each and any of all such additional insureds, and the insurance afforded to these additional insureds shall provide primary coverage for all claims covered thereby;
2. include at least the specific coverages and be written for not less than the limits of liability provided below or required by Laws or Regulations, whichever is greater;
3. include completed operations insurance;

4. include contractual liability insurance covering Seller's indemnity obligations under Paragraphs 5.09 and 12.02.
5. contain a provision or endorsement that the coverage afforded will not be canceled, materially changed or renewal refused until at least thirty days prior written notice has been given to Buyer and Seller and to each other additional insured identified in these Supplementary Conditions to whom a certificate of insurance has been issued (and the certificates of insurance furnished by the Seller pursuant to Paragraph SC-4.02.I will so provide);
6. remain in effect at least until final payment and at all times thereafter when Seller may be correcting, removing, or replacing non-conforming Goods in accordance with Paragraph 8.03;
7. with respect to completed operations insurance, and any insurance coverage written on a claims-made basis, remain in effect for at least two years after final payment (and Seller shall furnish Buyer and each other additional insured identified in these Supplementary Conditions, to whom a certificate of insurance has been issued, evidence satisfactory to Buyer and any such additional insured of continuation of such insurance at final payment and one year thereafter); and
8. with respect to any delegation of professional design services to Seller pursuant to Paragraph 5.10 of the General Conditions, include professional liability coverage by endorsement or otherwise.

H. The limits of liability for the insurance required by Paragraph SC-4.02.F shall provide coverage for not less than the following amounts or greater where required by Laws and Regulations:

1. Workers' Compensation, and related coverages under Paragraphs SC-4.02.F.1 and F.2:
   a. State: Statutory
   b. Applicable Federal (e.g., Longshoreman's): Statutory
   c. Employer's Liability: $500,000

2. Seller's General Liability under Paragraphs SC-4.02.F.3 through F.6 which shall include completed operations and product liability coverages and eliminate the exclusion with respect to property under the care, custody and control of Seller:
   a. General Aggregate $2,000,000
   b. Products - Completed
      1) Operations Aggregate $2,000,000
   c. Personal and Advertising
      1) Injury $1,000,000
      2) Each Occurrence (Bodily Injury and Property Damage) $1,000,000

3. Automobile Liability under Paragraph SC-4.02.F.6:

a. Bodily Injury and Property Damage with a combined Single Limit: $1,000,000

I. Seller shall deliver to Buyer, with copies to each additional insured identified in these Supplementary Conditions, certificates of insurance (and other evidence of insurance requested by Buyer or any other additional insured) which Seller is required to purchase and maintain.

J. If Buyer has any objection to the coverage afforded by or other provisions of the insurance required to be purchased and maintained on the basis of non-conformance with the Contract Documents, Buyer shall notify Seller in writing within 10 days after receipt of the certificates or other evidence required by Paragraph SC-4.02.E. Seller shall provide such additional information in respect to insurance as Buyer shall reasonably request.

SC 5.05 Add a new paragraph immediately after Paragraph 5.05.A:

B. Buyer is exempt from payment of sales and compensating use taxes of the State of New York and of cities and counties thereof on all materials and equipment to be incorporated into the Project facilities.

1. Buyer will furnish the required certificates of tax exemption to Seller with respect to materials and equipment to be incorporated into the Project facilities.
2. Buyer's exemption does not apply to construction tools, machinery, equipment, or other property purchased by or leased by Seller, or to supplies or materials not incorporated into the Project facilities.
3. The Contract Price does not include the cost of sales or compensating use taxes to the extent such are exempted by this paragraph.

SC 5.06 Add the following new paragraphs immediately after Paragraph 5.06.E:

F. Seller shall furnish required submittals with sufficient information and accuracy in order to obtain required approval of an item with no more than three submittals. Engineer will record Engineer's time for reviewing subsequent submittals of Shop Drawings, samples, or other items requiring approval and Seller shall reimburse Buyer for Engineer's charges for such time.

G. In the event that Seller requests a change of a previously approved item, Seller shall reimburse Buyer for Engineer's charges for its review time unless the need for such change is beyond the control of Seller.

SC-5.09 Add the following new paragraphs immediately after Paragraph 5.09.C:

D. The CONTRACTOR (SELLER) shall be solely responsible and answerable in damages for any and all accidents and/or injuries to person (including death) or property arising

out of or related to the services to be rendered by the CONTRACTOR (SELLER) or its subcontractors pursuant to the AGREEMENT. The CONTRACTOR (SELLER) shall indemnify and hold harmless the State and its officers and employees from claims, suits, actions, damages and costs of every nature arising out of the provisions of services pursuant to this AGREEMENT.

SC-9.07 Add the following new paragraph immediately after Paragraph 9.06:

SC-9.07 Determinations of Unit Price Quantities

A. Engineer will determine the actual quantities and classifications of Unit Price Goods and Special Services furnished by Seller, and the written decisions of Engineer on such matters will be final and binding upon Buyer and Seller (except as modified by Engineer to reflect changed factual conditions or more accurate data), subject to the provisions of Paragraph 9.06.

SC-10.01 Applications for Progress Payments

SC-10.01.A.1 Delete Paragraph 10.01.A.1 in its entirety.

SC-10.01.A.2 Delete Paragraph 10.01.A.2 in its entirety.

SC-10.03 Amount and Timing of Progress Payments

SC-10.03 Amend the first sentence of Paragraph 10.03.A by striking out the following words:

Subject to Paragraph 10.02.A.,

SC-10.08 Add the following new paragraph immediately after Paragraph 10.07:

SC-10.08 Schedule of Values

A. The Schedule of Values will serve as the basis for progress payments and will be incorporated into a form of Application for Payment acceptable to Engineer. Progress payments will be based in accordance with the Agreement.

B. Submit a printed or electronic schedule within 15 days after Contract Award.

SC-13-02 Add the following new paragraph immediately after Paragraph 13.01:

SC-13.02 Arbitration

A. All Claims or counterclaims, disputes, or other matters in question between Buyer and Seller arising out of or relating to the Contract Documents or the breach thereof (except for Claims which have been waived by the making or acceptance of final payment as provided by Paragraph 10.07) not resolved under the provisions of Paragraph 13.01 will be decided by binding arbitration in accordance with the rules of American Arbitration Association, subject to the conditions and limitations of this Paragraph SC 13.02. This agreement to arbitrate and any other agreement or consent to arbitrate entered into will be specifically enforceable under the prevailing law of any court having jurisdiction.

B. No demand for arbitration of any Claim or counterclaim, dispute, or other matter that is required to be referred to Engineer initially for decision in accordance with Paragraph 9.06 will be made until the earlier of: (i) the date on which Engineer has rendered a written decision, or (ii) the 31st day after the parties have presented their final evidence to Engineer if a written decision has not been rendered by Engineer before that date. Subject to the provisions of SC-13.02.A, no demand for arbitration of any such Claim or counterclaim, dispute, or other matter will be made later than 30 days after the date on which Engineer has rendered a written decision in respect thereof in accordance with Paragraph 9.06; and the failure to demand arbitration within said 30 day period will result in Engineer's decision being final and binding upon Buyer and Seller. If Engineer renders a decision after arbitration proceedings have been initiated, such decision may be entered as evidence but will not supersede the arbitration proceedings, except where the decision is acceptable to the parties concerned.

C. Notice of the demand for arbitration will be filed in writing with the other party to the Contract and with the selected arbitrator or arbitration provider, and a copy will be sent to Engineer for information. The demand for arbitration will be made within the 30 day period specified in Paragraph SC 13.02.B, and in all other cases within a reasonable time after the Claim or counterclaim, dispute, or other matter in question has arisen, and in no event shall any such demand be made after the date when institution of legal or equitable proceedings based on such Claim or other dispute or matter in question would be barred by the applicable statue of limitations.

D. No arbitration arising out of or relating to the Contract Documents shall include by consolidation, joinder, or in any other manner any other individual or entity (including Engineer, and Engineer's consultants and the officers, directors, partners, agents, employees or consultants of any of them) who is not a party to this Contract unless:
   1. the inclusion of such other individual or entity is necessary if complete relief is to be afforded among those who are already parties to the arbitration; and

2. such other individual or entity is substantially involved in a question of law or fact which is common to those who are already parties to the arbitration and which will arise in such proceedings.

E. The award rendered by the arbitrator shall be in writing and include: (i) a concise breakdown of the award; (ii) a written explanation of the award specifically citing the Contract Document provisions deemed applicable and relied on in making the award.

F. The award will be consistent with the agreement of the parties and final. Judgment may be entered upon it in any court having jurisdiction thereof, and it will not be subject to modification or appeal.

END OF SECTION

SECTION 012300.01

ALTERNATE BID

PART 1 GENERAL

1.01 DESCRIPTION

A. This Section describes an alternate bid for a different type of floating dock system.

B. The Buyer will decide which system is the best value for the Town of Clayton.

1.02 DESCRIPTION OF ALTERNATE BID:

A. **Alternate Bid – Steel Pontoon Floating Dock System:**

B. Work under this contract may generally be described to include, but not be limited to the following:

General requirements, steel framed floating dock system utilizing steel pontoons. Including design, submittals, fabrication, tariffs (If any), and delivery to project site. Provision of an on-site technical representative to assist dock installation is also included. [Reference Section 355113.03]

END OF SECTION

SECTION 355113.01

BASE BID

ALUMINUM FRAMED FLOATING DOCK SYSTEM
(Polyethylene Pontoon)

PART 1 - GENERAL

1.01 DESCRIPTION

A. The work covered under this section shall consist of manufacturing and delivery of prefabricated polyethylene pontoons filled with expanded polystyrene marine foam and aluminum framed dock system. This section also includes attachment to existing dock system, rigid utility dock attachment, cleats, vinyl bumpers, manufacturer's utility service trough (5 ½"+/- high by 13" +/- wide), and other marine hardware and accessories required for a complete system.

B. The vertical variation between summer and winter normal water levels is approximately 1.9 feet.

C. The system shall be anchored with assumed 8'x8'x1' thick precast reinforced concrete blocks as designed by the Dock Manufacturer with grade 43 chain attached to cast-in-place anchor bar in the blocks provided by the Installation Contractor per Dock Manufacturer's details and location plan. Chain and anchor block connectors to be furnished and installed by the Installation Contractor.

D. The Town (Buyer) shall unload dock components at project site. Dock Manufacturer to provide schedule and 48 hour notice of exact delivery date and time.

E. The Installation Contractor shall transport, rig, place in the water, assemble, and complete the anchoring system.

NOTE: The concrete anchors many be installed by the Installation Contractor or others, prior to arrival of the floating dock components. Dock Manufacturer to provide GPS coordinates for each anchor block with their submittal.

F. The Dock Manufacturer shall provide a factory trained person to instruct the Installation Contractor on the proper methods to install, connect, and adjust the new dock components. Assume five working days for bid purposes. The factory representative shall also train the Owner's personnel for winter and spring adjustments and operation and maintenance requirements.

G. Docks shall be warranted by the manufacturer for a minimum of five years.

1.02 SUBMITTALS

A. Submittal of shop drawings shall be electronically submitted to the Engineer at submittals@fourthcoast.com within 30 days of Contract Award. Shop drawings shall clearly indicate complete dock system layout, anchorage requirements, all modular units, structural connections and hardware.

B. Submit two hard copies and one electronic copy of calculations stamped by a Professional Engineer registered in the State of New York verifying that the floating dock system conforms to the design requirements outlined below.

C. Submit two hard copies and one electronic copy of the operation and maintenance manual to the Engineer for review. This manual will contain complete details of the system and complete instructions on proper maintenance procedures required to maintain the integrity of the floating dock system. This manual will include annual maintenance items such as adjustments and procedures during icing conditions, excessive high or low water conditions, and all other required procedures.

1.03 DESIGN REQUIREMENTS

A. Docks: The dock structural frame shall be designed to withstand a uniformly applied vertical live load of 50 pounds per square foot over the entire dock surface. The structure shall be analyzed for bending and shear stresses of all critical locations.

B. Dead Load: Dead load shall be the entire weight of the floating unit and all permanent equipment (allow 3 #/SF for utilities). NOTE: Marine Substation (Estimated weight is 1,800 pounds) on a separate floating utility dock attached to the main dock system as shown on proposed layout.

C. Live Load:
1. Structural load for docks - 50 lbs. per square foot minimum.
2. Deck surfaces - concentrated 300 pounds plus 33 percent impact (total 400 pounds) applied over an area of one square foot.
3. Flotation - 30 lbs. per square foot, minimum live load plus the dead load in "B" above.
4. Deflection of deck to be maximum of L/180.

D. Freeboard: Floating docks shall provide the freeboard under the loading conditions listed below, with no more than 1" loss of freeboard after one year of service.
1. DL Condition: Flotation shall maintain a freeboard of 24" under combined dock dead load and utility dead load.
2. DL+ULL Condition: Flotation shall maintain a minimum freeboard of 12" under

the dead load condition plus a 30 psf uniformly distributed dock live load.

E. Wind and Wave Loading: All floating dock units shall be connected and designed so as to safely withstand a wind pressure of 15 pounds per square foot against the average profile height of the berthed vessels and exposed portions of the floating dock system superimposed with a 3.00 foot wave height with wave periods not less than 3.00 seconds.

F. Impact: All floating dock units shall be capable of resisting an impact berthing energy at an angle of 30 degrees for side tie docks and 10 degrees from the vertical axis of the finger dock for finger berthing calculated as follows:
   1. Berthing Energy – Largest Vessel moving at a speed of 2 feet per second
   2. The system shall be designed to absorb the maximum berthing energy at any location for which that energy is applicable.

G. The flotation units shall be designed to maintain their desired buoyancy and freeboard even if structurally damaged.

H. Dock modules shall be designed so the section will neither rack nor twist in torsion under extreme design conditions. This system shall allow for easy connection and disconnection between individual extruded aluminum framed dock modules. The joint system shall be noise free. Connection to be designed by the dock manufacturer for stability, load transfer, and ease of connection/disconnection.

I. The floating dock system and its anchoring shall be designed to resist 24'' thick of non-moving ice.

J. The Manufacturer shall demonstrate by in-water tests or written calculations that the system will not tilt (list or pitch) more than six degrees from horizontal when a concentrated load of 400 pounds is placed anywhere on the deck when assembled in a configuration similar to that shown on the contract drawings.

K. When a floating dock must support service equipment, special attention must be given to ensure that adequate flotation is provided to the floating dock to support the dead and live loads of the floating dock, and the service equipment. The freeboard must not differ more than 1'' in accordance to the freeboard specified herein

L. Docks shall be designed to remain in the water during winter.

M. Horizontal Loading: Each dock section must withstand a perpendicular load due to a

wind of 76 mph wind (90 mph-3sec gust) (NYS Building Code 2010).

1.04 EXPERIENCE

A. The Manufacturer of the floating dock system shall have a minimum of five (5) years continuous experience in floating dock design, manufacturing, and installation in the St. Lawrence River and may be required to submit a list containing a minimum of three of previous projects.

1.05 UTILITIES

A. Provisions shall be made for carriage of utilities through raceways under the deck. The Dock Manufacturer's utility service trough (5 ½"+/- high by 13" +/- wide) . Utility lines shall include: electrical and domestic fresh water provided by others.

B. Provisions shall be made for access to utility lines and anchor chains from the deck.

1.06 WINTERIZATION

A. All equipment and supplies required for winterization shall be furnished by the Manufacturer, such as tie-off equipment, de-icers, etc. It is the intention to leave docks in place for the winter without special accommodations.

PART 2 - PRODUCTS

2.01 MANUFACTURER

A. Polyethylene pontoon aluminum framed floating dock system shall be manufactured by
1. Structurmarine, Quebec, Canada (basis of design):
Web Site: www.structurmarine.com ; USA Sales Representative: Thomas Lacombe,1- 514-825-6977, thomas.lacombe@structurmarine.com
2. Marina Technologies, Inc. , Web Site: www.marinatechnologies.com ; Guy Perron, 1-312-680-4014, GuyP@MarinaTechnologies.com
3. Or Approved Equal

NOTE: The new docking system (Dock "D") will tie in to the existing Structurmarine 2015 floating dock system. Design of the new Dock "D" shall provide proper connections to the existing system without affecting is design and stability.

2.02 DOCK MATERIALS

A. General
1. Mooring Cleats: Galvanized steel or non-corroding alloys and appropriately sized

for each berth. "S" cleats are prohibited. Minimum four cleats per berth for slips 40-ft. and under; minimum 5 cleats per berth for slips larger than 40-ft. Side tie dockage shall include cleats spaced at typically 10 feet on center unless otherwise shown on the Drawings. The extruded aluminum framing system shall be designed to allow for easy attachment and location adjustment of all accessories, such as cleats, connectors, etc. The existing style T-nut connection shall be utilized or similar. Cleats to be designed by the dock manufacturer and a sample cleat to be provided with the bid, if possible.

2. All bolts, nuts and washers shall be indicated on the shop drawings and shall be of the sizes, shapes and lengths sufficient for their intended use. All fasteners to be 18-8 stainless steel. Shank diameter and length to be determined by the dock manufacturer to fit the situation.

3. Floating dock units shall be so designed and constructed to prevent deterioration from petroleum products and detergents.

4. The fender system, including corners, to be designed by the dock manufacturer. System to be like the existing extruded lateral PVC fenders on the present docks, with allowances made for material differences, height, weight, and thickness. Color to be Grey (non-marring marine grade). All fasteners to be stainless steel.

5. Rub rails shall be installed on all the berthing sides of all floats to protect vessels in berth. These rub rails shall be placed so as to protect vessels from striking any thru-rod or miscellaneous hardware connections.

B. Pontoons

1. Plastic Pontoons: Shells shall be manufactured from rotationally molded high density polyethylene or cross-linked polyethylene material conforming to ASTM D1248. The polyethylene shall be black in color and have a minimum wall thickness of **0.25”** (inch). [Thickness matches existing 2015 pontoons] Pontoons shall be attached to the dock system structure with mounting flanges so that all the edges of the flanges are bolted to structural members to minimize flexing and deformation of the pontoon. Each pontoon shall be completely filled with "foamed-in-place" closed cell, polystyrene foam. Shells must fully encase foam.
2. Pontoon shells may also be linear low-density (or Design Criteria Professional’s approved equal) polyethylene and blow molded, so long as the resultant shell is seamless. The base material for all polyethylene shells shall conform to the following minimum requirements: minimum density 0.937 g/cc per ASTM D1505; minimum ultimate tensile strength of 2,560 psi per ASTM D638; and minimum flexural modulus of 96,000 psi per ASTM D790. All other thickness, color, and attachment requirements of the polyethylene shells remain unchanged.
3. Foam: Provide closed cell expanded polystyrene conforming to ASTM C 578

(Type I as listed in the ASTM standard). The resultant expanded polystyrene foam block shall have a minimum density of 0.95-1.1 pcf. The foam block shall be solid with no loose beads or void areas and have a minimum compressive strength of 10 psi and maximum water absorption of three (3) percent by volume per ASTM C 272.

4. All materials used in the fabrication of the pontoons shall be made from new material specially manufactured for the intended use. No regrind of foam materials shall be allowed and the supplier of the material shall certify that no regrind material is used in the foam for this project.
5. Floatation modules shall be maintenance-free.
6. Structural capacity: floatation modules as well as their connections shall be designed to withstand the loads generated by ice, waves and current as herein specified in the horizontal loads sections of this bid document.

C. Aluminum

1. All aluminum construction shall be in accordance to AA "Specification for Aluminum Structures." Extrusions shall be aluminum alloy 6061-T6. All welds shall be in accordance with AA "Specifications for Aluminum Structures" and American Welding Society Structural Welding Code D1.2. **All welders to be certified and their certifications shall be submitted with shop drawings.** All fasteners shall be 300 Series Stainless Steel in accordance with ASTM F593 and F594.

D. Decking

1. Decking to match the existing slip resistant composite decking, as close as possible, due to fading over the last ten years. Existing deck boards were by TimberTech "Reliaboard" – Color CEDAR. Approved manufacturers are TimberTech Composite- (closest color, MoistureShield (Elevate – Canoe), or approved equal. Note: Color to be chosen by the Owner during the submittal process.
2. All fasteners to be 18-8 stainless.

E. Floating Dock for Marine Substation shall be designed to handle the weight of the unit and the wiring involved. Provide continuous connector similar to existing.

F. Access Doors

1. Dock manufacturer to provide access doors in deck surfaces to access the chain anchor locations designed by Dock Manufacturer's Engineer. Also provide access doors in deck surfaces to access plumbing valves. Figure 3 locations for bidding purposes. Final location needs to be determined.

2.03 ANCHORING SYSTEM

A. The anchoring system shall be designed by the Dock Manufacturer using chains and reinforced concrete anchoring blocks. Size is assumed to match existing. Number and

location to be determined by the Dock Manufacturer's engineer according to the site constraints and utilization of the system to:

1. Withstand the effect of design wind, wave, ice and impact loading.
2. Be capable of operating effectively at:
   a. design extreme high water level.
   b. design extreme low water level.
3. Reduce the possibility of boats coming in contact with anchors, cables, chains or any parts of the anchoring system.

B. The calculation method for designing the anchoring system with full boat occupancy.

C. The anchoring system shall be designed considering a minimum safety factor of 1.5.

D. The reinforced concrete anchor blocks to be precast by a local precast concrete manufacturer per dock manufacturer's design by the Installation Contractor or others. Installation to be by the Installation Contractor or others in accordance with the NYSDEC and USACOE permits.

E. Grade 43 chain to be provided by the Installation Contractor. Dock Manufacturer to provide the length's required with their submittal.

NOTE: *The concrete anchors many be installed by the Installation Contractor or others, prior to arrival of the floating dock components. Dock Manufacturer to provide GPS coordinates for each anchor block with their submittal.*

2.04 SAFETY ITEMS

A. The Dock Manufacturer shall provide safety ladders:
   1. Quantity as shown on drawings.
   2. Location as shown on drawings.
   3. Design shall be wide step aluminum foldable or retractable ladder, 4 step minimum.
   4. Installation by the Installation Contractor.

B. Other Contractors will furnish and install Pedestals and Fire Cabinets as shown on the Contract Documents

PART 3 – EXECUTION

3.01 FABRICATION

A. Size and configuration shall be according to contract documents. All finger docks shall be

rectangular. No tapered finger docks allowed.

B. Floating dock units shall be completely prefabricated by the Dock Manufacturer at their plant and delivered ready for installation at the site. All fingers shall be sub-assembled by the Dock Manufacturer at his plant, ready for installation at the site. Marine accessories such as cleats, etc., shall be installed in the field by the Installation Contractor.

C. All floating dock units shall be manufactured at a facility adequately equipped to accomplish the manufacturing process.

3.02 SHIPPING

A. Shoring for transit shall be provided. Floats shall be inspected by the Owner upon delivery prior to unloading and any damaged floats shall be replaced or repaired by the Dock Manufacturer at their cost. The Owner will unload at the project site following 48 hour notification from the Dock Manufacturer.

3.03 INSTALLATION SUPERVISION

A. The Dock Manufacturer shall provide a qualified representative at the job site during installation and anchorage of the floating modular units for a maximum of 5 days. Coordination between Dock Manufacturer and Owner will be required.

B. The Installation Contractor will install all units under direct supervision of Dock Manufacturer's representative.

NOTE: *The concrete anchors many be installed by the Installation Contractor or others, prior to arrival of the floating dock components. Dock Manufacturer to provide GPS coordinates for each anchor block with their submittal.*

3.05 SYSTEM GUARANTEE & WARRANTIES

A. If the system is maintained in accordance with the operation and maintenance manual to be provided by the Dock Manufacturer it shall be guaranteed by the Dock Manufacturer for workmanship and materials for a five-year period from the last date of the manufacturer's on-site installation supervision. The system shall also be guaranteed to perform without damage against a documented storm wave of up to 3.00 feet in height.

B. The Dock Manufacturer shall review with the Owner the proposed method of winterization to assure agreement with the anchorage system to minimize damage to the dock system during winter freeze conditions.

C. The Dock Manufacturer shall furnish to the Owner a written warranty covering repair or replacement of any defects or damages which may develop within 5 years from the last date of the manufacturer’s on-site installation supervision. This warranty covers all labor, material and shipping costs that may be incurred to repair or replace the damage.

END OF SECTION

SECTION 355113.03

STEEL FRAMED FLOATING DOCK SYSTEM
(Steel Pontoon)

ALTERNATE BID

PART 1 - GENERAL

1.01 DESCRIPTION

A. The work covered under this section shall consist of manufacturing and delivery of prefabricated steel pipe pontoons and steel framed dock system. This section also includes attachment to existing dock system, rigid utility dock attachment, cleats, vinyl bumpers, manufacturer's utility service trough (5 ½"+/- high by 13" +/- wide), and other marine hardware and accessories required for a complete system.

B. The vertical variation between summer and winter normal water levels is approximately 1.9 feet.

C. The system shall be anchored with {assumed 5 ton} (or as required by design) precast reinforced concrete blocks as designed by the Dock Manufacturer with ½" grade 70 chain attached to cast-in-place anchor bar in the blocks provided by the Installation Contractor per Dock Manufacturer's details and location plan. Chain and anchor block connectors to be furnished and installed by the installation contractor.

D. The town shall unload dock components at project site. Dock Manufacturer to provide schedule and 48 hour notice of exact delivery date and time.

E. The Installation Contractor shall transport, rig, place in the water, assemble, and complete the anchoring system.

NOTE: The concrete anchors many be installed by the Installation Contractor or others, prior to arrival of the floating dock components. Dock Manufacturer to provide GPS coordinates for each anchor block with their submittal.

F. The Dock Manufacturer shall provide a factory trained person to instruct the Installation Contractor on the proper methods to install, connect, and adjust the new dock components. Assume five working days for bid purposes. The factory representative shall also train the Owner's personnel for winter and spring adjustments and operation and maintenance requirements.

G. Docks shall be warranted by the manufacturer for a minimum of five years.

1.02 SUBMITTALS

A. Submittal of shop drawings shall be electronically submitted to the Engineer at submittals@fourthcoast.com within 30 days of Contract Award. Shop drawings shall clearly indicate complete dock system layout, anchorage requirements, all modular units, structural connections and hardware.

B. Submit two hard copies and one electronic copy of calculations stamped by a Professional Engineer registered in the State of New York verifying that the floating dock system conforms to the design requirements outlined below.

C. Submit two hard copies and one electronic copy of the operation and maintenance manual to the Engineer for review. This manual will contain complete details of the system and complete instructions on proper maintenance procedures required to maintain the integrity of the floating dock system. This manual will include annual maintenance items such as adjustments and procedures during icing conditions, excessive high or low water conditions, and all other required procedures.

1.03 DESIGN REQUIREMENTS

A. Docks: The dock structural frame shall be designed to withstand a uniformly applied vertical live load of 50 pounds per square foot over the entire dock surface. The structure shall be analyzed for bending and shear stresses of all critical locations.

B. Dead Load: Dead load shall be the entire weight of the floating unit and all permanent equipment (allow 3 #/SF for utilities). NOTE: Marine Substation (Estimated weight is 1,800 pounds) on a separate floating utility dock attached to the main dock system as shown on proposed layout.

C. Live Load:
1. Structural load for docks - 50 lbs. per square foot minimum.
2. Deck surfaces - concentrated 300 pounds plus 33 percent impact (total 400 pounds) applied over an area of one square foot.
3. Flotation - 30 lbs. per square foot, minimum live load plus the dead load in "B" above.
4. Deflection of deck to be maximum of L/180.

D. Freeboard: Floating docks shall provide the freeboard under the loading conditions listed below, with no more than 1" loss of freeboard after one year of service.
1. DL Condition: Flotation shall maintain a freeboard of 24" under combined dock dead load and utility dead load.
2. DL+ULL Condition: Flotation shall maintain a minimum freeboard of 12" under the dead load condition plus a 30 psf uniformly distributed dock live load.

E. Wind and Wave Loading: All floating dock units shall be connected and designed so as to safely withstand a wind pressure of 15 pounds per square foot against the average profile height of the berthed vessels and exposed portions of the floating dock system superimposed with a 3.00 foot wave height with wave periods not less than 3.00 seconds.

F. Impact: All floating dock units shall be capable of resisting an impact berthing energy at an angle of 30 degrees for side tie docks and 10 degrees from the vertical axis of the finger dock for finger berthing calculated as follows:
   1. Berthing Energy – Largest Vessel moving at a speed of 2 feet per second
   2. The system shall be designed to absorb the maximum berthing energy at any location for which that energy is applicable.

G. The flotation units shall be designed to maintain their desired buoyancy and freeboard even if structurally damaged.

H. Dock modules shall be designed so the section will neither rack nor twist in torsion under extreme design conditions. This system shall allow for easy connection and disconnection between individual extruded aluminum framed dock modules. The joint system shall be noise free. Connection to be designed by the dock manufacturer for stability, load transfer, and ease of connection/disconnection. The floating dock system and its anchoring shall be designed to resist 24'' thick of non-moving ice.

J. The Manufacturer shall demonstrate by in-water tests or written calculations that the system will not tilt (list or pitch) more than six degrees from horizontal when a concentrated load of 400 pounds is placed anywhere on the deck when assembled in a configuration similar to that shown on the contract drawings.

K. When a floating dock must support a service equipment, special attention must be given to ensure that adequate flotation is provided to the floating dock to support the dead and live loads of the floating dock, and the service equipment. The freeboard must not differ more than 1'' in accordance to the freeboard specified herein

L. Docks shall be designed to remain in the water during winter.

M. Horizontal Loading: Each dock section must withstand a perpendicular load due to a wind of 76 mph wind (90 mph-3sec gust) (NYS Building Code 2010).

1.04 EXPERIENCE

A. The Manufacturer of the floating dock system shall have a minimum of five (5) years

continuous experience in floating dock design, manufacturing, and installation in the St. Lawrence River and may be required to submit a list containing a minimum of three of previous projects.

1.05 UTILITIES

A. Provisions shall be made for carriage of utilities through raceways under the deck. The manufacturer's utility service trough (5 ½"+/- high by 13" +/- wide) is a required minimum. Utility lines shall include: electrical and domestic fresh water provided by others.

B. Provisions shall be made for access to utility lines and anchor chains from the deck.

1.06 WINTERIZATION

A. All equipment and supplies required for winterization shall be furnished by the Manufacturer, such as tie-off equipment, de-icers, etc. It is the intention to leave docks in place for the winter without special accommodations.

PART 2 - PRODUCTS

2.01 MANUFACTURER

A. Steel pontoon steel framed floating dock system shall be manufactured by
   1. Kehoe Marine Construction Ltd., Ontario, Canada (basis of design): Web site – kehoemarine.com
   2. Or approved equal.

NOTE: The new docking system (Dock "D") will tie in to the existing Structurmarine 2015 floating dock system. Design of the new Dock "D" shall provide proper connections to the existing system without affecting is design and stability.

2.02 DOCK MATERIALS

A. General
   1. Mooring Cleats: Galvanized steel or non-corroding alloys and appropriately sized for each berth. "S" cleats are prohibited. Minimum four cleats per berth for slips 40-ft. and under; minimum 5 cleats per berth for slips larger than 40-ft. Side tie dockage shall include cleats spaced at typically 10 feet on center unless otherwise shown on the Drawings. Cleats to be designed by the dock manufacturer and a sample cleat to be provided with the bid, if possible.

2. All bolts, nuts and washers shall be indicated on the shop drawings and shall be of the sizes, shapes and lengths sufficient for their intended use. All fasteners to be 18-8 stainless steel or hot dip galvanized. Shank diameter and length to be determined by the dock manufacturer to fit the situation.

3. Floating dock units shall be so designed and constructed to prevent deterioration from petroleum products and detergents.

4. The fender system, including corners, to be designed by the dock manufacturer. System to be like the existing extruded lateral PVC fenders on the present docks, with allowances made for material differences, height, weight, and thickness. Color to be Grey (non-marring marine grade). All fasteners to be stainless steel.

5. Rub rails shall be installed on all the berthing sides of all floats to protect vessels in berth. These rub rails shall be placed so as to protect vessels from striking any thru-rod or miscellaneous hardware connections.

B. Pontoons
   1. Steel Pipe pontoons:
      a. Designed to support a 25-year life cycle
      b. Floatation units to be continuous steel tube, spiral welded unit with a minimum wall thickness of 3/16".
      c. Shall be attached to the dock system structure with mounting flanges so that all the edges of the flanges are bolted to structural members to minimize flexing and deformation of the pontoon.
   2. Spiral welded steel pipe shall conform to ASTM A252-10 Grade 3 or my be to ASTM A500 Grade C.
   4. All materials used in the fabrication of the pontoons shall be made from new material specially manufactured for the intended use. No regrind of foam materials shall be allowed and the supplier of the material shall certify that no regrind material is used in the foam for this project.
   5. Floatation modules shall be maintenance-free.
   6. Structural capacity: floatation modules as well as their connections shall be designed to withstand the loads generated by ice, waves and current as herein specified in the horizontal loads sections of this bid document.

C. Framing
   1. Saddle crossers to be 3"x3"x¼" steel welded directly to steel pontoons
   2. 3"x3"x1/4" steel angle to be welded to saddles for skirt board bolting
   3. 2"x2"x1/4" steel bracing from skirt board angle back to steel pontoon
   4. 4"x4" pressure treated stringers

D. Decking

1. Decking to match the existing slip resistant composite decking, as close as possible, due to fading over the last ten years. Existing deck boards were by TimberTech "Reliaboard" – Color CEDAR. Approved manufacturers are TimberTech Composite- (closest color, MoistureShield (Elevate – Canoe), or approved equal. Note: Color to be chosen by the Owner during the submittal process.
2. All fasteners to be 18-8 stainless.

E. Floating Dock for Marine Substation shall be designed to handle the weight of the unit and the wiring involved. Provide continuous connector similar to existing.

F. Access Doors
1. Dock manufacturer to provide access doors in deck surfaces to access the chain anchor locations designed by Dock Manufacturer's Engineer. Also provide access doors in deck surfaces to access plumbing valves. Figure 3 locations for bidding purposes. Final location needs to be determined.

2.03 ANCHORING SYSTEM

A. The anchoring system shall be designed by the Dock Manufacturer using chains and reinforced concrete anchoring blocks. Size is assumed to match existing. Number and location to be determined by the Dock Manufacturer's Engineer according to the site constraints and utilization of the system to:
1. Withstand the effect of design wind, wave, ice and impact loading.
2. Be capable of operating effectively at:
   a. design extreme high water level.
   b. design extreme low water level.
3. Reduce the possibility of boats coming in contact with anchors, cables, chains or any parts of the anchoring system.

B. The calculation method for designing the anchoring system with full boat occupancy.

C. The anchoring system shall be designed considering a minimum safety factor of 1.5.

D. The reinforced concrete anchor blocks to be precast by a local precast concrete manufacturer per dock manufacturer's design by the Installation Contractor or by others. Installation shall be in accordance with the NYSDEC and USACOE permits.

E. ½" Grade 70 chain to be provided by the Installation Contractor. Dock Manufacturer to provide the length's required with their submittal.

NOTE: *The concrete anchors many be installed by the Installation Contractor or others, prior to arrival of the floating dock components. Dock Manufacturer to provide GPS coordinates for each anchor block with their submittal.*

2.04 SAFETY ITEMS

A. The Dock Manufacturer shall provide safety ladders:
   1. Quantity as shown on drawings.
   2. Location as shown on drawings.
   3. Design shall be wide step aluminum foldable or retractable ladder, 4 step minimum.
   4. Installation by the Installation Contractor.

B. Other Contractors will furnish and install Pedestals and Fire Cabinets as shown on the Contract Documents

PART 3 – EXECUTION

3.01 FABRICATION

A. Size and configuration shall be according to contract documents. All finger docks shall be rectangular. No tapered finger docks allowed.

B. Floating dock units shall be completely prefabricated by the Manufacturer at their plant and delivered ready for installation at the site. All fingers shall be sub-assembled by the Manufacturer at his plant, ready for installation at the site. Marine accessories such as cleats, etc., shall be installed in the field by the Installation Contractor.

C. All floating dock units shall be manufactured at a facility adequately equipped to accomplish the manufacturing process.

3.02 SHIPPING

A. Shoring for transit shall be provided. Floats shall be inspected by the Owner upon delivery prior to unloading and any damaged floats shall be replaced or repaired by the Manufacturer at their cost. The Owner will unload at the project site following 48 hour notification from the Dock Manufacturer.

3.03 INSTALLATION SUPERVISION

A. The Dock Manufacturer shall provide a qualified representative at the job site during installation and anchorage of the floating modular units for a maximum of 5 days. Coordination between Dock Manufacturer and Owner will be required.

B. The Installation Contractor will install all units under direct supervision of Dock Manufacturer's representative.

NOTE: *The concrete anchors many be installed by the Installation Contractor or others, prior to arrival of the floating dock components. Dock Manufacturer to provide GPS coordinates for each anchor block with their submittal.*

3.05 SYSTEM GUARANTEE & WARRANTIES

A. If the system is maintained in accordance with the operation and maintenance manual to be provided by the Manufacturer it shall be guaranteed by the Manufacturer for workmanship and materials for a five-year period from the last date of the manufacturer's on-site installation supervision. The system shall also be guaranteed to perform without damage against a documented storm wave of up to 3.00 feet in height.

B. The Manufacturer shall review with the Owner the proposed method of winterization to assure agreement with the anchorage system and gangway access and to minimize damage to the dock system during winter freeze conditions.

C. The Manufacturer shall furnish to the Owner a written warranty covering repair or replacement of any defects or damages which may develop within 5 years from date of acceptance of materials provided under this contract. This warranty covers all labor, material and shipping costs that may be incurred to repair or replace the damage.

END OF SECTION

Town of Clayton
Clayton Harbor Municipal Marina
REDI Project SJ.235

Town of Clayton, Jefferson County, New York

Clayton Harbor Municipal Marina Upgrades

Phase Two Floating Dock Expansion and Dredging Work

Floating Dock "D" -Procurement Bid - Contract #2

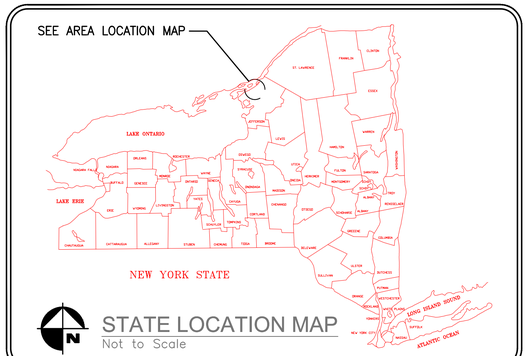
Bid Set March 2026

DRAWING LIST

T1	TITLE SHEET
O1	OVERALL SITE PLAN
S1	FLOATING DOCK "D"
U1	DOCK UTILITIES - ELECTRIC (FOR INFORMATIONAL PURPOSES ONLY)
U2	DOCK UTILITIES - WATER (FOR INFORMATIONAL PURPOSES ONLY)

TOWN OFFICIALS

Town Supervisor	Tim Doney
Board Member	Kenneth Knapp
Board Member	Steve Dorr
Board Member	James Kenney
Board Member	Kevin Patchen
Clerk	Megan Badour



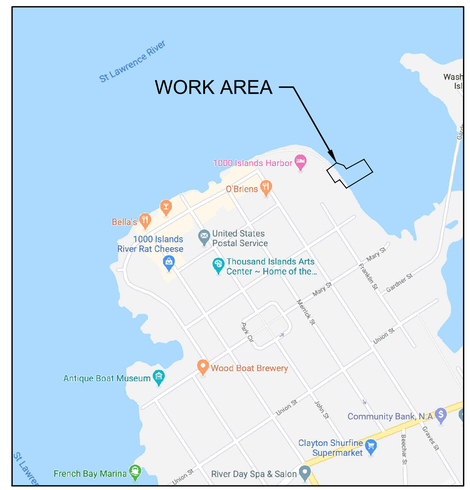
STATE LOCATION MAP
Not to Scale

ST LAWRENCE ENGINEERING DPC

745 GRAVES STREET, CLAYTON NY 13624

(315) 783-6384 (315) 408-7443

www.stlawrenceengineering.com



AREA LOCATION MAP
Not to Scale

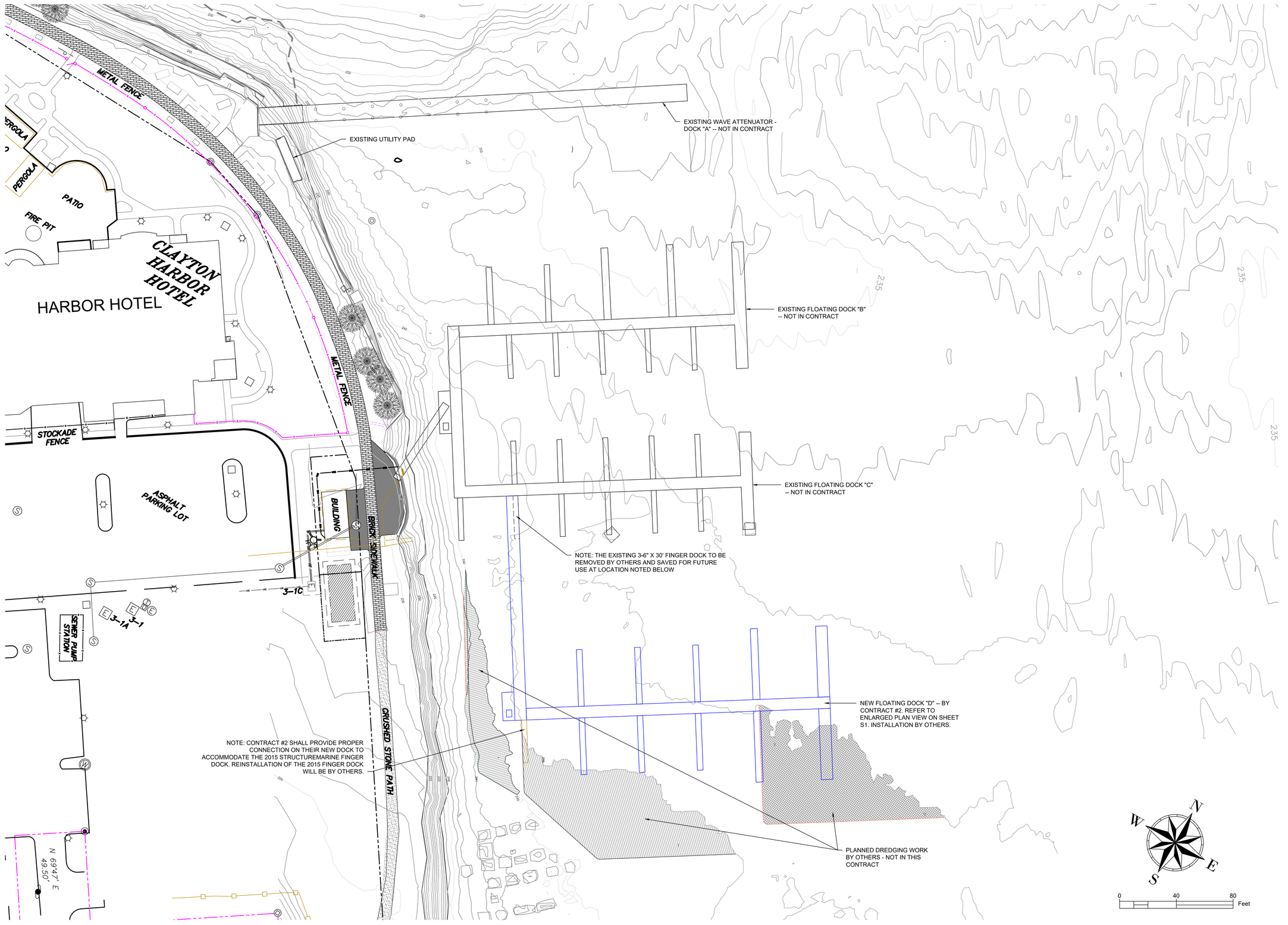
FOURTH COAST INC -
ST LAWRENCE ENGINEERING DPC
745 GRAVES, CLAYTON NEW YORK, 13624
315/783-6384 315/408-7443
www.fourthcoast.com - www.stlawrenceengineering.com

CLIENT: TOWN OF CLAYTON
PROJECT: CLAYTON HARBOR MUNICIPAL MARINA / REDI PROJECT SJ.235 PROCUREMENT OF DOCK "D"
DRAWN BY: DEB | CHECKED BY: RJC | SCALE: NONE

DATE: MARCH 16, 2026
REVISED:

TITLE SHEET

T1



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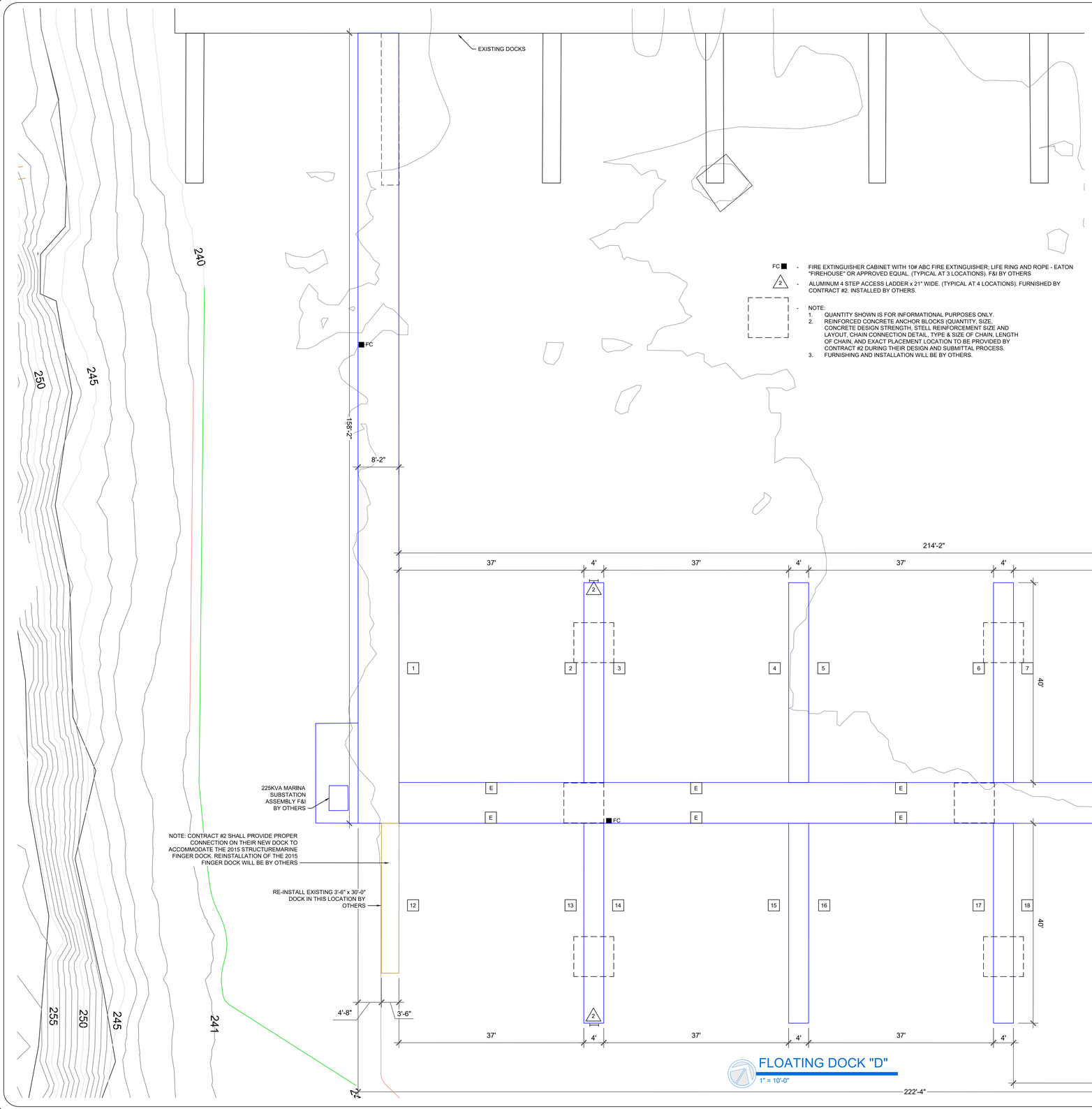
CLIENT: TOWN OF CLAYTON
PROJECT: CLAYTON HARBOR MUNICIPAL MARINA / REDI PROJECT SJ.235
PROCUREMENT OF DOCK "D"

DRAWN BY: DEB
CHECKED BY: RJC
SCALE: 1"-40'

DATE: MARCH 16, 2026
REVISED:

OVERALL SITE PLAN

O1



FLOATING DOCK "D"

1" = 10'-0"

GENERAL NOTES:

1. THE NEW DOCK SYSTEM (DOCK "D") SHALL BE DESIGNED BY CONTRACT #2 TO BE COMPATIBLE WITH THE EXISTING 2015 STRUCTURMARINE FLOATING ALUMINUM DOCK SYSTEM.
2. THE NEW DOCK SYSTEM SHALL BE DESIGN AS TO NOT IMPACT THE PRESENT ANCHOR BLOCK SYSTEM FOR THE EXISTING DOCKS.
3. THE NE DOCK "D" SHOULD BE DESIGNED TO HAVE A SMOOTH TRANSITION BETWEEN DOCK SYSTEMS.
4. THE NEW DOCK "D" SYSTEM TO HAVE COMPOSITE DECK BOARDS IN A SIMILAR SIZE, DESIGN, AND APPEARANCE AS THE EXISTING SYSTEM. ALL FASTENERS TO BE 316 STAINLESS STEEL UNLESS OTHERWISE NOTED.
5. THE ANCHOR SYSTEM SHALL BE BY PRECAST CONCRETE ANCHOR BLOCKS, DESIGNED BY CONTRACT #2, AND FURNISHED AND INSTALLED BY OTHERS.
6. ACCESS DOORS SHALL BE PROVIDED FOR ALL CHAIN CONNECTION POINTS AND WATER DRAINAGE VALVE LOCATIONS.
7. THE NEW DOCK SYSTEM SHALL PROVIDE THEIR NORMAL UTILITY SPACE TO ACCOMMODATE ELECTRICAL AND WATER LINES.
8. FLOTATION SHALL BE DESIGNED TO MEET THE PROJECT SPECIFICATIONS INCLUDING THE MARINE SUBSTATION LOCATED ON AN ADJACENT FLOATING DOCK PER PLANS.
9. CONTRACT #2 SHALL PROVIDE AN ON-SITE MANUFACTURER'S TECHNICAL REPRESENTATIVE TO ASSIST THE TOWN'S INSTALLATION CONTRACTOR PER THE PROJECT DOCUMENTS AND TRAIN THE TOWN'S PERSONNEL ON PROPER DOCK ADJUSTMENTS, MAINTENANCE, OPERATIONS, WINTER CONDITIONS (DOCKS TO REMAIN IN THE WATER), ETC.
10. THE TOWN WILL UNLOAD AND STORE CONTRACT #2'S MATERIAL DELIVERS WITH PROPER NOTIFICATION AND RIGGING INSTRUCTIONS. ALL INSTALLATION WILL BE BY OTHERS.
11. THE TOWN PLANS TO HAVE WATER AND ELECTRIC SERVICE TO PEDESTALS LOCATED ON THE NEW FLOATING DOCK SYSTEM SIMILAR TO THE PRESENT DOCKS. ALL WORK WILL BE BY OTHERS.
12. THE NEW FLOATING DOCK "D" SHALL BE DESIGNED BY A PROFESSIONAL ENGINEER LICENSED AND REGISTERED IN THE STATE OF NEW YORK AND ALL DESIGN DRAWINGS AND THEIR CALCULATIONS MUST BE STAMPED AND SIGNED BY THIS PROFESSIONAL

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CLIENT: TOWN OF CLAYTON

PROJECT: CLAYTON HARBOR MUNICIPAL MARINA / REDI PROJECT SJ.235 PROCUREMENT OF DOCK "D"

DRAWN BY: DEB | CHECKED BY: RJC | SCALE: 1"-20'

DATE: MARCH 16, 2026

REVISED:

FLOATING DOCK ENLARGED PLAN VIEW

S1

EXISTING DOCKS

PROVIDE 8AWG G-GC CABLE AND WATERPROOF JUNCTION BOXES FOR CIRCUIT SERVING FIRE CABINETS (TYP).

FC

158'-2"

8'-2"

(3)#4/0 WITH GROUND G-GC CABLE FROM JUNCTION BOX TO TRANSFORMER.

70' SEPARATION DISTANCE REQUIRED BETWEEN EXISTING DOCK AND NEW DOCK AT END.

240

250

245

255

241

214'-2"

37' 4' 37' 4' 37' 4' 37' 5' 41'

8'-2"

1 2 3 4 5 6 7 8 9 10 11

40'

60'

(3)#1, #8GROUND G-GC CABLE

PEDESTAL #2

PEDESTAL #4

(3)#2/0, #8GROUND G-GC CABLE

PEDESTAL #6

PEDESTAL #8

PEDESTAL #10

225KVA MARINA SUBSTATION ASSEMBLY F&I BY OTHERS

FC

PEDESTAL #1

PEDESTAL #3

PEDESTAL #5

PEDESTAL #7

PEDESTAL #9

PEDESTAL #11

10'-8"

8'-2"

5'-0"

RE-INSTALL EXISTING 3'-6" x 30'-0" DOCK IN THIS LOCATION BY OTHERS

12 13 14 15 16 17 18 19 20 21 22

4'-8"

3'-6"

37' 4' 37' 4' 37' 4' 37' 5' 41'

8'-2"

FLOATING DOCK "D"

1" = 10'-0"

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DRAWN BY: DEB | CHECKED BY: RJC | SCALE: 1"-20'

DATE: MARCH 16, 2026

REVISED:

DOCK UTILITIES - ELECTRIC (FOR INFORMATIONAL PURPOSES ONLY)

U1

EXISTING 1-1/2" PROPEX WATER PIPING

PROVIDE ISOLATION VALVES AND NEW ACCESS DOOR.

EXISTING DOCKS

240

FC

159'-2"

1-1/2" PROPEX THRU CABLE TRAY

6'-2"

70' SEPARATION DISTANCE REQUIRED BETWEEN EXISTING DOCK AND NEW DOCK AT END

TENTATIVE LOCATIONS OF ACCESS PANELS IN NEW FLOATING DOCK SYSTEM. FINAL LOCATION TBD

214'-2"

37' 4' 37' 4' 37' 4' 37' 5' 41'

8'-2"

1 2 3 4 5 6 7 8 9 10 11

40'

50'

3/4" UP TO EACH HOSE BIBB. (2) TYPICAL IN EACH PEDESTAL

1-1/2" PROPEX THRU CABLE TRAY

ACCESS DOOR AND DRAIN VALVE AT END OF WATER LINE

225KVA MARINA SUBSTATION ASSEMBLY F&I BY OTHERS

FC

108'-2"

8'-2"

EACH SECTION OF FLOATING DOCK SHALL BE BONDED TOGETHER IN ACCORDANCE WITH NEC.

RE-INSTALL EXISTING 3'-6" x 30'-0" DOCK IN THIS LOCATION BY OTHERS

12 13 14 15 16 17 18 19 20 21 22

4'-8"

3'-6"

245

241

FLOATING DOCK "D"

1" = 10'-0"

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DATE: MARCH 16, 2026
REVISED:

DOCK UTILITIES - WATER (FOR INFORMATIONAL PURPOSES ONLY)

U2

ST LAWRENCE ENGINEERING DPC
745 GRAVES STREET, CLAYTON NEW YORK 13624
315/783.6384 · 315/408.7443
www.fourthcoast.com - www.stlawrenceengineering.com

13 March 2026

Ann-Marie Harik, Engineer Trainee
Department of Environmental Conservation
Division of Water – Region 6
317 Washington Street, Watertown, NY 13601
ann-marie.harik@dec.ny.gov

Re: Depauville (T) Clayton System Improvement Comments

Dear Ann-Marie,

The following comments are related to the Town of Clayton, Depauville System Improvement comments, dated February 6, 2026.

1. Table III-2 UV System Design Criteria should match Section 466664 1.8 System Description values for clarity.

   Table III-2 and Section 466664 1.8 System Description have been revised to match.

2. C100 - UV Building indicates the location of the pump station controls. Does the building have an exterior alarm light for pump alarms/failures?

   A light will be added to the exterior of the building to indicate pump alarms/failures.

3. Section 466664 UV Disinfection Equipment

   1. 1.8 B: Provide justification for removal of adjustments for end of life and quartz fouling factor.

   Comments, from the previous submission refer to a specification that has since been replaced with the current Section 466664. The current section is based on a different UV System.

Harik, Ann-Marie
Depauville P&S Comments
13 March 2026

1. 2.2 A: Previous email comment's concern regarding 304 stainless steels has mainly been addressed but language indicating which parts are stainless steel vs aluminum, and that wiring should be Teflon coating has been removed. I suggest adding language for clarification.

   Comments, from the previous submission refer to a specification that has since been replaced with the current Section 466664. The revised section is based on a different UV System.

4. Section 465364 Post Aeration System: All pages have incorrectly labeled footnote.

   Acknowledged, the footnotes have been updated.

5. Section 432310 Effluent Pump Station 2.3 A 2 i: Class of insulation is blank

   Insulation shall be Class B. The spec section has been revised.

6. Section 263213 Liquid Propane Gas Generator: 1.05 A 1: Provide justification for lower ambient temperature selection, consider that recent temperatures in Depauville have been significantly lower than the selected -15C.

   The – 15 C is a manufacturers standard without starting aids. The generator will be equipped with cold weather starting aids including a block heater to maintain minimum starting temperatures in cold weather conditions.

Thank you for consideration of the above responses. If you have further questions or require additional information, please do not hesitate to contact us.

ST. LAWRENCE ENGINEERING DPC

Robert J. Campany PE

Copy Timothy Doney, Town of Clayton, townsupervisor@townofclayton.com
Savarah Wright, Town of Clayton, swright@townofclayton.com
Paula Jacobs, NYSDEC, paula.jacobs@dec.ny.gov
Dorian Di Cocco, NYSEFC, dorian.dicocco@efc.ny.gov

Encl: Revised Specification Sections 466664, 465364, 432310, Basis of Design Report, Updated Drawings

Basis of Design Report

for

Depauville Wastewater Treatment Facilities

Prepared for:

Town of Clayton

32333 Caroline St.
Depauville, NY 13622
Jefferson County

26 January, 2024

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

Calculations

Post Aeration
Pump Station
Electrical Demand

I. INTRODUCTION

The Town of Clayton, receiving an Engineering Planning Grant from the New York State Environmental Facilities Corporation, has submitted an Engineering Report to evaluate Alternatives to implement Disinfection at the Depauville Wastewater Treatment Plant. The objective of the proposed project is to provide improvements to the existing WWTP to include disinfection and to increase DO to the effluent prior to being discharged into the Chaumont River. In addition, this report is intended to highlight the basis of design for the wastewater treatment plant (WWTP) disinfection upgrades and confirm conformance with applicable recommended design standards.

A. BACKGROUND

The proposed project would take place at the existing treatment plant serving the Hamlet of Depauville. The Hamlet is located within the Town of Clayton and is in the northern portion of Jefferson County. New York State Route 12 runs through the Hamlet and the WWTP is located off from County Route 179 which bisects the Hamlet. Refer to Figure I-1 below for the project location.

Figure I-1 Project Location Map

B. WWTP INFLUENT CHARACTERISTICS

Data from Jan 2022 – Dec 2024 was collected and analyzed to determine the plant influent parameters as well as influent parameters for the disinfection and post aeration systems. From the available data, the following paragraph summarizes the influent characteristics for the WWTP.

- Flows at the plant vary significantly with flows as low as .0002 MGD (200 gpd) up to the peak day of 0.141 MDG (141,000 gpd). The overall 30-day average daily flow for the reporting period is 0.014 MGD whereas the Max 30-day average was 0.029 MGD.
- Influent BOD loadings ranged from 61 – 180 mg/l falling into the low to medium strength category. The average influent BOD loading is 117 mg/l for the reporting period.
- Influent TSS loadings averaged 48 mg/l, ranging from 12 – 110 mg/l also falling into the low to medium strength category.
- Influent and Effluent DO is monitored at the plant and ranged from 1.7 – 5.8 at the influent over the reporting period.
- Dissolved Solids are also monitored and ranged from 590 – 1500 over the reporting period.

C. EFFLUENT CHARACTERISTICS AND PLANT PERFORMANCE

The WWTP currently operates under SPDES Permit No. NY0215791. For the purposes of this report, the effluent limits outlined in the Draft SPDES Permit effective 03/01/2020, expiring 02/28/2025 will be used for design. Summarized below are effluent limits presented in the Draft Permit.

Table I-1: WWTP Design Parameters and Effluent Limitations

Parameter	Limit	Type
Design Flow (mgd)	0.034	30 Day Average
BOD (mg/L)	15	Daily Max
TSS (mg/L)	15	Daily Max
Settleable Solids (mg/L)	0.1	Daily Max
Dissolved Oxygen	7.0	Daily Min
Total Dissolved Solids (mg/L)	2230	Daily Max
TRC (µg/L)	30	Daily Max
Fecal Coliform (No./100 mL)	200	30-Day Geometric Mean
Fecal Coliform (No./100 mL)	400	7-Day Geometric Mean

Environmental conditions used for the basis of design are shown in Table II.4 below.

Table I-2: Environmental Conditions

Parameter	Value
Min. Wastewater Temp. (Degrees F)	50
Max. Wastewater Temp. (Degrees F)	75
Site Elevation (ft above sea level)	264

To assess the plants performance and determine the design parameters for the proposed improvements, data collected over the reporting period was analyzed and is summarized below.

- Over the reporting period, flows remained within the limits set forth by the SPDES permit. The maximum 30 day average flow observed was 0.029 MGD.
- From the influent flow monitoring it has been determined that the influent flows at the plant vary significantly as a peaking factor of 10 has been observed at the plant.
- Sample results for Effluent BOD ranged from 6 – 26 mg/l. Of the 12 data points, 4 instances were recorded where effluent BOD exceeded the limit outlined in the SPDES permit.
- TSS sample results varied from 3 – 9 mg/l and did not exceed the SPDES Permit limits for the reporting period.
- Currently Effluent DO is monitored at the plant and ranges from 0.05 – 10.5 mg/l. Generally the effluent DO was observed to be higher than the influent DO however it is below the proposed 7mg/l required by the Draft SPDES Permit.
- The total dissolved solids during the reporting period was monitored and ranged from 590 – 1500, falling below the 2230 mg/l limit in the Draft SPDES Permit.

II. EXISTING WASTEWATER PROCESS COMPONENTS

The existing Wastewater treatment process consists of influent flow metering, a flow splitter, four 5,000 gallon septic tanks, two dosing tanks, open sand filters, and an effluent sample manhole. The existing process components are described in further detail below.

Influent Flow Meter: Located before the flow splitter, the influent flow metering is accomplished by a 3” parshall flume.

Flow Splitter: After the flow meter, flow is directed to a 5 ft diameter manhole which splits the flow between the two septic tank trains. Also included is a bypass which allows for flow to be directed directly to the dosing tanks.

Septic Tanks: In total there are four (4) 5,000-gallon septic tanks. The flow is divided into two trains, with each having two (2) 5,000-gallon tanks connected in series.

Dosing Chamber: Following the septic tanks are two precast concrete storage tanks, hydraulically connected, that serve as the dosing chamber for the sand filters. Each of the dosing chambers provide 2,693 gallons of storage for a total storage volume of 5,386 gallons.

Dosing Siphon: Inside the dosing chamber is a 6" siphon which doses the sand filters. On average the siphon will discharge 450 gpm to the sand filters.

Distribution Box: Flow from the siphon is directed to a distribution box which distributes flow to each of the sand filters and allows for isolation of each sand filter for maintenance.

Open Sand Filters: In total there are four (4) open sand filters which filter effluent prior to being discharged into Chaumont River. The open sand filters consist of a clay lined basin, with clay berms dividing the four filters, an underdrain system, sand media, and distribution piping with splash pads. As constructed, there is an approximate 12,765 sf of filter area between the 4 filters. Although the influent flow to the sand filters is 450 gpm on average, the sand filters buffer the effluent flow which was observed to be much less.

Sample Manhole: Following the open sand filters is a precast concrete manhole which allows for samples to be taken for monitoring and regulatory purposes.

III. PROPOSED WASTEWATER PROCESS COMPONENTS

The proposed improvements include the addition of an effluent pump station, closed vessel UV disinfection, post aeration and a new sample manhole. Attached is a process flow diagram including a summarized basis of design. The new process components and the basis of design are described in the following paragraphs.

Effluent Pump Station: Flow from the sand filters underdrain system will be redirected to the new effluent pump station. The new effluent pump station will consist of a precast

concrete wet well, and a duplex submersible pumping system. Pumps will be coupled to VFD's to allow for variation in flow and operational flexibility. Pump controls will consist of a PLC based control system with a level transducer and backup floats. The control logic will initiate the duty pump at a designated set point and will start pumps at a predetermined speed, approx. 70%, until a second (high level) set point is reached, where the pumps speed will be increased to maintain the level in the wet well. Each pump will be sized to handle peak flows at the plant while the other will serve as a standby.

Design parameters pertaining to the Effluent Pump Station are included in the table below.

Table III-1 Effluent Pump Station Design Criteria.

Parameter	Design
Plant Influent Average Daily Flow (Max 30 Day Average Daily Flow) (MGD / GPM)	.029 / 20.14
Max Dosing Rate to Sand Filters (MGD /GPM) [1,2]	.648 / 450
Pump Design Duty Point (GPM) [3]	100
Pump Design Head (ft)	48
Pump Control	Level Transducer w/ backup floats

[1] Dosing Rate to the open sand filters is based on the discharge table for the installed siphon located inside the dosing chamber.

[2] The maximum flow rate from the sand filters after dosing was approximated at 200 gpm.

[3.] The pumps design duty point is set at 100 gpm to minimize the equipment size, and required electrical demand for pumps, UV Units, and Blowers. In the case where the pump capacity is surpassed by the incoming flow, flow will surcharge the piping and sand filters which will serve as storage until the wet well is pumped down. Note: that a full dose is approximated at 5,400 gallons, which not considering any pumping, will occupy less than 1 inch of depth in the base of the filters with 3 filters online.

UV Disinfection: The proposed UV disinfection system will include (3) closed vessel UV units. Each Unit is designed to handle half of the peak flow from the effluent pump station. UV Units will be configured such that there will be (2) duty and (1) standby unit. The UV units will be plumbed such that they can be run in series or in parallel. Isolation valves and drain valves will be included for each unit to allow for maintenance and sample monitoring. A single sample port will be installed on the UV effluent line to allow for plant effluent sampling. The units will be housed in a new building adjacent to the effluent pump station. Although not required, a flow meter installed on the pump station discharge will allow for effluent flow monitoring and for flow pacing for the UV Units. A flow restrictor will also be installed on the UV influent manifold to prevent the pump station from pumping beyond the UV unit capacity. Since flows will not be continuous, a cooling system must be installed to prevent the UV units from overheating when there is low or no flow. The cooling system will consist of a jet pump installed inside the UV Building, a pressure tank and piping to each of the UV Units. A purge valve on the UV units will open at a pre-determined temperature setpoint allowing cool water from the presser tank to keep the units cool. The jet pump will pump water from the wet well to the pressure tank to replenish the cooling water. The Design parameters for the UV system are outlined in the table below.

Table III-2 UV System Design Criteria

Parameter	Design
Plant Influent Average Daily Flow (Max 30 Day Average Daily Flow) (MGD / GPM)	.0290 / 20.14
Peak Hourly Flow From Pump Sation (MGD / GPM)$_1$	0.144 / 100
UV Unit Design Capacity per unit (MGD / GPM)	0.108 / 75
UV system Capacity (MGD / GPM)	0.216 / 150
No. of UV Units (Configuration)	3 (2 Duty one Standby)
Operation	Series or Parallel
Design Dose	30 µw-sec/cm^2
Min UV Transmittance (UVT)	55

TSS (mg/L)	30
Effluent Requirement (per 100 ml)	200 (fecal coliform)
Max Unit Temp to Initiate Cooling System (deg F)	95
Max Unit Temp before shutdown (deg F)	104
Cooling water volume / cycle (gal)	5-10

Post Aeration: Post Aeration will be implemented to increase the effluent DO before being discharged into the Chaumont River through the outfall. Post aeration will consist of a contact tank and diffused air aeration system. The diffused air system will be comprised of 2 positive displacement blowers, air piping, valves, and fine bubble diffusers. Design criteria for the post aeration system are included in the table below.

Table III-3 Post Aeration System Design Criteria

Parameter	Design
Sand Filter Effluent DO (mg/l)	0 mg/l
Target DO (mg/l)	>7
Post Aeration MH Diameter (ft)	5
Overall Depth (ft)	14.67
Working Depth (ft)	10.67
Working Volume (gal)	1564
Design Flow (gpm)	100
Detention Time (min)	15.64
No. of Diffusers	8
Diffuser Submergence (ft)	10
Airflow per diffuser (Recommended / Design) (cfm)	1-5 / 2.5
Airflow Required (per calculation)(scfm)	6
Airflow Required (min per NYSDEC Design Standards) (scfm)	20
Blower power (hp)	3

Blower Capacity (scfm)	20
Blower Discharge Pressure	5 psi
Blower Configuration	1 Duty 1 Standby

Following the post aeration MH will be a new outfall manhole which will intercept the existing outfall pipe. The new outfall manhole will be a 5 ft. diameter precast concrete manhole with a drop pipe from the post aeration manhole outlet pipe. The new outfall manhole will serve as a final effluent sampling point for the treatment plant.

Subject: Post Aeration Calculations:

Post Aeration Tank Geometery & Calculations

Post Aeration MH Influent Rate =	100	gpm		
Post Aeration MH Diameter	5	ft		
Post Aeration MH Overall Depth	14.67	ft		
Post Aeration Working Depth	10.67	ft		
Offset, Top of Diffuser to Tank Floor	0.67	ft		
Diffuser Submergence =	10	ft		
Working Volume / ft	19.63495	ft	146.8695	gal
Total Working Volume =	209.505	cf	1567.097	gal
Detention Time	15.67097	min		
Wastewater Temperature Max (deg C)	20	deg C		

$$Q_a = 3.53\ x\ 10^{-3}\ \frac{Q\ (C_s)_{20°C}}{E(1.024)^{T-20}}\ \ln\left(\frac{C_s - C}{C_s - C_o}\right) =$$

Qa = Required air flow rate (m^3/sec)
Q = Wastewater Flow Rate (m^3/sec)
Cs = Saturation concentration of oxygen @ 20 deg C (mg/l)
Co = Dissolved Oxygen Concentration of the post aeration influent (mg/l)
C = Required Final Dissolved Oxygen level after post aeration (mg/l)
E = Oxygen Transfer Rate

Q average= (max 30 day average)	0.038	MGD	0.05852	m^3/sec
Q Max Day =	0.143	MGD	0.22022	m^3/sec
Q Peak Instantaneous =	0.288	MGD	0.44352	m^3/sec
Cs =	9.08	mg/l (Ref: M&E, App. D, Table D-1)		
Co =	0			
C =	7			
E =	0.2	Assumed to be 2% per foot of submergence		

Q average= (max 30 day average)	0.000751	m3/sec	**1.592202 cfm**
Q Max Day =	0.002828	m3/sec	**5.991707 cfm**
Q Peak Instantaneous =	0.005695	m3/sec	**12.06721 cfm**

Mannings Equation

Input	=		Enter Values	
Mannings "n" Value	=	0.009		
Diameter of Pipe	=	8	**in**	0.67 ft
Radius of Pipe	=	4	**in**	0.33 ft
Invert Elev. In	=	257	**ft**	
Invert Elev. Out	=	254	**ft**	
Length of Pipe	=	60		
Slope of Pipe	=	0.0500	**ft/ft**	
Percent Full (1%-95%)	=	22.80%		
Liquid depth	=	0.15	**ft**	
Liquid depth	=	1.82	**in**	
Determine Liquid Area	=	0.06	**ft^2**	
Wetted Perimeter	=	0.66	**ft**	
Hydraulic Radius (A/P)	=	0.09	**ft**	
Flow	**=**	**0.45**	**cfs**	
Flow	**=**	**200**	**gpm**	
Flow	**=**	**0.29**	**mgd**	
Velocity	**=**	**7.43**	**fps**	

Subject: Determine System Head Curve for the Effluent Pumps

Flow Rates

	Avg. Daily Flow gpm	Peak Hourly Flow gpm*
	50	**100**

*Maximum flow to UV

Subject: Determine System Head Curve for the Effluent Pumps

Data: Enter data in shaded cells only

Pump Station Type: Submersible (Enter Submersible or Above Ground in Cell B9)
Motor Type: Constant Speed (Enter Constant Speed or VDF in Cell B10)

Elevations

Pump On =	252.00	ft
Centerline Pump =	250.00	ft
High Point =	275.00	ft (adds 2.1 ft for UV Unit)
Disch. Point =	275.00	ft

Maximum Flow =	200	gpm
Minimum Flow =	0	gpm

Pump System Criteria:

Suction piping size (in):	NA
Suction piping length (ft)	0
Forcemain size (in):	2
Forcemain Length (ft):	120
"c" factor used:	120

Maximum Pipe Size = 2 inch
Dia = 0.17 ft.
Area = 0.022 sq. ft.

	(Suction)			*(Discharge)*				*Data*			
Flow (gpm)	Static Suction Head (ft)	Minor Losses (ft)	Total Suction Head (ft)	Flow (gpm)	Static Disch. Head (ft)	Minor Losses (ft)	Total Discharge Head (ft)	**Total Dynamic Head (ft)**	Pressure (psi)	Flow (cfs)	Velocity (fps)
0	-2.0	0.0	-2.0	0.0	25.0	0.0	25.0	23.0	10.0	0.0	0.0
20	-2.0	0.0	-2.0	20.0	25.0	1.0	26.0	24.0	10.4	0.0	2.0
40	-2.0	0.1	-1.9	40.0	25.0	3.8	28.8	26.9	11.7	0.1	4.1
60	-2.0	0.3	-1.7	60.0	25.0	8.4	33.4	31.7	13.7	0.1	6.1
80	-2.0	0.5	-1.5	80.0	25.0	14.8	39.8	38.3	16.6	0.2	8.2
100	-2.0	0.8	-1.2	100.0	25.0	22.8	47.8	46.6	20.2	0.2	10.2
120	-2.0	1.2	-0.8	120.0	25.0	32.6	57.6	56.8	24.6	0.3	12.3
140	-2.0	1.6	-0.4	140.0	25.0	44.1	69.1	68.6	29.7	0.3	14.3
160	-2.0	2.1	0.1	160.0	25.0	57.2	82.2	82.3	35.7	0.4	16.3
180	-2.0	2.6	0.6	180.0	25.0	72.0	97.0	97.7	42.3	0.4	18.4
200	-2.0	3.2	1.2	200.0	25.0	88.5	113.5	114.8	49.7	0.4	20.4

Pump Selection:

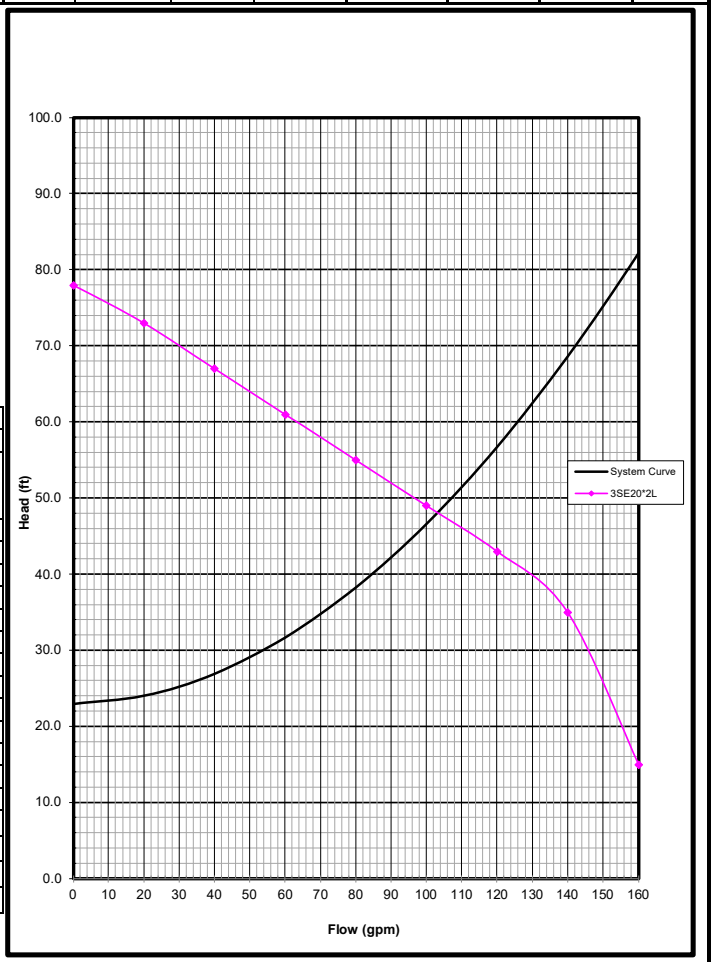
Make:	BARNES	
Model No:	3SE20*2L	
Quantity:	2	
Pumps On:	1	
Horsepower:	3	
Hertz:	60	
Phase:	1	
Volt:	230	
RPM:	3600	
Impeller Dia:	4.38	

Operating Point	**Flow (gpm)**	**TDH (ft)**
WE10H	104	48

Pump Curve

3SE20*2L

Flow gpm	**Head** ft
0	78.0
20	73.0
40	67.0
60	61.0
80	55.0
100	49.0
120	43.0
140	35.0
160	15.0



Subject: Determine System Head Curve for the Effluent Pumps

Friction losses in the suction piping:

Pipe diameters (in):	4	6	8	10	12	Total Length
Length (ft):	0	0	0	0	0	0
c - factor:	120	120	120	120	120	

Flow gpm	Pipe Friction Loss (ft.)
0	0.0
20	0.0
40	0.0
60	0.0
80	0.0
100	0.0
120	0.0
140	0.0
160	0.0
180	0.0
200	0.0

(using Hazen-Williams formula) $hf = 0.002083*L(100/C)^{1.85}*(gpm^{1.85}/d^{4.8655})$

Friction losses in the suction fittings:

k - values are from Cameron Hydraulic Data

Fitting	Quantity	Diameter (in)	Pipe Area (sq ft)	K value
Pipe entrance	1	2	0.022	0.50
	0	6	0.196	
	0	6	0.196	
	0	6	0.196	
	0	6	0.196	
	0	6	0.196	
	0	6	0.196	
	0	6	0.196	
	0	6	0.196	
	0	6	0.196	
	0	6	0.196	

Total Fittings: 1

Flow (gpm)	Flow (cfs)	Minor Headloss (ft)
0	0.0	0.0
20	0.0	0.0
40	0.1	0.1
60	0.1	0.3
80	0.2	0.5
100	0.2	0.8
120	0.3	1.2
140	0.3	1.6
160	0.4	2.1
180	0.4	2.6
200	0.4	3.2

(using Darcy-Weisbach formula) $h_f = K*(V^2/2g)$

Subject: Determine System Head Curve for the Effluent Pumps

Friction losses in the discharge piping:

DR 11 HDPE SCH 80 PVC

Pipe Diameters (in):	2.83	3	2	10	12	Total Length
Length (ft):	20	70	14	0	0	104
c - factor:	120	120	120	120	120	

Flow gpm	Pipe Friction Loss (ft)
0	0.0
20	0.4
40	1.3
60	2.7
80	4.6
100	7.0
120	9.8
140	13.1
160	16.7
180	20.8
200	25.3

(using Hazen-Williams formula) $hf = 0.002083*L(100/C)^{1.85}*(gpm^{1.85}/d^{4.8655})$

Friction losses in the discharge fittings:

k - values are from Cameron Hydraulic Data

Fitting	Quantity	Diameter (in)	Pipe Area (sq ft)	K value
90 degree bend	13	3	0.049	0.54
Tee (Br)	6	3	0.049	1.08
Tee (thru)	2	3	0.049	0.36
Ball Valve	4	3	0.049	0.05
Check Valve	1	3	0.049	1.80
90 Degree Bend	4	2	0.022	0.57
Tee (Br)	2	2	0.022	1.14
Tee Through	2	2	0.022	0.38
Ball Valve	4	2	0.022	0.06
Pipe Exit	1	2	0.022	1.00
		2	0.022	1.00
	0	3	0.049	
	0	3	0.049	
	0	3	0.049	

Total Fittings: 39

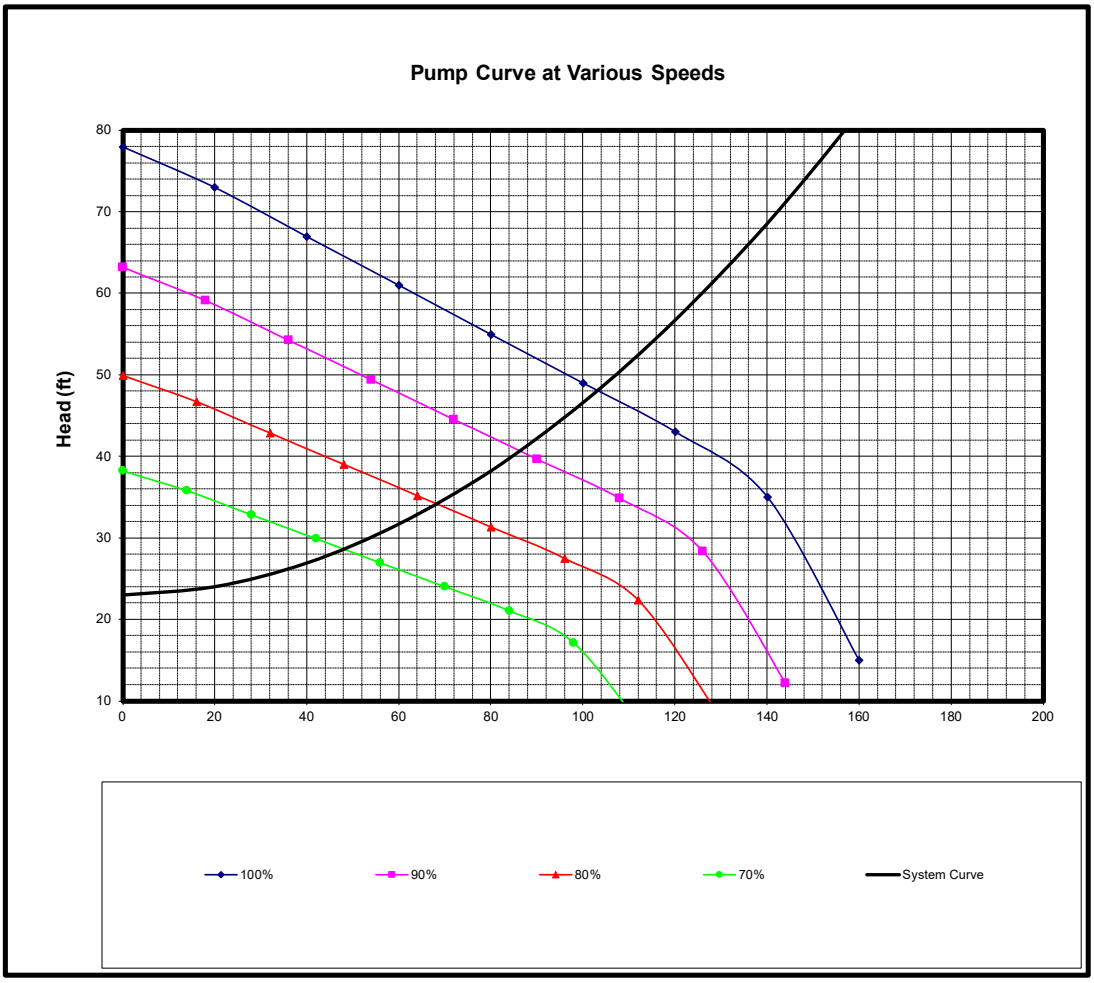
Flow (gpm)	Flow (cfs)	Minor Headloss (ft)
0	0.0	0.0
20	0.0	0.6
40	0.1	2.5
60	0.1	5.7
80	0.2	10.1
100	0.2	15.8
120	0.3	22.8
140	0.3	31.0
160	0.4	40.5
180	0.4	51.2
200	0.4	63.2

(using Darcy-Weisbach formula) $h_f = K*(V^2/2g)$

Subject: Determine System Head Curve for the Effluent Pumps

VFD Analysis Using Affinity Laws

Pump Curves							
%Speed	**RPM**	**%Speed**	**%RPM**	**%Speed**	**RPM**	**%Speed**	**RPM**
100%	3600	90%	3240	80%	2880	70%	2520
60 Hz		*54 Hz*		*48 Hz*		*42 Hz*	
Flow (gpm)	*TDH (ft)*	*Flow (gpm)*	*TDH (ft)*	*Flow (gpm)*	*TDH (ft)*	*Flow (gpm)*	*TDH (ft)*
0	78	0	63.2	0	49.9	0	38.2
20	73	18	59.1	16	46.7	14	35.8
40	67	36	54.3	32	42.9	28	32.8
60	61	54	49.4	48	39.0	42	29.9
80	55	72	44.6	64	35.2	56	27.0
100	49	90	39.7	80	31.4	70	24.0
120	43	108	34.8	96	27.5	84	21.1
140	35	126	28.4	112	22.4	98	17.2
160	15	144	12.2	128	9.6	112	7.4



Subject: Determine the Dosing Volume and Flow Rate From the Dosing Chamber

Dosing Chamber Volume

Chamber 1

Width (ft) =	12	ft		
Length (ft) =	12	ft		
Bottom of Tank Elevation (ft) =	274.97	ft		
Top of Tank Elevation(ft) =	278.72	ft		
Depth (ft) =	3.75	ft		
Low Water Level (ft) =	275.22	ft		
High Water Level (ft) =	277.72	ft		
Working Depth (ft) =	2.5	ft		
Total Volume (cf / gal) =	540	ft^3	4039.2	gal
Total Working Volume/ Dosing Volume (cf / gal) =	360	ft^3	2692.8	gal

Chamber 2

Width (ft) =	12	ft		
Length (ft) =	12	ft		
Bottom of Tank Elevation (ft) =	274.97	ft		
Top of Tank Elevation(ft) =	278.72	ft		
Depth (ft) =	3.75	ft		
Low Water Level (ft) =	275.22	ft		
High Water Level (ft) =	277.72	ft		
Working Depth (ft) =	2.5	ft		
Total Volume (cf / gal) =	540	ft^3	4,039.20	gal
Total Working Volume/ Dosing Volume (cf / gal) =	360	ft^3	2,692.80	gal

Total Dosing Chamber Volume (cf / gal) =	1080	8,078.40	gal
Total Dosing Chamber Working Volume / Dosing Volume (cf / gal) =	720	5,385.60	gal

Average Siphon Discharge Rate (gpm) =	450			
Average Time of Discharge (min) =	11.968			
Sand Filter Average Loading Rate =	2-5	gpd/sf		
Sand Filter Area =	16310	sf		
Sand Filter Capacity @ 2gpd/sf =	32620	gpd		
Sand Filter Capacity @ 5gpd/sf =	81550	gpd	56.63194	gpm

Incoming Flow	450	gpm
Outgoing Flow	200	gpm

Pump Station Wetwell Diameter =	5	ft	
Pump Staiton Wetwell Area =	19.63495	sf	
Pump Station Wewell Volume / VF =	19.63495	cf	146.8695 gal
Pump CL Elev	247	ft	
Pump Off Elev	248.88	ft	
Pump On Elev	252.88	ft	

Wetwell Fill Time (Pump Off - Pump On)

Volume (Pump Off - Pump On)	78.53982	cf	587.4778 gal
Incoming Flow Rate	200		
Fill Time	2.937389	min	

ELECTRICAL SERVICE DEMAND CALCULATION												LOAD (KVA)						
												LIGHTING	RECEPT.	EQUIPMENT		HVAC EQUIPMENT		
NO.	LOAD TYPE	ITEM DESCRIPTION	QUANTITY	VOLTS	PHASE	FLA	KW	PF	KVA	LOAD DIVERSITY	DEMAND LOAD (KVA)			CONTINUOUS	NON-CONT.	YEAR ROUND	COOLING	HEATING
		LIBRARY ADDITION																
1	MECH	Furnace bosch 80	1	120	1	8.00	0.96	1	0.96	1	0.96					0.96		
2	MECH	Furnace Coil Heat Pump 5TON	1	240	1	38.50	9.24	1	9.24	1	9.24					9.24		
3	MECH	ERV 150CFM	1	120	1	1.42	0.17	1	0.17	1	0.17					0.17		
4	EQUIP	Lift	1	120	1	16.00	1.92	1	1.92	1	1.92				1.92			
5	EQUIP	Water Heater	1	120	1	12.00	1.44	1	1.44	1	1.44				1.44			
					1		0.00	1	0.00	1	0.00							
11	LIGHTS	INTERIOR	1	120	1	5.11	0.61	1	0.61	1	0.61	0.61						
12	LIGHTS	EXTERIOR	0	120	1	0.00	0.00	1	0.00	1	0.00							
13	RECEPT	RECEPTACLES	15	120	1	1.50	2.70	1	2.70	1	2.70		2.7					
		SUB TOTALS					**17.04**		**17.04**		**17.04**	**0.61**	**2.70**	**0.00**	**3.36**	**10.37**	**0.00**	**0.00**

	TOTAL DEMAND		
	CONNECTED kVA	FACTOR	DEMAND KVA
LIGHTING	0.61	1	0.61
RECEPTACLES	2.70	0.5	1.35
EQUIPMENT - CONTINUOUS	0.00	1	0.00
EQUIPMENT - NON-CONTINUOUS	3.36	0.75	2.52
MECHANICAL - CONTINUOUS	10.37	1	10.37
MECHANICAL - SEASONAL	0.00	0.75	0.00
TOTAL Kva	**17.04**		**14.85**

	FEEDER DEMAND - NEC			
	DEMAND kVA	DEMAND AMPS	%	SERVICE SIZE
LIGHTING	0.61	2.54	125.00%	3.18
RECEPTACLES	2.70	11.25	100.00%	11.25
EQUIPMENT - CONTINUOUS	0.00	0.00	125.00%	0.00
EQUIPMENT - NON-CONTINUOUS	3.36	14.00	100.00%	14.00
MECHANICAL - CONTINUOUS	10.37	43.21	100.00%	43.21
MECHANICAL - SEASONAL	0.00	0.00	100.00%	0.00
LARGEST MOTOR	0	0.00	25.00%	0.00
TOTALS	**17.04**	**71.0**	**96.43%**	**72**

SERVICE ENTRANCE	
VOLTAGE	240
PHASE	1
AMPS	61.9

FEEDER DEMAND - CONSERVATIVE			
DEMAND KVA	DEMAND AMPS	%	SERVICE SIZE
14.9	**61.9**	**125%**	**77**

ELECTRICAL SERVICE DEMAND CALCULATION												LOAD (KVA)						
												LIGHTING	RECEPT.	EQUIPMENT		HVAC EQUIPMENT		
NO.	LOAD TYPE	ITEM DESCRIPTION	QUANTITY	VOLTS	PHASE	FLA	KW	PF	KVA	LOAD DIVERSITY	DEMAND LOAD (KVA)			CONTINUOUS	NON-CONT.	YEAR ROUND	COOLING	HEATING
		LIBRARY																
1	MECH	Boiler	1	120	1	15.00	1.80	1	1.80	1	1.80							1.8
2	MECH	Distribution Pump	1	120	1	16.00	1.92	1	1.92	1	1.92							1.92
3	MECH	Exhaust Fan	3	120	1	0.09	0.03	1	0.03	1	0.03				0.03			
4	EQUIP	Water Pump	1	240	1	6.90	1.66	1	1.66	1	1.66				3.31			
5		Pavilion	1	240	1	6.00	1.44	1	1.44	1	1.44	3	1.44					
6	LIGHTS	INTERIOR 3643*0.78	1	120	1	23.67	2.84	1	2.84	1	2.84	2.84						
7	LIGHTS	EXTERIOR	1	120	1	8.33	1.00	1	1.00	1	1.00	1						
8	RECEPT	RECEPTACLES	65	120	1	1.50	11.70	1	11.70	1	11.70		11.7					
		Disinfection Building										0.19	0.72	2.90	7.25	5.52		
		New Addition										0.61	2.70	0.00	3.36	10.37		
		SUB TOTALS					**22.39**		**22.39**		**22.39**	**7.64**	**16.56**	**2.90**	**13.95**	**15.89**	**0.00**	**3.72**

	TOTAL DEMAND		
	CONNECTED kVA	FACTOR	DEMAND KVA
LIGHTING	7.64	1	7.64
RECEPTACLES	16.56	0.5	8.28
EQUIPMENT - CONTINUOUS	5.20	1	5.20
EQUIPMENT - NON-CONTINUOUS	19.14	0.75	14.35
MECHANICAL - CONTINUOUS	15.89	1	15.89
MECHANICAL - SEASONAL	3.72	0.75	2.79
TOTAL Kva	**68.15**		**54.15**

	FEEDER DEMAND - NEC			
	DEMAND kVA	DEMAND AMPS	%	SERVICE SIZE
LIGHTING	7.64	31.83	125.00%	39.79
RECEPTACLES	16.56	69.00	100.00%	69.00
EQUIPMENT - CONTINUOUS	2.90	12.08	125.00%	15.10
EQUIPMENT - NON-CONTINUOUS	13.95	58.13	100.00%	58.13
MECHANICAL - CONTINUOUS	15.89	66.21	100.00%	66.21
MECHANICAL - SEASONAL	3.72	15.50	100.00%	15.50
LARGEST MOTOR	0	0.00	25.00%	0.00
TOTALS	**60.66**	**252.8**	**96.43%**	**264**

SERVICE ENTRANCE	
VOLTAGE	240
PHASE	1
AMPS	225.6

FEEDER DEMAND - CONSERVATIVE			
DEMAND KVA	DEMAND AMPS	%	SERVICE SIZE
54.2	**225.6**	**125%**	**282**

ELECTRICAL SERVICE DEMAND CALCULATION												LOAD (KVA)						
												LIGHTING	RECEPT.	EQUIPMENT		HVAC EQUIPMENT		
NO.	LOAD TYPE	ITEM DESCRIPTION	QUANTITY	VOLTS	PHASE	FLA	KW	PF	KVA	LOAD DIVERSITY	DEMAND LOAD (KVA)			CONTINUOUS	NON-CONT.	YEAR ROUND	COOLING	HEATING
		DISINFECTION BUILDING																
1	EQUIP	UV	3	120	1	3.36	1.21	1	1.21	0.67	0.81				0.81			
2	EQUIP	Blower	2	230	1	10.00	4.60	1	4.60	0.5	2.30			2.3				
3	EQUIP	Effluent Pump	2	230	1	28.00	12.88	1	12.88	0.5	6.44				6.44			
4	EQUIP	Controls	1	120	1	5.00	0.60	1	0.60	1	0.60			0.6				
5	MECH	Ductless Split	1	240	1	23.00	5.52	1	5.52	1	5.52					5.52		
11	LIGHTS	INTERIOR	1	120	1	1.35	0.16	1	0.16	1	0.16	0.16						
12	LIGHTS	EXTERIOR	1	120	1	0.25	0.03	1	0.03	1	0.03	0.03						
13	RECEPT	RECEPTACLES	4	120	1	1.50	0.72	1	0.72	1	0.72		0.72					
		SUB TOTALS					**25.72**		**25.72**		**16.58**	**0.19**	**0.72**	**2.90**	**7.25**	**5.52**	**0.00**	**0.00**

	TOTAL DEMAND		
	CONNECTED kVA	FACTOR	DEMAND KVA
LIGHTING	0.19	1	0.19
RECEPTACLES	0.72	0.5	0.36
EQUIPMENT - CONTINUOUS	5.20	1	5.20
EQUIPMENT - NON-CONTINUOUS	14.09	0.75	10.57
MECHANICAL - CONTINUOUS	5.52	1	5.52
MECHANICAL - SEASONAL	0.00	0.75	0.00
TOTAL Kva	**25.72**		**21.84**

	FEEDER DEMAND - NEC			
	DEMAND kVA	DEMAND AMPS	%	SERVICE SIZE
LIGHTING	0.19	0.79	125.00%	0.99
RECEPTACLES	0.72	3.00	100.00%	3.00
EQUIPMENT - CONTINUOUS	2.90	12.08	125.00%	15.10
EQUIPMENT - NON-CONTINUOUS	7.25	30.21	100.00%	30.21
MECHANICAL - CONTINUOUS	5.52	23.00	100.00%	23.00
MECHANICAL - SEASONAL	0.00	0.00	100.00%	0.00
LARGEST MOTOR	0	0.00	25.00%	0.00
TOTALS	**16.58**	**69.1**	**96.43%**	**72**

SERVICE ENTRANCE	
VOLTAGE	240
PHASE	1
AMPS	91.0

FEEDER DEMAND - CONSERVATIVE			
DEMAND KVA	DEMAND AMPS	%	SERVICE SIZE
21.8	**91.0**	**125%**	**114**

SECTION 465364

POST AERATION SYSTEM

PART 1 - GENERAL

1.1 SUMMARY

A. Provide all labor, materials, equipment, tools, and incidentals required to provide the post aeration system complete and operational with diffused aeration system equipment, blowers, air control valves, piping, and all necessary accessories as specified herein, or as required for complete and intended operation.

B. The Contractor shall obtain all equipment specified in this Section from one equipment supplier to ensure proper coordination and functionality. The equipment manufacturer shall have responsibility for the performance and compatibility of the entire system. This does in no way relieve Contractor for ultimate responsibility under this Contract for equipment, coordination, installation, operation, and guarantee.

C. The Drawings are for the purpose of guidance and to show functional features and required external connections. They do not necessarily show all the components necessary to accomplish the desired results nor do they depict all components required to interface with the equipment. The Contractor shall provide all parts, equipment, wiring, piping and devices necessary to meet the functional requirements of the system.

D. The Drawings are intended to show the general arrangement of the equipment. They are not intended to exact dimensions. The supports and the layout of the equipment may have to be modified to accommodate the actual equipment furnished. The cost of such modifications is considered as being in the bid price and, therefore, no payment will be made for said modifications.

1.2 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.3 REFERENCES

A. Reference Standards: Comply with applicable provisions and recommendations of the following except where otherwise shown or specified.

1. American Iron and Steel Institute (AISI)
2. Anti-Friction Bearing Manufacturers Association (AFBMA)
3. American National Standards Institute (ANSI)
4. American Society of Civil Engineers (ASCE)
5. American Society of Mechanical Engineers (ASME)
6. American Society for Testing and Materials (ASTM)

7. Insulated Cable Engineers Association (ICEA)
8. National Electrical Manufactures Association (NEMA)
9. Occupational Safety and Health Association (OSHA)
10. Society for Protective Coatings (SSPC)
11. United States Environmental Protection Agency (USEPA)
12. New York State Department of Environmental Conservation (NYS DEC)

1.4 SUBMITTALS

A. General:

1. Refer to Division 1: "Submittal Procedures" for quantity, included information and administrative procedures for each type of submittal.
2. Submit all equipment specified in this Section at the same time.

B. For approval: Submit product data and shop drawings as follows:

1. Manufacturer's information, specifications, and data showing dimensions, working clearances, materials of construction, and weight of all major items of equipment specified in this section.
2. Installation diagrams showing location, arrangement, and size of all anchor bolts required for the equipment, if applicable.
3. Motor information including manufacturer, model, frame number, type of enclosure, voltage, phase, NEMA design designation, NEMA insulation class, nameplate horsepower, locked rotor torque, locked rotor amps, speed at full nameplate load, service factor, maximum ambient temperature, shop coating, and nominal efficiency.
4. Fine bubble diffuser information including equipment data sheets, materials and manufacturing specifications, performance data including oxygen transfer calculations, headloss calculations and pressure requirements, and drawings of the equipment. Component details of the aeration equipment showing diffusers, diffuser holders, gaskets, retainer rings, supports, threaded union and/or flanged joints and a purge system.
5. Control panel wiring schematic and layout drawings.
6. Motor control center layout drawings and electrical information.

C. For information: Submit Operation and Maintenance Manual as follows:

1. Refer to Division 01: "Operation and Maintenance Data".
2. Operation and maintenance manuals shall include approved shop drawing associated with this Section, complete instructions for installation, parts list for all components, and wiring diagram schematics.
3. Include a list and frequency of specific maintenance activities. Include lubrication frequency, application points, lubricant type, and method of application.

1.5 QUALITY ASSURANCE

A. Provide a list of at least ten (10) installations for similar type projects each operating for a minimum of ten (10) years. Project similarities shall include, at a minimum, climatic conditions, and hydraulic and organic loading capacities equal to or greater than the capacities as specified.

B. The equipment shall be fabricated, assembled, erected, and placed in proper operating condition in full conformity with specifications, engineering data, performance requirements and/or recommendations furnished by the equipment manufacturer.

1.6 DELIVERY, STORAGE AND HANDLING

A. Deliver, store, protect and handle products on site under the provisions of Division 1: "Product Requirements".

B. Equipment shall be properly protected during shipment and storage. Any damage resulting from shipment or improper storage shall be basis for equipment rejection.

1.7 WARRANTY

A. Comply with warranty requirements under the provisions of Division 1: "Warranties".

PART 2 - PRODUCTS

2.1 MANUFACTURER

A. This specification is based on providing the established minimum standard for quality, reliability, and process performance.

B. Acceptable manufacturers for post aeration equipment shall be Xylem, Inc., or equal. Acceptable manufacturers of ancillary equipment are specified in the subsequent sections.

C. Acceptable manufacturers for post aeration blowers shall be Gardner Denver / Sutorbilt 3H-DSL or equal. Acceptable manufacturers of ancillary equipment are specified in the subsequent sections.

2.2 DESIGN CRITERIA

A. Desing Criteria:

1. Blower Design Criteria

Parameter	Design
Quantity	2
Configuration	(One Duty , One Standby)
Motor HP – Min	3 HP
Voltage / Phase / Frequency	230V / 1P / 60 hz

Motor RPM	1800
Air Flow / SCFM	20 SCFM
Air Flow / ICFM	22 ICFM
Discharge Pressure PSIG	5 PSIG
Elevation	264 Ft

2.3 ROTARY POSITIVE DISPLACEMENT BLOWER

A. The blower shall be of the horizontal rotary twisted tri-lobe positive displacement type blower. And must provide oil-free air, suitable for heavy-duty continuous industrial service.

B. The Impellers shall be solid 2 lobe design with integral shafting, produced from close grain ductile iron. Impellers shall be machined on all exterior surfaces to a precise contour for operating at close clearances and high efficiency operation. Impellers shall be dynamically balanced to minimize vibration. Blowers with impellers and shafts that are not of the one-piece integral design will not be accepted. Straight three lobe impellers are also acceptable.

C. Impeller housing shall be strongly ribbed one-piece design to prevent case distortion when operating at rated pressures. The housing shall be of high strength cast iron and precision machined for close clearance operation.

D. End plates shall be high strength cast iron with precision machined bearing fits to assure exact positioning of impellers in the main body housing.

E. Timing gears shall be helical design and machined from high strength alloy steel for precision timing, quiet operation and long life.

F. Bearings shall be heavy-duty spherical roller bearings for exact positioning of the impellers, to control thrust and to provide increased overhung load capacity. Bearings must be sized for a minimum B10 life of 50K hours.

G. Lubrication of timing gears and bearings shall be a splash lubrication system. Steel splash plates shall be directly fastened to the impeller shafts to provide positive oil lubrication at all operating speeds. Grease lubrication is not allowed.

H. Air seals of controlled flow design, shall be piston ring type seals precision fitted to each impeller shaft to minimize air leakage and maximize efficiency. Oil seals of piston ring and oil flinger design, shall be provided on each internal impeller shaft to prevent leakage from the oil reservoirs. The drive seal shall be a high temperature elastomer lip type seal to

I. Oil drains must be plumbed to drain vales accessible from the drive side of the blower package.

2.4 ELECTRIC MOTORS

A. Constant torque, TEFC (IP55), 1800 RPM, minimum 1.15 S.F., 230/1/60, class F insulation, certified for DOL starting and VFD service. Motors shall be as manufactured by Marathon, Baldor, WEG Electric, Toshiba or equal.

B. Motor must meet or exceed Energy Independence and Security Act (EISA 2007) standards for NEMA premium efficiency. Class 1, Division 2 Rated.

C. Frame must be cast iron and equipped with cooling fins. The motor feet shall be solid for better mechanical strength and reduced vibration. Aluminum and steel framed motors are not allowed. Skeletonized mounting feet are not allowed.

D. Conduit box must be cast iron and rotatable in 90° increments.

E. End shields shall be cast iron with fins for better thermal heat dissipation for lower bearing operating temperatures. They must be equipped with drain holes to expel water that may condense inside the frame in certain environments.

F. VFD operated motors over 75 HP to be supplied with normally closed thermostats, insulated ND Bearing, and AEGIS Shaft Grounding Ring.

2.5 BLOWER PACKAGE ACCESSORIES

A. General: The blower packages shall be fabricated and assembled with the following accessories and shipped complete to the extent feasible for safe shipping.

B. Equipment Base: The base shall be comprised of carbon steel plate and structural steel shapes and be of sufficient design to support the blower, motor, drivetrain and silencers without undue flexing. The base must be of a heavy duty design to ensure operating vibration levels are within the blower manufacture's allowable tolerance. The blower and the motor are mounted in the horizontal configuration providing for vertical airflow and horizontally mounted silencers. The silencers may not be welded to the base in any way. All welding to be per AWS D1.1. All welders must have a current welder qualification test record for AWS D1.1 issued by and AES accredited test facility with a certification no. All welder continuity logs must be up to date.

   MTRs must be furnished showing that all structural steel products are melted and manufactured in the United States.

C. Drive: Provide a v-belt drive assembly consisting of sheaves, quick detachable bushings, v-belts and slide-tensioning motor base. The sheaves must mount to the blower & motors shafts by use of QD type bushings, Bored to size / direct-shaft-mount sheaves are not allowed. Design the drive assembly with a 1.4 service factor based on the motor nameplate horsepower.

D. Automatic V-belt Drive Tensioning Device: Drive belt tensioning must be achieved by use of a hinging structure that automatically accounts for belt stretch. The hinged tensioning structure must be integral to the main support base and must be equipped with jacking provisions to facilitate convenient belt replacement.

E. Drive Guard: All mechanical power transmission drive components must be equipped with a steel guard sufficiently designed to protect personnel from accidental contact with moving parts. Guard(s) shall be securely mounted and designed for removal without the use of special tools. All belt drive guards shall be constructed to allow visual inspection of the sheaves and belts without removal. Plastic guards are not allowed.

F. Filter: Provide each blower with a suitably sized air filter based on the filter manufactures published airflow capacity levels. The filter element must be cleanable and reusable. The media must have a minimum efficiency of 97% on 1 micron. Filters to be equipped with a weather hood for outdoor installations. Acceptable manufactures include Excelsior Blower Systems, Universal Silencer, Stoddard, Solberg or approved equal.

G. Intake Silencer: Provide a heavy duty steel noise attenuation unit of the chamber-absorptive (reactive-dissipative) type. The silencer must be multi-chambered for pulse control and low-frequency noise abatement. The silencer must also contain internal acoustical packing material for absorption noise control for high-frequencies. Non-packed chamber only silencers are not allowed. The silencer must be independently supported but not welded to or integral with the base structure in any way. Acceptable manufactures include Excelsior Blower Systems, Universal Silencer, Stoddard, Progentex or approved equal.

H. Discharge Silencer: Provide a heavy duty steel noise attenuation unit of the chamber-absorptive (reactive-dissipative) type. The silencer must be multi-chambered for pulse control and low-frequency noise abatement. The silencer must also contain internal acoustical packing material for absorption noise control for high-frequencies. Non-packed chamber only silencers are not allowed. The silencer must be independently supported but not welded to or integral with the base structure in any way. Acceptable manufactures include Excelsior Blower Systems, Universal Silencer, Stoddard, Progentex or approved equal.

   The Inlet Filter, Inlet silencer, and discharge silencer must be sized for 120% of the design airflow without exception.

I. Flexible Connector / Expansion Joints: A flex-conn / expansion joint is required directly at the discharge of the blower to provide vibration isolation, accommodate thermal expansion and eliminate loading of the blower cylinder. Three piece clamped sleeved type and one piece arch type are both acceptable. Lateral, angular, elongation and compression tolerances must be suitable to accommodate thermal growth and component manufacturing tolerances. The elastomer's maximum pressure and temperature ratings must exceed the blower's discharge pressure and temperature at the relief valve set-point. Connector joints to be equivalent to Flex-Fab sleeve-type and General Rubber arch-type.

   Direct mounting of the discharge silencers to the blower without the use of an expansion joint shall not be allowed.

J. Pressure Relief Valve: Provide a weighted type relief valve properly sized to protect the blower from over pressurization. Spring-type valves will not be considered due to set-point unreliability associated with spring-tension life. The valve must be located downstream of the discharge silencer for pulsation protection. Provide valves equal to the Sutorbilt weight-type.

K. Check Valves: Provide a full port dual plate 'butterfly style' check valve to be located downstream of the pressure relief valve. The body shall be Aluminum. The internals shall be corrosion resistant aluminum as a minimum. The hinge pin shall be stainless steel and the closure stop pin must be Teflon coated to provide for cushioned contact points. The valve shall be sized based on airflow as per the manufacture's recommendation to avoid chatter induced fatigue failures. Under-sized and over-sized valves are not permitted. The valve must be suitable for low pressure air. Swing checks, pump valves and valves with external levers, external springs or other control mechanisms are not permitted. Provide a valve equivalent to Flexi-Hinge Model 502M, 518, 503 or equal.

L. Discharge Pressure Gauge: Provide 0-15 or 0-30 psi scaled pressure gauge to be remote panel mounted on the noise enclosure and factory plumbed to the discharge side of the blower package. The case shall be liquid filled, weather tight and be of corrosion resistant material such as stainless steel, aluminum, polysulfone or approved equal. Minimum size is 2-1/2" diameter and minimum accuracy to be +/- 2/1/2% of full scale per ASME B40.100 Grade A. Acceptable manufactures are Wika, Ashcroft or approved equal.

M. Inlet Restriction Gauge: Provide a low vacuum or differential pressure gage to be connected to the inlet side of the blower, downstream of the filter element. Acceptable ranges are 0-15 to 0-30 Inches H2O scale. The gauge shall be remote panel mounted on the noise enclosure and factory plumbed. The case shall be weather tight and be of corrosion resistant material such as stainless steel, aluminum, polysulfone or approved equal. Minimum size is 2-1/2" diameter and minimum accuracy to be +/- 2% of full scale. Acceptable manufactures are Dwyer, Ashcroft or approved equal.

2.6 SHOP PAINTING

A. Shop Prime Coating: Prime paint all components before assembly with an alkyd primer equivalent to Sherwin Williams Kem-Flash prime. Surface preparation, application and minimum DFT millage per paint manufactures recommendation.

B. Shop Finish Coating: Finish paint all components before assembly with an enamel paint equivalent to Sherwin Williams Sher-Kem paint. Application and minimum DFT millage to be as per the paint manufactures published recommendation. Color to be the OEM's standard color or owner requested color.

2.7 SOUND REDUCTION ENCLOSURE

A. Each blower assembly shall be furnished with a sound attenuating enclosure suitable for locating outdoors. The enclosure shall be manufactured of 0.063" thick formed aluminum sheet metal panels. The acoustical packing and overall design shall be sufficient to meet a free-field

noise requirement of 75 dBA at any horizontal distance of 3 Feet from the exterior surface. The enclosure design shall incorporate a perforated a galvanized steel inner liner to mechanically secure the acoustical foam material and to protect the foam from damage. Painted and powder coated steel enclosures do not offer sufficient weather protection for outdoor installations.

B. The enclosure shall be furnished with latching doors adequately positioned to view, access, and otherwise carry out all standard maintenance requirements without enclosure panel disassembly. These activities include but may not be limited to oil drain and fill, grease fitting and plug access, filter service, guard removal and drivetrain replacement & alignment. Lift-out type doors shall not exceed 50lbs.

C. The enclosure must be equipped with a 120/1/60 forced air ventilation system. The air ventilation fan shall be pre-installed on the enclosure and sized as necessary to keep the assembly at a temperature needed to maintain proper operation as recommended by the blower package manufacturer and must be pre-wired to a thermostat. Blower shaft mounted fans are not acceptable due to hindering maintenance and troubleshooting access at the blower. Also VFD operated turndown speeds result in reduced ventilation airflow.

D. All exposed hardware, latches, hinges, door handles and similar must be highly weather resistant such as stainless steel, chrome or aluminum.

E. The enclosure must ship fully factory assembled and attached to a steel sub-base. The sub-base structure must be designed to support the blower package assembly and assembled noise enclosure. Vibration isolation pads or mounts shall be installed between the blower package base and sub-base. The sub-base must contain forklift pockets for ease of truck loading, off-loading and site placement.

F. All pipe penetration holes in the enclosure shall be sized to allow for passage of pipe fittings and/or flanges. Flashing rings shall be provided to seal all pipe penetration holes after final assembly.

2.8 SPARE PARTS, LUBRICANTS, & SPECIAL TOOLS

A. The blower package OEM shall deliver the following parts with the blower package(s). Coupons or certificates for the future delivery or purchase of parts is not acceptable. Coupons or certificates for parts to be included with a maintenance contract is not acceptable.

1. One filter element per blower
2. One v-belt set per blower
3. One Case of AEON Synthetic Blower Oil for initial fill

2.9 AIR CONTROL VALVES

A. Provide two (2) 2-inch diameter air flow control valves to control aeration in the the post aeration manhole

B. The valves shall be butterfly valves, wafer body style, EPDM-seat, tight-closing type for installation between two (2) ANSI Class 125/150 standard flanges.

C. The valves shall be rated at 50 psi (345 kPa) and provide drop tight shutoff at differentials up to 50 psi.

D. Valve bodies shall have two flange bolt guides to center the body in the pipeline. Valves shall be provided with power actuators.

E. The seat shall be tongue-and-grove design and act as a body liner to prevent flow from contacting the body casting. The seat shall also provide a positive seal without use of flange gaskets. Seats shall be of EPDM suitable for use with compressed air and shall be field replaceable.

F. The disc shall be aluminum bronze. The disc-to-shaft connections shall be direct drive double "D" design requiring no disc screws or pins to connect shaft to disc. Outside diameter of disc shall be designed that when opened, it will not interfere with adjacent piping.

G. Shafts shall be one piece and shall be 416 stainless steel. Shafts shall be finish ground to minimize bearing and shaft seal wear. Shaft seals shall be provided to prevent leakage and to protect bearings from internal or external corrosion.

H. Valves shall be furnished with self-adjusting stem seal and non-corrosive Acetal bushings for smooth, low torque operation.

I. Materials of Construction:

1. Body: Cast Iron (ASTM A126, Class B)
2. Seat: EPDM
3. Disc: Aluminum Bronze (ASTM B148-954)
4. Stem: 416 Stainless Steel (ASTM A582 Type 416)
5. Bearings: Acetal

J. Valves shall be resilient seated butterfly valves as manufactured by Bray Series 30, or equal.

2.10 FINE BUBBLE AERATION

A. Scope

1. Furnish all materials, equipment, services, and testing for the fine bubble aeration system.

B. Equipment Components Included

1. 304 Stainless steel droplegs, supports, and anchors.
2. PVC manifolds, air distributors, diffuser holders, and retainer rings
3. Bolts, nuts, and gaskets for aeration system flange connections.
4. Air distributor purge systems.
5. Membrane disc diffusers with integral O-ring gaskets.

C. System Design and Performance

1. Design aeration system to transfer not less than the following pounds of oxygen per day in clean water at 14.7 PSI, 20°C and zero dissolved oxygen at the specified submergence, air rate and pressure.

Post Aeration MH	Design
Volumetric Air Rate	20 SCFM
Operating Pressure at Top of Dropleg	5 PSIG
Average Diffuser Submergence	10 FT
#Diffusers/Tank	8 EA

2. Design air distributors with centerline spacing not to exceed 4 feet to maximize oxygen transfer efficiency and mixing efficiency and to minimize solids deposition between air distributors.

D. Materials, Fabrication and Finishing

1. Stainless Steel – Pipe, Fittings and Supports

   a. Fabricate all welded parts and assemblies from sheets and plates of 304L stainless steel with a 2D finish conforming to ASTM A240, 554, 774, 778.
   b. Fabricate non-welded parts and flanges from sheets, plates or bars of 304 stainless steel conforming to ASTM A240 or ASTM A276.
   c. Welds & Welding Procedure
      i. Weld in the factory using latest standards according to AWS. Continuously weld both sides of face rings and flanges to eliminate potential for crevice corrosion.

   d. Corrosion Protection and Finishing clean all welded stainless-steel surfaces and welds after fabrication by using the following procedure:
      i. Preclean outside and finish clean all interior and exterior welds and piping by full immersion pickling and rinse with water to remove all carbon deposits and contaminants to regenerate a uniform corrosion resistant chromium oxide film per ASTM A380 Section 6.2.11, Table A2.1 Annex A2 and Section 8.3.
2. Natural Rubber – Furnish all fixed and expansion joint O-ring gaskets of natural rubber/SBR with a Shore A durometer of 45 ± 5.
3. Polyvinyl Chloride (PVC) – Pipe and Fittings
   a. Produce all PVC pipe and fittings from PVC compound with a minimum tensile strength of 48,000kPa.
   b. Provide lower drop pipe, manifold and air distributors as follows:

Diameter	Wall Thickness	ASTM
2 in	Schedule 40	D1784, D1785, D2466,12454-B

   c. Design air distributors and manifolds to withstand 125° F mean wall temperature.

d. Add two parts by weight of titanium dioxide per 100 parts of resin to PVC compounds for manifolds, air distributors, joints, and PVC diffuser assembly components to minimize ultraviolet light degradation.
e. Factory solvent weld all PVC joints and fittings. Field solvent welding will NOT be permitted.

4. EPDM - Membrane Diffusers and Gaskets
   a. Manufacture circular membrane diffuser discs with integral O-ring of EPDM synthetic rubber compound with precision die formed slits. Thermoplastic materials (i.e. plasticized PVC or polyurethane) are not acceptable.
   b. Quality Control – Test diffuser using primary sampling criteria outlined in Military Standard 105E.

E. Fine Bubble Aeration System Components
1. Drop legs - Provide a 304 stainless steel drop leg from the air main connection to the drop leg connection on the manifold.
2. Manifolds – Provide PVC manifolds for connection to the air distribution headers.
   a. Fabricate manifolds with 4-inch diameter fixed threaded union positive locking anti rotational or flanged joints for connection to the air distributors.
3. Air Distributors and Diffuser Holders - 4-inch diameter PVC air distributors perpendicular to the air manifold
   a. Fabricate distributors with single diffuser holders solvent welded to the crown of the air distributor for complete air seal and strength.
   b. Provide 4-inch diameter threaded removable end caps complete with gasket, threaded coupling, and end plate for clean out at the end of each distributor.
4. Air Distributor and Manifold Connection Joints
   a. Join air distributor sections with positive locking anti rotational fixed threaded union or flange type joints for all submerged header joints to prevent blow apart and rotation.
   b. Design flanged joints with a 125 lb drilling angle face ring, follower flange and stainless-steel hardware.
5. Supports- Provide each section of manifold and air distributor with a minimum of two (2) 304 SS supports.
   a. Limit maximum support spacing to 7.5 ft. Design all supports to allow for thermal expansion and contraction forces over a temperature range of F and to minimize stress build up in the piping system.
6. Diffuser Assemblies - Furnish diffuser assemblies including diffuser, integral diffuser gasket, holder, retaining ring and air flow control orifice.
   a. Membrane Diffuser
      i. Incorporate an integral check valve into the membrane diffuser.
   b. Design and test diffusers for a dynamic wet pressure (DWP) of 12 inches $\pm$ 20% water column @ 1.0 SCFM/diffuser and 2 inches submergence.
   c. Visual Uniformity – Observe diffusers for uniform air distribution across the active surface of the diffuser at 1.0 SCFM/diffuser and 2 inches submergence. Active surface is defined as the perforated horizontal projected area of the diffuser.
   d. Quality Control – Test diffuser using primary sampling criteria outlined in Military Standard 105E.
7. Diffuser Holders and Retainer Rings

a. Design holder with air flow control orifice. Holder to provide peripheral support for the diffuser.
b. Design retainer ring to seal the diffuser and O-ring in the holder to prevent air leakage around gasket.
c. Design retainer rings threads with minimum cross section of 1/8-inch and allow for one complete turn to engage threads.

8. Anchor Bolts
   d. Provide 304 SS fasteners.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Verify that all dimensions shown on the Drawings and Shop Drawings match field conditions.

B. Verify actual dimensions of equipment before starting installation.

3.2 INSTALLATION

A. Install equipment in accordance with the Drawings, approved shop drawings and manufacturer's instructions.

B. Equipment installation shall be in complete conformance to the manufacturer's instructions.

C. Provide all necessary lubrication for initial operation.

D. Refer to Division 1 for responsibilities required by other Contracts.

E. All connected piping shall be supported separately of the equipment.

F. All material shall be new, undamaged and conform to the latest standards listed.

G. Cooperate with other trades to avoid interferences with the installation of this work. Install all equipment and systems so as not to delay progress of construction and correlate with other trades to avoid delay. Should differences of opinion develop, the Engineer's decision shall be final.

3.3 FIELD SERVICE

A. The Contractor shall provide the services of equipment suppliers to inspect and ensure that the equipment provided under this Contract has been installed correctly and without damage.

B. Operating testing shall include as a minimum a demonstration of the proper operation of controls, blower performance tests, and motor current and system pressure readings at the operating points.

C. A qualified and factory trained manufacturer's representative shall check and approve the installation before operation. The representative shall test operate the system in the presence of the Engineer and verify that all the equipment is in conformance with the specified requirements. Provide necessary equipment and labor to support the manufacturer's representative. Provide a minimum of two (2) 8-hour days on site by a qualified manufacturer's representative.

1. Field testing shall be performed after installation of the equipment. The field testing shall demonstrate the following:
   a. Certify that the equipment has been properly installed in accordance with the manufacturer's instructions and recommendations.
   b. The equipment has been installed in the specified location and orientation or as shown on the drawings.
   c. There are no mechanical defects in any of the parts.
   d. The blowers can deliver the required and flow rate.
   e. Supervise the equipment start-up and initial operation.
   f. Operate the system in the presence of the Engineer and demonstrate the proper operation of all interlocks, alarms, controls, and sequencing.
   g. Field test under all operating points. Provide motor current readings on each phase and phase to phase voltage readings.
   h. Instruct Owner personnel on the operation, care, and maintenance of the equipment.
   i. Prepare a written report summarizing the start-up and initial operation activities.

END OF SECTION

SECTION 432310

EFFLUENT PUMP STATION

PART 1 - GENERAL

1.1 SUMMARY

A. Provide all labor, materials, equipment, tools, and incidentals required to provide packaged pump stations with pumps, controls, piping, fittings, valves, supports, control panel, and miscellaneous appurtenances required for a complete installation as shown on the drawings and specified herein.

B. The Contractor shall obtain all equipment specified in this Section from one equipment supplier to ensure proper coordination and functionality. The equipment manufacturer shall have responsibility for the performance and compatibility of the entire system. This does in no way relieve Contractor for ultimate responsibility under this Contract for equipment, coordination, installation, operation, and guarantee.

C. The Drawings are for the purpose of guidance and to show functional features and required external connections. They do not necessarily show all the components necessary to accomplish the desired results nor do they depict all components required to interface with the equipment. The Contractor shall provide all parts, equipment, wiring, piping and devices necessary to meet the functional requirements of the system.

D. The Drawings are intended to show the general arrangement of the equipment. They are not intended to exact dimensions. The supports and the layout of the equipment may have to be modified to accommodate the actual equipment furnished. The cost of such modifications is considered as being in the bid price and, therefore, no payment will be made for said modifications.

1.2 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.3 REFERENCES

A. Reference Standards: Comply with applicable provisions and recommendations of the following except where otherwise shown or specified.

1. American Iron and Steel Institute (AISI)
2. American National Standards Institute (ANSI)
3. American Society of Testing Materials (ASTM)
4. Canadian Standards Association (CSA)
5. Factory Mutual (FM)
6. International Electrotechnical Commission (IEC)

7. Institute of Electrical and Electronics Engineers (IEEE)
8. National Electric Manufacturing Association (NEMA)
9. National Electric Code (NEC)
10. Society for Protective Coatings (SSPC)

1.4 SUBMITTALS

A. General:

1. Refer to Division 1: "Submittal Procedures" for quantity, included information and administrative procedures for each type of submittal.
2. Submit all equipment specified in this Section at the same time.

B. For approval: Submit product data and shop drawings as follows:

1. Manufacturer's information, specifications, and data showing dimensions, materials of construction, and weight of all major items of equipment specified in this Section.
2. Installation diagrams showing location, arrangement, and size of all anchor bolts required for the equipment, if applicable.
3. Pump Performance curves showing total dynamic head (TDH), flow rate, efficiency, horsepower, and net positive suction head (NPSH) requirements from the shut of head to the minimum head condition.
4. Motor information including manufacturer, model, frame number, type of enclosure, volts, cycle (i.e., hertz), phase, NEMA design designation, NEMA insulation class, nameplate horsepower, locked rotor torque, locked rotor amps, percent slip, rpm at full nameplate load, service factor, maximum ambient temperature, maximum temperature rise, shop coating, nominal efficiency, guaranteed minimum efficiency at 50, 75, and 100 percent of full load, and power factor at 50, 75, and 100 percent of full load.
5. Control panel wiring schematic and layout drawings.

C. For information: Submit Operation and Maintenance Manual as follows:

1. Refer to Division 1: "Closeout Procedures" and "Operation and Maintenance Data".
2. Operation and maintenance manuals shall include approved shop drawing associated with this Section, complete instructions for installation and parts list for all components.
3. Include a list and frequency of specific maintenance activities.

1.5 QUALITY ASSURANCE

A. All equipment in this Section shall be a standard product in regular production by manufacturers having a minimum of five (5) years and twenty (20) installations of proven and reliable experience in providing equipment and services intended for this project. Supplier shall provide a list of names and dates, if requested, of installations for verification by Engineer.

B. A factory-authorized maintenance and parts facility shall be located within a five hundred (500) mile radius from equipment installation. The manufacturers shall show evidence of a parts inventory for all routine maintenance items associated with the supplied equipment.

1.6 DELIVERY, STORAGE AND HANDLING

A. Deliver, store, protect and handle products on site under the provisions of Division 1: "Product Requirements".
B. Equipment shall be properly protected during shipment and storage. Any damage resulting from shipment or improper storage shall be basis for equipment rejection.

1.7 WARRANTY

A. Comply with warranty requirements under the provisions of Division 1: "Warranties".
B. The pump manufacturer shall warrant the pump equipment to be of quality construction, free of defects in material and workmanship. A written warranty shall include specific details described below.
    1. All equipment, apparatus, and parts furnished shall be warranted for one (1) year, excepting only those items that are normally consumed in service, such as oils, grease, packing, gaskets, O-rings, etc. The pump manufacturer shall be solely responsible for the warranty of the pump equipment and all components. The pump warranty shall be 100% on materials and workmanship for 3 years, 75% for year four, and 50% for year five.
    2. Components failing to perform as specified by the engineer, or as represented by the manufacturer, or as proven defective in service during the warranty period, shall be replaced, repaired, or satisfactorily modified by the manufacturer without cost of parts or labor to the owner.
    3. It is not intended that the pump manufacturer assume liability for consequential damages or contingent liabilities arising from failure of any vendor supplied product or part which fails to properly operate, however caused. Consequential damages resulting from defects in design or delays in delivery are also beyond the manufacturer's scope of liability.

C. The warranty shall become effective upon the date of Substantial Completion.

PART 2 - PRODUCTS

2.1 MANUFACTURER

1. The submersible pumps shall be manufactured by Barnes or approved equal.

2.2 DESIGN

A. Pump Criteria:

1. Performance Criteria

Parameter	Flow Rate (gpm)	TDH (ft)	Hydraulic Efficiency (%)
Design Point	100	49	44
Secondary Point	70	24	39
Shutoff	0	78	

2. Design Criteria

Parameter	
Liquid Pumped	Sand Filter Effluent
Number Required	2 (1 installed & 1 Standby)
Impeller Diameter	4.375
Pump Speed RPM	3450
Minimum Sphere Passed	1.5-inch
Motor Horsepower	3
Motor Voltage/Phase	120/1

2.3 CONSTRUCTION AND MATERIALS

A. Pumps:

1. Pump Design:
   Each pump shall be capable of handling raw, unscreened domestic sewage consisting of water, fibrous materials, and 1.5-inch diameter spherical solids. The pump (s) shall be capable of handling liquids with temperatures to 104 degrees F continuous, 160 degrees F intermittent, and shall be capable of running dry for extended periods.
2. Pump Construction:
   a. The volute, seal plates, impeller and motor housing shall be constructed of high-quality cast iron.
   b. The pump (s) shall be painted with a water-based air dry enamel of 2.0 mil minimum thickness.
   c. All exposed hardware shall be 300 series stainless steel.
   d. The pump construction shall contain no points of critical clearance nor require periodic adjustment or replacement to maintain operating efficiency.
   e. Discharge connection shall be a standard 2-inch NPT in the vertical position.
   f. All gaskets shall be of the compression square ring type eliminating critical slip fits and the possibility of damage during service associated with sliding o-ring sealing arrangements.
   g. The impeller shall be of the non-clog design with pump out vanes on the back side. The impeller shall be dynamically balanced to ISO G6.3 specifications.
   h. The unit shall utilize a single mechanical shaft seal which will operate in an oil atmosphere. The materials of construction shall be carbon for the rotating face and ceramic for the stationary face, lapped and polished to a tolerance of one light band, 300 series stainless steel hardware, and all elastomer parts to be of Buna-N. The seal shall be commercially available and not a proprietary design of the manufacture.
   i. The pump shall be designed to be non-overloading throughout the entire pump curve. The rotor and stator assembly shall be of the standard frame design and secured to the pump seal plate by four threaded fasteners allowing for easy serviceability. Motor designs incorporating shrink or press fit assembly between the stator and motor housing shall not be acceptable. The motor shall be constructed with the windings

operating in a sealed environment containing clean dielectric oil, making it capable of operating in a totally, partially or non-submerged condition for extended periods of time without damage due to the heat being generated. Air-filled motors shall not be acceptable. The motor windings shall be of Class B insulation. The motor shall meet the standard NEMA design L for single phase and NEMA design B for three phase. The motor shaft shall be of 416 stainless steel. The lower bearing shall be of the single ball type to accept radial and thrust loads, and the upper bearing of the sleeve or ball design, for radial loads. Bearings shall operate in an oil bath atmosphere for superior life. Permanently lubricated bearings are not acceptable.

j. Thermal sensor shall be used on three phase units to monitor stator temperatures.

k. The stator shall be equipped with a thermal switch embedded in the end coil of the stator winding. This shall be used in conjunction with external motor overload protection and wired to the control panel. Single phase shall have an overload switch on the motor windings and do not require any external protection.

l. The pump shall be equipped with 30 ft. of type SOW power cable and connected to the motor via quick disconnect pin terminals. Threaded cord grip type cord entries are not acceptable. Pin receptacles shall be crimped and moulded to the power cord in a PVC plug. The plug shall be secured with a stainless steel compression plate to prevent water from entering the housing and to provide strain relief at the point of cable entry. A stainless steel clamp shall compress the PVC moulding against the cable jacket to prevent water from entering the jacket. A polybutylene terephthalate terminal block with brass pin inserts shall connect the power cord leads with the motor leads. The ground pin shall be longer than the other pins such that the ground connection is the first connection made and the last connection broken when the plug is inserted and removed, respectively. A Buna-N O-ring shall provide isolation sealing between the terminal block and the motor housing when the cord plug is removed.

2.4 PUMP CONTROLS

A. Control Panel

1. The control panel shall be constructed in compliance with Underwriter's Laboratories Industrial Control Panels listing and follow-up service; utilizing UL listed recognized components where applicable. The control panel shall bear a UL 698A serialized label.
2. The described equipment shall be housed in a NEMA 4 stainless steel enclosure.
3. All major components and sub-assemblies shall be identified as to function with laminated, engraved Bakelite nameplates or similar approved means.
4. An incoming main power distribution block shall be provided as the main connection point for the control panel.
5. A thermal magnetic circuit breaker shall be supplied as branch circuit protection for each pump motor. The circuit breaker must have a minimum ampere interrupting capacity of (10,000-240 volt - 14,000-480 volt) symmetrical RMS amps. The circuit breaker shall be operable through the operator's door of the enclosure.
6. The circuit breaker shall be properly sized to protect the control circuit conductors, motor starter and the motor against over current due to short circuit or grounds.
7. A VFD shall be provided for each of the pumps.

8. A lightning arrestor shall be supplied in the control and connected to each line of the incoming side of the power input terminals. The arrestor shall protect the control against damage due to lightning strikes on the incoming power line.
9. The control panel shall be provide with an uninterruptable power supply (UPS) as manufactured by Liebert, APC (true sine wave), or approved equal.
10. The circuit breakers shall indicate when the circuit is open and shall have means provided for manual switching. All breakers shall be labeled as to function with permanently attached phenolic nameplates.

B. Control Components:
   1. Variable Frequency Drives (VFD) shall be provided. The controller shall produce an adjustable AC voltage/frequency output. It shall have an output voltage regulator to maintain correct output V/Hz despite incoming voltage variations. The controller shall have a continuous output current rating of 100% of motor nameplate current. The VFD shall be of the pulse width modulated type and shall consist of a full-wave diode bridge converter to convert incoming fixed voltage/frequency to a fixed DC voltage. The pulse width modulation strategy shall be of the space vector type implemented in a microprocessor, which generates a sine-coded output voltage. The inverter output shall be generated by power transistors, which shall be controlled by six identical base driver circuits. The VFD shall not induce excessive power losses in the motor. The worst-case RMS motor line current measured at rated speed, torque and voltage shall not exceed 1.05 times the rated RMS motor current for pure sine wave operation. The VFD controller shall have the following basic features:
      a. The keypad shall include features for the following: "POWER ON" light, VFD fault light, Start/Stop buttons, Fault Reset button, Local/Remote button and be able to control speed through keypad.
      b. The VFD shall be selectable to provide automatic restart after a trip condition resulting from over current, over voltage, under voltage or over temperature. For safety, the drive shall shut down and require manual reset and restart if the automatic reset/restart function is not successful within a maximum of three attempts within a short time.
      c. A speed drop feature shall be included which reduces the speed of the drive on transient overloads. The drive is to return to set speed after transient is removed. If the acceleration or deceleration rates are too rapid for the moment of inertia of the load, the drive is to automatically compensate to prevent drive trip.
      d. Automatic restart after drive trip or utility failure. Software selectable if not desired.
      e. Speed profile. Individual adjustable settings for start, stop, entry, slope, and minimum and maximum speed points.
      f. Process signal inverter. Software selectable to allow speed of drive to vary inversely with input signal.
      g. Proportional and integral process controller with menu drive selection and programming via door-mounted keypad.
      h. Pick up a spinning load. The VFD shall be able to determine the motor speed and resume control of a motor, which is spinning in either direction without tripping.
      i. A door-mounted digital keypad/display unit shall be provided and capable of controlling the VFD and setting drive parameters.
      j. The digital display shall normally display:

1. Speed output in percent.
2. Output current in amperes.
3. Frequency in hertz.
4. Control Mode: Manual/automatic.

k. The keypad will display diagnostic messages and parameter values when accessed.
l. The digital keypad shall allow operators to enter exact numerical settings in English engineering units. A user menu is to be provided as a guide to parameter settings. Drive parameters are to be factory set in EEPROM and resettable in the field through the keypad. Three (3) levels of security shall be available to protect drive parameters from unauthorized personnel. The EEPROM stored drive variables must be able to be transferred to new boards to reprogram spare boards.
m. The keypad/display shall have a key switch to control operation of the keypad. Key to be able to be disabled through software.
n. The VFDs shall be manufactured by Allen Bradley, Mitsubishi, or approved equal.

2. The equipment shall be protected from transient voltages and surges induced into the signal lines. The contractor shall provide a permanent earth ground connection to the panel ground lug to insure proper operation of transient protectors.
3. A microprocessor-based automatic pump and alarm control system shall be provided for each pumping station incorporating an industrial-grade, 16-bit CMOS microcomputer and associated elements suitable for achieving performance as hereinafter described. The controller will incorporate the following:
   a. Internal diagnostics.
   b. Real time clock calendar.
   c. Floating-point math.
   d. Battery backup.
   e. Non-proprietary RTU communication.
   f. (4) PID loops.
4. All discrete I/O circuitry of the computer-based system shall be built to the IEEE 472 (1974) Surge Withstand Capability Standards. The automatic pump and alarm control system computer shall be the standard product of the control system manufacturer and specifically suited for this type of industrial control panel service. All job connections shall be a UL recognized clamp type barriered screw terminals accepting up to two AWG 14 conductors per terminal.
5. The variable frequency drive equipment shall be programmed to respond to variations in the wetwell in a manner wherein the hydraulic requirement will be accommodated in the pumping program using simple menu-related operator interface routines.
6. Upon power-up, the Controller shall go through a timing routing, which allows the analog signal and display to stabilize before any control, or alarm outputs are enabled. After the stabilization period, the control circuits of the Controller shall be sequentially enabled on a time-step arrangement.
7. In addition to the time delay upon power-up, the differential-level control circuits shall each be forced to an off condition upon power up so that a level excursion will need to go past their turn-on elevation for them to operate.
8. An alternator shall operate the pumps in a First-on/First-off (FOFO) sequence and can be configured to sequence the pumps every start, every 24 hours, on the lowest run time or manually. The alternator shall be capable of accepting pump failure and/or advance inputs and shall automatically transfer to the next pump sequence when failure condition input is

sensed. The alternator shall provide automatic transposing of the operating sequence of the control relays for the pumps on successive starts. The FOFO alternator sequencing shall operate such that the next load turned on is always the one that has had the longest opportunity to rest since its last operation.

9. It is the specific intention of this functional requirement that a standard programmable logic controller will be employed with features as herein described and be a fully integrated assembly. That is, the furnishing of similar functions using a proprietary controller with custom software, a multiplicity of setpoints, modules or extensive relay-timer logic to accomplish control sequences, etc., is specifically precluded by this specification and will not be acceptable. Microprocessor based, programmable controller and operator interface shall provide all the above controls and operations. A redundant back up float system shall be incorporated into the controller along with programmable automatic operation.
10. The automatic pump and alarm control shall employ a backlit LCD operator interface having a 320 x 240 pixel eight color display with touch screen. The operator interface shall be IEC standard IP65F rated. The display also must support bar graphs or analog meters for wetwell levels, VFD #1 & #2 speed indication. Operator interface must support screen scrolling and three levels of password protection. The interface must support a printer port.
11. A Configuration and Operations Manual will be included for the pump controller. The Manual shall include the following information as a minimum:
    a. How to view and change between the various displays.
    b. How to configure the controller.
    c. How to display alarms.
    d. How to display statuses.
    e. Analog control set point adjustment.
    f. Analog alarm set point adjustment.
    g. How to view and reset pump run times.
    h. How to view and reset pump start counters.
    i. Security Password usage.
    j. An example of programming values.
    k. Adjustment of the real-time calendar/clock.
    l. A listing of values programmed at the factory.
    m. A worksheet for entering the values programmed in the field.
12. Controller Configuration
    a. The pump controller operates on a 4-20mA input via a submersible transducer and shall be capable of being configured at the factory or jobsite to perform operating functions as described below. All configurations are password protected and shall be provided as a minimum as follows:
        1. Simplex/Duplex Pump operation.
        2. Clock hours (0-23) and minutes (0-59).
        3. Calendar day of week (0-6 for Monday - Sunday).
        4. Wetwell transducer rating (1.0-15.0 PSI).
        5. Wetwell transducer offset.
        6. Lag pump(s) disable for non-additive systems.
        7. Pump Alternation method.
        8. Minimum 1 Pump Speed.
        9. Minimum 2 Pump Speed.
        10. Maximum 1 Pump Speed.

11. Maximum 2 Pump Speed.
12. Shut down, Alarm only or Standby pump designation upon Seal fail.
13. On board or Redundant float back up with weekly test feature.
14. Selectable pump fault for Low oil or Bearing Overtemperature.

b. The pump controller will include the field adjustable delay timers. All timer settings are password protected and shall be provided as follows:
   1. Pump 1 start fail delay (0-99 seconds).
   2. Pump 2 start fail delay (0-99 seconds).
   3. Lead pump start delay (0-99 seconds).
   4. Lag pump start delay (0-99 seconds).
   5. High Level alarm delay (0-99 seconds).
   6. Low Level alarm delay (0-99 seconds).
   7. Delay between calls (0.1-9.9 minutes).
   8. Back up float pump down timer (1-5 minutes)
   9. Back up float lag call timers (0-99 seconds)

c. The pump controller will include the field adjustable set points. Set points are password protected and provided as follows:
   1. Lead pump start.
   2. Lead pump stop.
   3. Lag pump start.
   4. Lag pump stop.
   5. High Level Alarm.
   6. Low Level Alarm.
   7. Back up pump on high level alarm float.
   8. Back up pump off low level alarm float.
   9. Flush Cycle on/off.

d. Menu driven screen displays for the following:
   1. Wetwell Level.
   2. Pump Run time values scaled to hours and tenths.
   3. Pump Start counters.
   4. Alarm Messages.

e. The controller shall be configured to accept up to three back up floats (High, Lead, and Low) to be used if the transducer fails. It also can be configured to perform a weekly test on the system to insure back up is operational. During the test, the alarms will be inhibited. The controller will continue to monitor the transducer input and if the high float setpoint is exceeded without the backup system calling a pump to run, a Backup Float Test Fail alarm message will be initiated, and the controller will return to normal operation. The controller shall be capable of being configured to operate the pumps and alarm on the backup floats as follows:
   1. When the high float is activated, the controller will call the lead pump and signal the alarm. If the float does not deactivate in a predetermined adjustable time the lag pump will also start. When the low float is deactivated, the pump(s) will be turned off. The alarm will remain on until manually reset.

f. In the event of an alarm condition, the operator interface will display an alarm message. Press the 'Alarm Ack' button to acknowledge the alarm and 'Alarm Reset' button to clear the alarm. The following list of alarms shall be provided:
   1. Low Level

2. High Level
3. Pump 1 Fail
4. Pump 2 Fail
5. Transducer Fail
6. Pump 1 Fail (Configurable from external device)
7. Pump 2 Fail (Configurable from external device)
8. Backup Float Test Fail

g. A heavy-duty, three-position, hand-off-automatic selector switch shall be flush-mounted on the inner door of the control center for the operation of each motor magnetic starter. This selector switch shall operate the starter when it is in either the "hand" position or the "automatic" position and the automatic control system is calling for the operation of the equipment in the manner as herein described. In addition, an inner door heavy-duty green pilot light operated from a respective starter auxiliary contact, shall be provided to indicate a "pump running" condition. The pilot light shall have a replaceable bulb.

h. A weatherproof high water, alarm light assembly including a high impact resistant lexan red lens and wire guard with mounting bracket shall be included, for enclosure or remote mounting.

i. A weatherproof high water audible alarm horn shall be provided. The horn will be side mounted to the enclosure, or provided for remote mounting, and shall operate on 115 VAC with a typical 95 DB output. An alarm silence push button shall be included and mounted on the operator's door.

j. A thermostat will be provided to alarm personnel that the temperature inside the fiberglass enclosure has dropped to a temperature that could freeze piping and damage equipment. The thermostat shall have a SPDT contact rated for 10 amperes at 120 VAC.

C. Submersible Level Transducer

1. The submersible level transducer shall be utilized for constant wetwell level control, monitoring, trending, and alarming.
2. A submersible level transducer shall sense the liquid level of the wetwell. The transducer shall be a 2-wire type to operate from a supply voltage of 10.5 to 24 VDC instrumentation signal in direct proportion to the measured level excursion over a factory-calibrated range of zero to 15 feet of water. It shall be of the head-pressure sensing type, suitable for continuous submergence and operation and shall be installed in accordance with manufacturer’s instructions. The bottom diaphragm face (2½" diameter minimum) of the sensor shall be installed 6 inches above the floor.
3. The transducer shall incorporate a diffused silicon semiconductor transducer element to convert the sensed pressure to a corresponding electrical value. The sensed media shall exert its pressure against the diaphragm, which flexes minutely to vary the proximity between an internal ceramic diaphragm created between the two surfaces. A stable, hybrid, operational amplifier assembly shall be incorporated in the transducer to excite and demodulate the sensing mechanism. The transducer shall incorporate laser trimmed, temperature compensation and high-quality components and construction to provide a precise, reliable, stable output signal directly proportional to the sensed pressure over a factory-calibrated range.
4. The pump controller shall connect to the submersible transducer through an intrinsically safe module. The module shall provide an intrinsically safe interface for the sensor located

in a hazardous area rated Class 1 Groups C and D. The intrinsic safety barrier shall be UL listed.

D. Float Switches
   1. Provide three back up float(s) for redundant control and alarm. The float(s) shall be non-mercury and have a molded polypropylene body, internal redundant polyurethane foam floatation, potted switch/cable connections and fine stranded AWG #18 cable with heavy-duty synthetic rubber jacket in lengths as required to run unspliced to the control panel.
   2. The contractor shall furnish, install, and wire the float switches as shown on the drawings. The float switches shall be individually suspended in the wetwell with weight kits. The float switch cables shall be suspended from a cable rack mounted to the top of the wetwell.
   3. The pump level controller shall connect to the float switch level sensors through an intrinsically safe module. The module shall provide an intrinsically safe interface for the sensors located in a hazardous area rated Class 1 Groups C and D. The module shall contain an LED indicator providing visible indication of sensor actuation. The intrinsic safety barrier shall be UL listed.

E. DAVIT CRANE
   1. Each pump station shall be provided davit crane as manufactured by Thern or approved equal. The davit cranes shall include the following components:
      a. Crane finish: Galvanized
      b. 304 stainless steel flush mounted base, factory installed in pump station base by the pump station manufacturer.
      c. 304 stainless steel wire rope with swag ball ends (dry end for connection to crane winch) and 304 stainless hooks (wet end for permanent connection to pumps).

PART 3 - EXECUTION

3.1 EXAMINATION

A. Verify that all dimensions shown on the Drawings and Shop Drawings match field conditions.

B. Verify actual dimensions of equipment before starting installation.

3.2 INSTALLATION

A. Install equipment in accordance with the Drawings, approved shop drawings and manufacturer's instructions.

B. Equipment installation shall be in complete conformance to the manufacturer's instructions.

C. Provide all necessary lubrication for initial operation.

D. Refer to Division 1 for responsibilities required by other Contracts.

E. All connected piping shall be supported separately of the equipment.

F. All material shall be new, undamaged and conform to the latest standards listed.

G. Cooperate with other trades to avoid interferences with the installation of this work. Install all equipment and systems so as not to delay progress of construction and correlate with other trades to avoid delay. Should differences of opinion develop, the Engineer's decision shall be final.

3.3 FIELD SERVICE

A. The Contractor shall provide the services of equipment suppliers to inspect and ensure that the equipment provided under this Contract has been installed correctly and without damage.

B. Operating testing shall include as a minimum a demonstration of the proper operation of alarms and controls, pump performance tests, and motor current and system pressure readings at the operating points.

C. A qualified and factory trained manufacturer's representative shall check and approve the installation before operation. The representative shall test operate the system in the presence of the Engineer and verify that all the equipment is in conformance with the specified requirements. Provide necessary equipment and labor to support the manufacturer's representative. Provide a minimum of two (2) 8-hour days on site by a qualified manufacturer's representative.

1. Field testing shall be performed after installation of the equipment. The field testing shall demonstrate the following:
    d. Certify that the equipment has been properly installed in accordance with the manufacturer's instructions and recommendations.
    e. The equipment has been installed in the specified location and orientation or as shown on the drawings.
    f. The equipment operates without cavitation, overheating or overloading, or objectionable vibration of any part.
    g. There are no mechanical defects in any of the parts.
    h. The pumps can deliver the required TDH and flow rate.
    i. Supervise the equipment start-up and initial operation.
    j. Operate the system in the presence of the Engineer and demonstrate the proper operation of all interlocks, alarms, controls, and sequencing.
    k. Field test under all operating points. Provide motor current readings on each phase and phase to phase voltage readings.
    l. Instruct Owner personnel on the operation, care, and maintenance of the equipment.
    m. Prepare a written report summarizing the start-up and initial operation activities.
    n. Revisit the project site as often as necessary until all problems are resolved and the installation and operation are entirely satisfactory in the judgment of the Owner.
    o.

END OF SECTION

SECTION 466664

UV DISINFECTION EQUIPMENT

PART 1 - GENERAL

1.1 SUMMARY

A. Provide all labor, materials, equipment, tools, and incidentals required to provide an closed vessel ultraviolet lamp disinfection system complete with an automatic mechanical cleaning system and variable output electronic ballasts, complete and operational with all necessary accessories as shown on the Drawings, specified herein, and as required for the intended operation. This system will be capable of disinfecting effluent to meet the water quality standards listed specified herein.

B. The Contractor shall obtain all equipment specified in this Section from one equipment supplier to ensure proper coordination and functionality. The equipment manufacturer shall have responsibility for the performance and compatibility of the entire system. This does in no way relieve Contractor for ultimate responsibility under this Contract for equipment, coordination, installation, operation, and guarantee.

C. The Drawings are for the purpose of guidance and to show functional features and required external connections. They do not necessarily show all the components necessary to accomplish the desired results nor do they depict all components required to interface with the equipment. The Contractor shall provide all parts, equipment, wiring, piping and devices necessary to meet the functional requirements of the system.

D. The Drawings are intended to show the general arrangement of the equipment. They are not intended to exact dimensions. The supports and the layout of the equipment may have to be modified to accommodate the actual equipment furnished. The cost of such modifications is considered as being in the bid price and, therefore, no payment will be made for said modifications.

1.2 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.3 REFERENCES

A. Reference Standards: Comply with applicable provisions and recommendations of the following except where otherwise shown or specified.

1. National Electrical Manufactures Association (NEMA)
2. National Water Research Institute (NWRI)
3. United States Environmental Protection Agency (USEPA)

1.4 SUBMITTALS

A. General:

1. Refer to Division 1: “Submittal Procedures” for quantity, included information and administrative procedures for each type of submittal.
2. Submit all equipment specified in this Section at the same time.

B. For approval: Submit product data and shop drawings as follows:

1. Manufacturer’s information, specifications, and data showing dimensions, working clearances, materials of construction, and weight of all major items of equipment specified in this Section.
2. Descriptive information including catalogue cuts and manufacturers' specifications for major components.
3. Electrical schematics and layouts.
4. Hydraulic calculations demonstrating compliance with the required hydraulic characteristics.
5. Independent bioassay validation and dosage calculations demonstrating compliance with the specified dose requirements.
6. Disinfection performance guarantee.

C. For information: Submit Operation and Maintenance Manual as follows:

1. Refer to Division 1: “Closeout Procedures” and “Operation and Maintenance Data”.
2. Operation and maintenance manuals shall include approved shop drawing associated with this Section, complete instructions for installation and parts list for all components.
3. Include a list and frequency of specific maintenance activities.

1.5 QUALITY ASSURANCE

A. All equipment in this Section shall be a standard product in regular production by manufacturers having a minimum of five (5) years and twenty (20) installations of proven and reliable experience in providing equipment and services intended for this project. Supplier shall provide a list of names and dates, if requested, of installations for verification by Engineer.

B. The manufacturer shall submit a bioassay evaluation for the proposed reactor, without exception. The bioassay will have been completed by an independent third party and have followed protocols described in the NWRI Ultraviolet Disinfection Guidelines for Drinking Water and Water Reuse (May 2003) and/or applicable sections of the US EPA Design Manual – Municipal Wastewater Disinfection (EPA/625/1-86/021). The bioassay must demonstrate that the proposed UV system design and number of lamps will deliver the specified dose.

1.6 DELIVERY, STORAGE AND HANDLING

A. Deliver, store, protect and handle products on site under the provisions of Division 1: “Product Requirements”.

B. Equipment shall be properly protected during shipment and storage. Any damage resulting from shipment or improper storage shall be basis for equipment rejection.

1.7 WARRANTY

A. Comply with warranty requirements under the provisions of Division 1: "Warranties".

B. Provide written warranty to the Owner for all materials and workmanship of equipment provided in this Section for a period of one (1) year from the date of Substantial Completion. Any defects due to the use of improper materials or workmanship occurring within that time shall be promptly rectified, as approved by the Engineer, without cost to the Owner.

C. 5 year limited warranty for structural, hardware and mechanical components.

D. 3 year limited warranty on electrical components and quartz sleeves.

E. 16 month limited warranty on bulbs.

F. 1 year limited warranty on sensor probe.

1.8 SYSTEM DESCRIPTION

A. Design Criteria:

1. Provide equipment that will disinfect effluent with the following characteristics:

Parameter	**Design**
Plant Influent Average Daily Flow (Max 30 Day Average Daily Flow) (MGD / GPM)	.0290 / 20.14
Peak Hourly Flow from Pump Station (MGD / GPM)$_1$	0.144 / 100
UV Unit Design Capacity per unit (MGD / GPM)	0.108 / 75
UV system Capacity (MGD / GPM)	0.216 / 150
No. of UV Units (Configuration)	3 (2 Duty one Standby)
Operation	Series or Parallel
Design Dose	30 µw-sec/cm^2
Min UV Transmittance @ 253.7 nm: (UVT)	55
TSS (mg/L)	30
Effluent Requirement (per 100 ml)	200 (fecal coliform)
Max Unit Temp to Initiate Cooling System (deg F)	95

Max Unit Temp before shutdown (deg F)	104
Cooling water volume / cycle (gal)	5-10
Max Power Draw at peak flow (per unit) (kw)	0.43

2. The UV system is to be installed having the dimensions as shown on the Drawings.
3. System configuration:
   a. The UV system configuration will be as follows:
      1) Number of Units: 3
      2) Number of Lamps per UV Unit: 2
      3) Total Number of Lamps in the UV System: 6
      4) Number of UV Sensors: 3
      5) Number of System Controllers: 3

B. Performance Requirements:

1. The ultraviolet disinfection system will produce an effluent conforming to the following discharge permit: 200 fecal coliform/100 ml, based on a 30-day Geometric Mean. Grab samples will be taken in accordance with the Microbiology Sampling Techniques found in Standard Methods for the Examination of Water and Wastewater, 19th Ed.
2. Provide a UV disinfection system complete with UV Units, and cooling system as shown on the Drawings and as herein specified.
3. The UV system will be designed to deliver a minimum UV dose of 30,000 $\mu Ws/cm^2$ at peak flow, in effluent with a UV Transmission of 55% at end of lamp life (EOLL) after reductions for quartz sleeve fouling.
4. The system will be able to continue providing disinfection while replacing UV lamps, quartz sleeves, ballasts and while cleaning the UV lamp sleeves.

PART 2 - PRODUCTS

2.1 MANUFACTURER

A. The physical layout of the system shown on the contract drawings and the equipment specified herein are based upon the UV Pure Hallett 1000W, as manufactured by UV PURE, Toronto, Ontario, Canada, or equal.

B. If other equipment is proposed, the Contractor will demonstrate to the Engineer and the Owner that all requirements of materials, performance, and workmanship have been met or exceeded by the equipment proposed. Contractors proposing alternate manufacturers will be responsible for all costs associated with system evaluation and redesign including all electrical, mechanical and civil aspects of the installation.

2.2 DESIGN, CONSTRUCTION AND MATERIALS

A. General:

1. Body material shall be Anodized aluminium and 316 stainless steel.
2. Inlet and Outlet ports shall be 2” MNPT Stainless steel.

B. Lamp Array Configuration:

1. The lamp array configuration will be the uniform array with all lamps parallel to each other and to the flow.
2. UV units shall utilize an elliptical UV reflectors.

C. UV Module:

1. Each UV unit will consist of UV lamps contained within an enclosure and a quartz sleeve passing through the unit. UV lamps will be mounted exterior to the quartz sleeve and shall utilize reflectors. Lamp replacement shall be completed without coming into contact with effluent and without draining the system.

D. UV Lamps:

1. Lamps will be dual amalgam air mounted design. The lamp will be preheated to promote longevity.
2. Maximum of 12 cycles within a 24 hour period.
3. Lamps will be rated for 12,000 hrs.
4. Lamps will be operated by electronic ballasts with variable output settings.

E. Electrical:

1. Electrical supply to each Power Distribution Center will be 120 Volts, 1 phase, 60 Hz.
2. Each Unit shall capable of being plugged into a duplex outlet with each outlet having a dedicated circuit.
3. Each unit shall be UL 979 certified.

F. Control and Instrumentation:

1. System Control:
    a. Each unit shall have an integral Coulor LCD resistive touchscreen display.
    b. The operator interface display screen will be menu driven with automatic fault message windows appearing upon alarm conditions.
    c. Alarming shall include Indicator lights and Audible alarms.
    d. Provide (2) built in dry contacts for warnings and alarms.
    e. Provide built in Remote start and stop
    f. Provide monitoring for UV Transmittance, Intensity, and Temperature.
    g. Built in onboard diagnostics
    h. 4-20mA Output and Modbus

G. UV Detection System:

1. Each unit shall be equipped with Sensors that monitor UV intensity, and transmittance.
2. UV sensors shall be calibrated to NIST standards.

H. Dose-Pacing:

1. A dose-pacing system will be supplied to modulate the lamp UV output in relationship to a 4-20 mA DC signal from the new flow meter transmitter.
2. The system to be dose-paced such that as the flow and effluent quality change, the design UV dose is delivered while conserving power.
3. The dose-pacing system will allow the operator to vary the design dose setting. Logic and time delays will be provided to regulate UV bank ON/OFF cycling.

I. Cleaning System:

1. An automatic cleaning system will be provided to clean the quartz sleeves using mechanical methods. Wiping sequence will be automatically initiated with capability for manual override.
2. The cleaning system will be fully operational while UV lamps and units are energized.
3. Cleaning cycle intervals to be field adjustable.
4. Manual and Auto cleaning control options will be provided.

J. Cooling System:

The UV system shall be provided with the capability to dim lamps during periods of low or no flow. In addition, to keep the system cool during periods of intermittent or no flow, the UV system shall be provided with a cooling system performing the following functions. The cooling system shall be initiated once the internal temperature rises to a predetermined setpoint. Each UV unit shall include a purge valve or relocated purge valve kit to allow for cooling water to be introduced into the quartz sleeve to provide cooling for the system until a temperature drops below a predetermined setpoint. The cooling shall include the following.

1. Manufacturer supplied purge valve.
2. Pressure Tank
    a. 34 gallon capacity
    b. Pressure rating of 125 psi
    c. Steel pressure tank with 1-1/4”stainless steel connections
    d. System drawdown of 10.5 gal @ 3-50 PSI.
3. Goulds JRS5 Shallow well jet pump by Goulds Water Technologies or Equal.
    a. ½ HP, 115 V, Single Phase 60 hz.
    b. Built in overload with automatic reset
    c. 3500 rpm
    d. Design capacity of 5 gpm @ 40 PSI
    e. Max suction lift 25 ft.
    f. 30-50 PSI pressure switch

K. Spare Parts: The following spare parts and safety equipment to be supplied.

1. 6 UV Lamps
2. 3 Quartz Sleeves

PART 3 - EXECUTION

3.1 EXAMINATION

A. Verify that all dimensions shown on the Drawings and Shop Drawings match field conditions.

B. Verify actual dimensions of equipment before starting installation.

3.2 INSTALLATION

A. Install equipment in accordance with the Drawings, approved shop drawings and manufacturer's instructions.

3.3 FIELD SERVICE

A. Installation assistance and certification: As required for proper installation prior to start up.

B. Start-up and field testing: 3 full days on site, including all travel expenses.

C. Operator Training: 1 full day on site.

D. Warranty Service: As required during the warranty period.

END OF SECTION

Town of Clayton
DEPAUVILLE WWTP DISINFECTION SYSTEM IMPROVEMENTS

SPDES PERMIT NO. NY 0215791

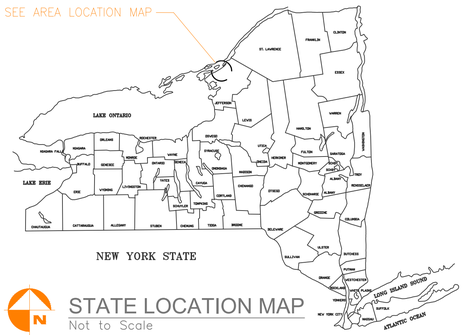
Town of CLAYTON, Jefferson County, New York

REVIEW SET MARCH 10, 2026

DRAWING LIST

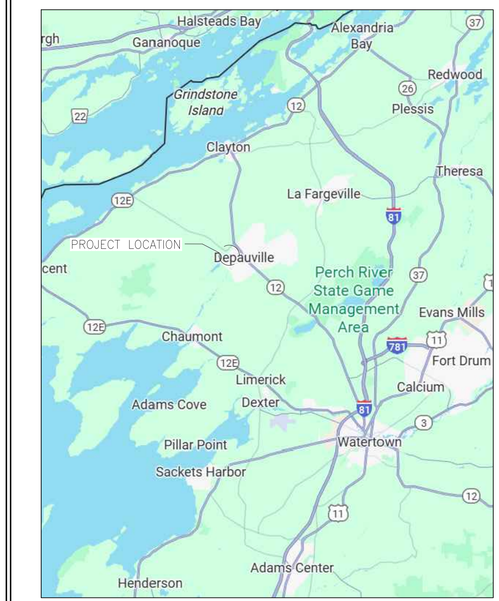
TOWN OFFICIALS

Town Supervisor	Tim Doney
Board Member	Ken Knapp
Board Member	Steve Dorr
Board Member	James Kenney
Board Member	Kevin Patchen
Clerk	Megan Badour



STATE LOCATION MAP
Not to Scale

ST LAWRENCE ENGINEERING DPC
745 GRAVES STREET, CLAYTON NY 13624
(315) 783-6384 (315) 408-7443
www.stlawrenceengineering.com



AREA LOCATION MAP
Not to Scale

FOURTH COAST INC -
ST LAWRENCE ENGINEERING DPC
745 GRAVES, CLAYTON NEW YORK, 13624
315/783-6384 315/408-7443
www.fourthcoast.com - www.stlawrenceengineering.com

CLIENT: TOWN OF CLAYTON
PROJECT: DEPAUVILLE WWTP DISINFECTION SYSTEM IMPROVEMENTS

DRAWN BY: DEB / WAW | CHECKED BY: RJC | SCALE: NONE

DATE: MARCH 20, 2026
REVISED:

GENERAL NOTES & LEGEND

T1

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GENERAL NOTES

1. THE DRAWINGS SHOW KNOWN SUBSURFACE STRUCTURES, ABOVEGROUND STRUCTURES AND/OR UTILITIES BELIEVED TO EXIST IN THE WORKING AREA. CONTRACTOR IS WARNED THAT THE EXACT OR EVEN APPROXIMATE LOCATION OF SUCH MAY BE DIFFERENT FROM THAT SHOWN OR MAY NOT BE SHOWN, AND IT SHALL BE HIS RESPONSIBILITY TO PROCEED WITH THE GREAT CARE IN EXECUTING ANY WORK. CONTRACTOR SHALL COMPLY WITH THE STATE OF NEW YORK DEPARTMENT OF PUBLIC SERVICE, 16NYCRR PART 753, EFFECTIVE FEBRUARY 5,1997. CALL BEFORE YOU DIG @ 1-800-962-7962.
2. THE ENGINEER SHALL BE NOTIFIED IN WRITING OF ANY CONDITIONS THAT VARY FROM THOSE SHOWN ON THE PLANS. THE CONTRACTOR'S WORK SHALL NOT VARY FROM THE PLANS WITHOUT THE EXPRESSED APPROVAL OF THE ENGINEER.
3. THE CONTRACTOR SHALL RESTORE LAWNS, DRIVEWAYS, CULVERTS, SIGNS AND OTHER PUBLIC OR PRIVATE PROPERTY DAMAGED OR REMOVED TO AT LEAST AS GOOD A CONDITION AS BEFORE BEING DISTURBED AS DETERMINED BY THE ENGINEER. ANY DAMAGED TREES, SHRUBS, AND/ OR HEDGES SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE.
4. THE CONTRACTOR SHALL COMPLY WITH ALL REQUIRED PERMITS.
5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING AND INCURRING THE COST OF ALL REQUIRED PERMITS, INSPECTIONS, CERTIFICATES, ETC.
6. THE CONTRACTOR SHALL PROTECT EXISTING PROPERTY LINE MONUMENTATION. ANY MONUMENTATION DISTURBED OR DESTROYED, AS JUDGED BY THE ENGINEER OR OWNER, SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE UNDER THE SUPERVISION OF A NEW YORK STATE LICENSED LAND SURVEYOR.
7. DIG EXPLORATORY TEST PITS AS REQUIRED TO DETERMINE UNDERGROUND CONDITIONS. RECOMMENDED LOCATIONS ARE DESIGNATED ON THE PLANS. DIG ADDITIONAL PITS AS REQUIRED FOR PERFORMANCE OF WORK AT NO ADDITIONAL COST TO OWNER.
8. ALL TRENCH EXCAVATION AND ANY REQUIRED SHEETING AND SHORING SHALL BE DONE IN ACCORDANCE WITH THE LATEST REVISIONS OF NEW YORK STATE CODE RULE 23 AND OSHA REGULATIONS FOR CONSTRUCTION.
9. CONTRACTOR SHALL BE RESPONSIBLE FOR DEWATERING AND THE MAINTENANCE OF SURFACE DRAINAGE DURING THE COURSE OF WORK.
10. MAINTAIN FLOW FOR ALL EXISTING UTILITIES, CULVERTS, AND DITCHES.
11. BEFORE CONSTRUCTING LINES TO CONNECT TO EXISTING UTILITIES OR UTILITIES INSTALLED UNDER OTHER CONTRACTS, VERIFY EXISTING UTILITY INVERTS AND NOTIFY ENGINEER IF AY VARIATION FROM THE PLAN IS REQUIRED.
12. GRADE ALL AREAS ON THE SITE TO PROVIDE POSITIVE DRAINAGE.
13. PROVIDE ALL FIELD LAYOUT, TAKE TIES TO ALL UTILITY CONNECTIONS AND PROVIDE MARKED-UP RECORD PLANS FOR ALL UTILITIES SHOWING TIES TO CONNECTIONS, BENDS, VALVES, LENGTHS OF LINES AND INVERTS. RECORD PLANS SHALL BE REVIEWED BY THE OWNER AND HIS REPRESENTATIVES, AND THE CONTRACTOR SHALL PROVIDE ANY CORRECTION OR ADDITIONS TO THE SATISFACTION OF THE OWNER AND HIS REPRESENTATIVES BEFORE UTILITIES WILL BE ACCEPTED.
14. EXERCISE CAUTION WHEN OPERATING CONSTRUCTION EQUIPMENT OVER NEW UTILITY TRENCHES. MAINTAIN A MINIMUM COVER OF TWO FEET OR MORE IF REQUIRED, OVER ANY UTILITY LINE SUBJECT TO CONSTRUCTION TRAFFIC.
15. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING ALL WORK, LANE CLOSURES AND DISRUPTIONS WITH GOVERNING AGENCIES.
16. PRIOR TO BIDDING PROJECT, THE CONTRACTOR IS ENCOURAGED TO VISIT THE SITE TO VERIFY EXISTING CONDITIONS.
17. ALL PHYSICAL FEATURES, INDIVIDUAL TREES, LANDSCAPING OR UTILITY LOCATIONS COULD NOT BE POSSIBLY SHOWN ON THE CONTRACT DRAWINGS. EACH BIDDER IS ENCOURAGED TO PERSONALLY INSPECT ALL AREAS OF PROPOSED WORK, IN ORDER TO ENSURE THAT HE IS FAMILIAR WITH THE PHYSICAL LAYOUT OF THE AREA AND THE REQUIREMENTS OF THE WORK.
18. ALL PROPOSED WORK MAY BE VARIED IN THE FIELD BY THE ENGINEER TO MEET EXISTING CONDITIONS.
19. UPON COMPLETION OF THE WORK, ALL DISTURBED AREAS SHALL BE RESTORED TO A CONDITION EQUAL TO OR BETTER THAN THAT WHICH EXISTED PRIOR TO CONSTRUCTION.
20. DISTURBED AREAS SHALL BE RESTORED AS WORK PROGRESSES AS DEEMED APPROPRIATE BY THE ENGINEER.
21. TURF ESTABLISHMENT: ALL DISTURBED, FILL OR CUT AREAS SHALL BE GRADED, SEEDED AND MULCHED, WITHIN ONE WEEK AFTER DISTURBANCE.
22. ALL EROSION CONTROL MEASURES SHALL BE PUT INTO PLACE PRIOR TO STARTING WORK.
23. TRENCHES SHALL NOT BE LEFT OPEN OVERNIGHT.
24. ALL CONSTRUCTION STAKE OUT IS THE RESPONSIBILITY OF THE CONTRACTOR.
25. OWNER'S SOIL BORINGS WERE MADE FOR DESIGN PURPOSES. THE INCLUSION OF THE INFORMATION SHALL NOT RELIEVE THE CONTRACTOR OF HIS OBLIGATION TO MAKE A THOROUGH INVESTIGATION OF SURFACE AND SUBSURFACE CONDITIONS. NEITHER ADDITIONAL PAYMENT NOR EXTENSION OF TIME WILL BE MADE TO THE CONTRACTOR BECAUSE OF CONDITIONS ENCOUNTERED WHICH DIFFER FROM THOSE REPORTED IN THE BORING LOGS.
26. THE CONTRACTOR SHALL VERIFY ALL CONDITIONS, DIMENSIONS, AND ELEVATIONS OF EXISTING STRUCTURES, PIPING, ETC. AS SHOWN ON THE DRAWINGS. IMMEDIATELY REPORT TO THE OWNER OR ENGINEER ANY AND ALL DISCREPANCIES BETWEEN THE CONTRACT DOCUMENTS AND EXISTING CONDITIONS.
27. EXISTING STRUCTURES, EQUIPMENT, AND PIPING ADJACENT TO PROPOSED CONSTRUCTION OR IMPROVEMENTS SHALL BE ADEQUATELY SUPPORTED AND PROTECTED DURING CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIR OR REPLACEMENT OF ANY NEW EXISTING STRUCTURES, PIPING, EQUIPMENT, ETC. THAT IS DAMAGED DURING CONSTRUCTION.
28. CONTRACTORS SHALL LIMIT THE EXTENT OF DISTURBANCE FOR EACH AREA OF CONSTRUCTION AS MUCH AS POSSIBLE (UNLESS OTHERWISE SHOWN). THE CONTRACTOR SHALL UTILIZE EVERY EFFORT TO MINIMIZE DISTURBANCE TO THE NORMAL DAILY OPERATIONS OF THE PLANT.
29. FLOOR DRAINS SHALL BE CONNECTED TO THE SANITARY SYSTEM. FLOOR DRAINS DO NOT INCLUDE FOOTER DRAINAGE, FOUNDATION DRAINAGE, OR ANY OTHER DRAINAGE INTERCEPTORS CONVEYING UNCONTAMINATED GROUNDWATER.
30. DIMENSIONS AND SIZES OF MANUFACTURED EQUIPMENT (I.E. PUMPS, PROCESS EQUIPMENT, ETC.) SHOWN ON DRAWINGS SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION, FABRICATION, OR INSTALLATION. DISCREPANCIES BETWEEN TRUE DIMENSIONS AND THOSE SHOWN ON THE DRAWINGS SHALL BE IDENTIFIED IMMEDIATELY BY THE CONTRACTOR FOR REVIEW BY THE ENGINEER.
31. CONTRACTOR SHALL BE RESPONSIBLE FOR CLEANING ALL EXISTING PIPING, STRUCTURES, MOUNTING HARDWARE, ETC. IN ALL AREAS WHERE WORK IS BEING PREFORMED. ALL AREAS SHALL BE CLEANED PRIOR TO COOMMENCING WORK, FOR INSPECTION BY THE ENGINEER OR OWNER. CONTRACTOR SHALL CLEAN ALL AREAS AFFECTED BY WORK UPON COMPLETION OF WORK.
32. THE ENGINEER IS NOT RESPONSIBLE FOR, AND WILL NOT HAVE CONTROL OF, CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES OR PROCEDURES, OR SAFETY PRECAUTIONS AND PROGRAMS IN CONNECTION WITH THE CONSTRUCTION WORK; NOR WILL THE ENGINEER BE RESPONSIBLE FOR THE CONTRACTOR'S FAILURE TO CARRY OUT THE CONSTRUCTION WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
33. ALL EXTERIOR CONCRETE PADS AND SUPPORTS NOT TO BE PAINTED SHALL BE SEALED PER THE SPECIFICATIONS.
34. GC SHALL FURNISH ALL CONTROL PANELS FROM MANUFACTURER TO EC FOR LAYOUT AND INSTALLATION.
35. DEMOLITION AND/OR REMOVAL SHALL INCLUDE THE REMOVAL AND PROPER DISPOSAL OF ALL ANCILLARY ITEMS TO THOSE ITEMS TO BE REMOVED OR DEMOLISHED. REMOVAL OF STRUCTURES SHALL ALSO INCLUDE REMOVAL OF ALL SUBSTRUCTURES(IE. FOUNDATIONS WALLS, FOOTINGS, SUB-SURFACE PIPING, ELECTRICAL SYSTEMS, ETC.) & ASSOCIATED CONCRETE (I.E. CONCRETE SLABS, PADS, SUPPORTS, ETC.) UNLESS OTHERWISE SHOWN. REMOVAL ANCILLARY PLUMBING/PIPING SYSTEMS, ETC. HOLES, VOIDS, ETC. FROM DEMOLITION SHALL BE FILLED WITH GROUT, FINISHED SMOOTH AND BE COATED TO MATCH ADJACENT AREAS.

ABBREVIATIONS

AC	ASBESTOS CEMENT
ACP	ASBESTOS CEMENT PIPE
AD	AEROBIC DIGESTER
ALUM	ALUMINUM
ASPH	ASPHALT
AV	ACTUATED VALVE
B/O	BOTTOM OF
BFV	BUTTERFLY VALVE
BLDG	BUILDING
BM	BENCH MARK
BOC	BOTTOM OF CHANNEL
BRNG	BEARING
BV	BALL VALVE
BW	BUTT WELDED
CAP	CAPACITY
CB	CATCH BASIN
CF	CUBIC FEET
CFD	CUBIC FEET PER DAY
CFM	CUBIC FEET PER MINUTE
CI	CAST IRON
CIP	CAST IRON PIPE
CIPP	CURED IN PLACE PIPE
CJ	CONSTRUCTION JOINT
CL	CENTER LINE
℄	CENTER LINE
CL2	CHLORINE
CLG	CEILING
CLR	CLEAR / CLEARANCE
CO	CLEAN OUT
CONC	CONCRETE
COORD	COORDINATE
CP	CONTROL PANEL
CPLG	COUPLING
CPP	CORRUGATED POLYETHYLENE PIPE
CPVC	CHLORINATED POLYVINYL CHLORIDE
CTJ	CONTROL JOINT
CV	CHECK VALVE
CY	CUBIC YARD
DET	DETAIL
DI	DUCTILE IRON
DIA	DIAMETER
DIP	DUCTILE IRON PIPE
DN	DOWN
DR	DIMENSION RATIO
DWG	DRAWING
EC	ELECTRICAL CONTRACTOR
EF	EACH FACE
EFF	EFFLUENT
EG	EXISTING GRADE
EJ	EXPANSION JOINT
ELEC	ELECTRIC / ELECTRICAL
ELEV	ELEVATION
ENCL	ENCLOSE / ENCLOSURE
ENGR	ENGINEER
ENT	ENTRANCE
EOG	EDGE OF GRAVEL
EOP	EDGE OF PAVEMENT
EP	EXPLOSION PROOF
EX	EXISTING
EXP	EXPANSION
EXT	EXTERIOR
FCA	FLANGED COUPLING ADAPTER
FD	FLOOR DRAIN
FDN	FOUNDATION
FE	FIRE EXTINGUISHER

FFE	FINISHED FLOOR ELEVATION
FG	FINISHED GRADE
FIX	FIXTURE
FL	FLANGED
FLR	FLOOR
FLS	FLOAT SWITCH
FMT	FLOW METER
FM	FORCE MAIN
FRP	FIBER REINFORCED PLASTIC
GA	GAUGE
GAC	GRANULAR ACTIVATED CARBON
GAL	GALLON
GALV	GALVANIZED
GC	GENERAL CONTRACTOR
GEN	GENERATOR
GND	GROUND
GPM	GALLONS PER MINUTE
GR	GRADE
GSKT	GASKET
GV	GATE VALVE
HDD	HORIZONTAL DIRECTIONAL DRILLING
HDPE	HIGH DENSITY POLYETHYLENE
HDWR	HARDWARE
HGR	HANGER
HGT	HEIGHT
HOR	HORIZONTAL
HP	HORSEPOWER
HTR	HEATER
HWL	HIGH WATER LEVEL
HYD	HYDRANT
ID	INSIDE DIAMETER
IN	INCH
INCL	INCLUDE
IND	INDICATE
INF	INFLUENT
INT	INTERIOR
INV	INVERT
IPS	IRON PIPE SIZE
JT	JOINT
LAT	LATERAL
LAV	LAVATORY
LCP	LOCAL CONTROL PANEL
LG	LENGTH / LONG
LOD	LIMITS OF DISTURBANCE
LP	LOW PRESSURE
LT	LEVEL TRANSDUCER
LV	LOUVER
LWL	LOW WATER LEVEL
MAS	MASONRY
MAT	MATERIAL
MAX	MAXIMUM
MBR	MEMBRANE BIOREACTOR
MECH	MECHANICAL
MEMB	MEMBRANE
MET	METAL
MFR	MANUFACTURER
MGD	MILLION GALLONS PER DAY
MH	MANHOLE
MIN	MINIMUM
MISC	MISCELLANEOUS
MJ	MECHANICAL JOINT
MO	MASONRY OPENING
NO	NUMBER
NOM	NOMINAL
NPW	NON POTABLE WATER

NTS	NOT TO SCALE
OC	ON CENTER
OD	OUTSIDE DIAMETER
OH	OVERHEAD
OPER	OPERABLE / OPERATOR
OPNG	OPENING
ORIG	ORIGINAL
PAR	PARALLEL
PAVT	PAVEMENT
PCF	POUNDS PER CUBIC FOOT
PERF	PERFORATED
PERP	PERPENDICULAR
PL	PROPERTY LINE
PLT	PLATE
PLB	PLUMBING
POLY	POLYETHYLENE
PREFAB	PREFABRICATED
PRV	PRESSURE RELIEF VALVE
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
PT	PRESSURE TREATED
PV	PLUG VALVE
PVC	POLYVINYL CHLORIDE
PW	POTABLE WATER
RCP	REINFORCED CONCRETE PIPE
RD	ROAD
RECF	ROLLED EROSION CONTROL FABRIC
RED	REDUCER
REM	REMOVE
REQD	REQUIRED
RM	ROOM
ROB	RUN OF BANK
RPZ	REDUCED PRESSURE ZONE
RR	RAILROAD
SAN	SANITARY
SBR	SEQUENCING BATCH REACTOR
SCH	SCHEDULE
SDR	STANDARD DIMENSION RATIO
SF	SQUARE FOOT
SG	STOP GATE
SHT	SLUDGE HOLDING TANK
SP	STOP PLATE
SPEC	SPECIFICATION
SQ	SQUARE
SS	STAINLESS STEEL
STA	STATION
T/O	TOP OF
TBR	TO BE REMOVED
TOC	TOP OF CONCRETE
TOS	TOP OF SLAB
TOT	TOP OF TANK
TRANS	TRANSFORMER
TYP	TYPICAL
UGE	UNDERGROUND ELECTRIC
ULS	ULTRASONIC LEVEL SENSOR
UR	URINAL
UV	ULTRAVIOLET
VAR	VARIETY
VERT	VERTICAL
WL	WATER LEVEL
WSE	WATER SURFACE ELEVATION
WSTP	WELDED STEEL PIPE
WT	WEIGHT
WW	WETWELL
WWF	WELDED WIRE FABRIC
YD	YARD

SOIL BORING LOG

NO.	DEPTH	SOIL / ROCK CLASSIFICATION	NOTES
1	TERMINATED AT 10 FT.	BROWN SILTY CLAY, SOME TRACE FINE SAND	WATER ENCOUNTERED @ 3.6 FT AFTER BORING WAS COMPLETED SUSPECTED SURFACE WATER INFLUENCE.
2	TERMINATED AT 10 FT.	BROWN SILTY CLAY	NO WATER ENCOUNTERED
3	REFUSAL AT 8.7 FT.	BROWN SILTY CLAY, GREY LIMESTONE, MEDIUM HARD, WEATHERED, LAMINATED TO THIN BEDDED. AT 5.0 FT, OLIVE GREEN, VERY CALCAREOUS MUDSTONE, VERY SOFT, FRIABLE WEATHERED, LAMINATED. AT 7.7 FT GREY LIMESTONE	WATER ENCOUNTERED AT 2.3 FT AFTER BORING WAS COMPLETED.
4	REFUSAL AT 7.6 FT.	FILL BROWN SILTY CLAY, COAL, ASH TO 1.2 FEET. BROWN SILTY CLAY, COARSE-FINE SAND, SOME COARSE GRAVEL	NO WATER ENCOUNTERED.

FOURTH COAST INC -
ST LAWRENCE ENGINEERING DPC
745 GRAVES, CLAYTON NEW YORK, 13624
315/783-6384 315/408-7443
www.fourthcoast.com - www.stlawrenceengineering.com

CLIENT: TOWN OF CLAYTON
PROJECT: DEPAUVILLE WWTP
DISINFECTION SYSTEM
IMPROVEMENTS

DRAWN BY: DEB / WAV
CHECKED BY: RJC
SCALE: NONE

DATE: MARCH 10, 2026
REVISED:

GENERAL NOTES & LEGEND

G1

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SITEMAP

DATE: MARCH 10, 2026
REVISED:

CLIENT: TOWN OF CLAYTON

PROJECT: DEPAUVILLE WWTP
DISINFECTION SYSTEM
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DRAWN BY: DEB / DLH | CHECKED BY: RJC | SCALE: NO SCALE

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MH-1

MH-1A

MH-2

MH-4

MH-6

MH-7

MH-8

MH-9

MH-10

MH-10A

MH-11

MH-11A

MH-11B

MH-13

MH-13A

MH-13B

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EXISTING SITE
PHOTOS

P-1

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MH-14

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MH-17

MH-18

MH-18A

MH-19

MH-20

MH-20A

MH-20B

MH-21

MH-22

MH-23

MH-23A

MH-23B

MH-24

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DATE: MARCH 10, 2026
REVISED:

EXISTING SITE
PHOTOS

P-2

MH-25

MH-25A

MH-26

MH-27

MH-28

MH-29

MH-30

MH-STEP

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REVISED:

EXISTING SITE
PHOTOS

P-3

Manhole Number	Manhole Location	Manhole Frame & Cover Location			Manhole Frame & Cover Interior Rust Condition			Manhole Depth	MH I. D. in feet	Manhole Condition with depth of invert to bottom of frame in feet provided				Existing grade rings need to be reset	Repalce brick risers or add new grade rings	Is this a drop manhole	Manhole Bench Condition			Our inspect suggests that all manholes and their benches and clannels need to be cleaned. The amount of cleaning is as noted below.			Remarks
								Invert of pipe to underside of Frame in Feet		Is Hydrogen Sulfide a problem													
		At Grade	Buried or below grade	Above Grade	Mild	Moderate	Severe			No	Mild	Moderate	Severe	In feet	In feet	YES or NO	Good	Fair	Poor	Light	Medium	Heavy	
1A	Caroline St. Behind Houses–Riverside			X	X			5.33	4		5.33					NO		X			X		
1	Caroline St.–Riverside Shoulder		X		X			10.08	4	10.08					0.37	NO	X			X			Raise F&C 4 1/2" +/–
2	Caroline St.–Riverside Shoulder		X			X		8.16	4	8.16				0.50	0.37	NO	X			X			Raise F&C 4 2/2" +/–
4	Caroline St.–Riverside Shoulder FM tie–in	X			X			5.50	4	5.50						NO	X			X			Seepage in MH base
6	Eliza St. – Behind Houses	X				X		4.16	4				4.16			NO			X		X		
7	Eliza St. – Behind Houses			X		X		10.83	4			10.83				NO		X			X		
8	Caroline St.–Southeast Side in paved driveway	X				X		6.67	4			6.67				NO			X		X		Raised by Town 8/27/2024
9	Caroline St.–Riverside Back yard			X	X			5.58	4		5.58					NO		X		X			
LS# L–2	Stephanie St. towards River	X			Aluminum frame & cover			12.00	5	12.00						NO	Not Applicable			Not Applicable			Need Odor cover on pit
10	Corner Caroline St. & Stephanie St.		X		X			11.33	4		11.33					YES	X			X			!/2" below pavement. Seepage in MH base
10A	In Firehouse lower driveway off of Stephanie St.	X			X			8.58	4			8.58			0.20	YES		X			X		
11	Corner Stephanie St, & School St.	X				X		5.83	4			5.83				NO			X		X		
13	School St. (Northside) Riverside		X		X			6.25	4		6.25				0.25	NO	X			X			
13A	Eliza St. – Behind Houses			X			X	12.83	4				12.83			YES		X				X	Needs new Frame & Cover
13B	Eliza St. – Behind Houses	X				X		6.67	4				6.67			NO		X			X		
14	Eliza St. – Behind Houses	X					X	5.67	4				5.67			NO		X				X	
15	Eliza St. West Shoulder		X				X	5.25	4			5.25		0.40	0.17	NO			X			X	
11A	School St. South side shoulder			X		X		9.00	4				9.00			YES			X			X	
11B	School St. Southside of house	X				X		7.75	4				7.75			YES		X				X	
18	School St. Southside Back of house	X					X	10.00	4				10.00		0.20	NO		X				X	4" lateral line needs drop pipe
19	Amelia St. (RT12) West Side–Behind house			X			X	4.47	4				4.47			NO			X			X	
20	Amelia St. (RT12) West Side–House Lawn Area	X					X	8.21	4				8.21			NO			X			X	
20A	Amelia St. (RT12) West Side–Shoulder behind fence	X					X	3.50	4				3.50			NO			X			X	
20B	Amelia St. (RT12) West Side–In lawn area top of hill	X				X		6.83	4				6.83	0.50		NO		X				X	
21	Amelia St. (RT12) West Side–Shoulder near parking area	X				X		5.50	4			5.50				NO			X		X		
17	School St. (Riverside) & (RT12) West shoulder	X				X		5.75	4		5.75					NO	X			X			
18A	James St. (Riverside) Lawn area	X					X	7.58	4		7.58					NO	X			X			
24	South of James St. in Lawn Area	X					X	3.58	4		3.58					NO	X			X			
23B	Amelia St. (RT12) Back of Houses			X		X		7.83	4			7.83				YES	X			X			
23A	Amelia St. (RT12) Back of Houses	X				X		6.83	4		6.83					NO	X			X			Homeowner needs notification
23	Amelia St. (RT12) East side shoulder in lawn area	X			X			5.83	4		5.83					YES	X			X			
22	Amelia St. (RT12) East side shoulder lawn FM Tie–in	X			X			6.83	4		6.83			0.50		NO	X			X			
STEP–2	Amelia St. (RT12) House lawn area Effuent PumpStation			X		X		7.00	4		7.00					NO	Not Applicable			X			
25A	Caroline St.(East of Stephanie St.) by bridge FM Tie–in		X				X	4.50	4		4.50				0.33	NO	X			X			
LS L–1	Caroline St. (West side) of Bridge			X	Aluminum frame & cover			12.00	5	12.00						NO	Not Applicable			Not Applicable			
25	Caroline St. (Barbershop paved parking area)	X			X			5.08	4		5.08					NO	X			X			
26	Amelia St. (RT12) Eastside shoulder lawn area		X		X			6.83	4		6.83			0.40	0.20	NO	X			X			
27	Sylvia St. Southside Behind houses			X			X	6.16	4		6.16					NO		X		X			
28	Amelia St. (RT12) Eastside & Sylvia in Pavement	X				X		8.50	4		8.50			0.30		NO		X		X			
29	Sylvia St. in Pavement	X			X			7.50	4		7.50					NO		X		X			
30	Sylvia St. in Pavement	X			X			7.25	4		7.25			0.30		NO		X		X			
	TOTALS	24	7	10	13	15	11	295.03		47.74	117.71	50.49	79.09	2.90	2.09		15	14	9	21	8	10	

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CLIENT: TOWN OF CLAYTON
PROJECT: DEPAUVILLE WWTP
DISINFECTION SYSTEM
IMPROVEMENTS

DRAWN BY: DEB/ DLH | CHECKED BY: RJC | SCALE: NO SCALE

DATE: MARCH 10, 2026
REVISED:

MANHOLE
RESTORATION

C001

Z:\Shared\Documents\Depauville Disinfection\DWG's\SITEMAP.dwg, 3/13/2026 2:35:24 PM

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C002

WWTP OVALL SITE PLAN

DATE: MARCH 10, 2026
REVISED:

CLIENT: TOWN OF CLAYTON

PROJECT: DEPAUVILLE WWTP DISINFECTION SYSTEM IMPROVEMENTS

DRAWN BY: DEB / WAW | CHECKED BY: RJC | SCALE: NONE

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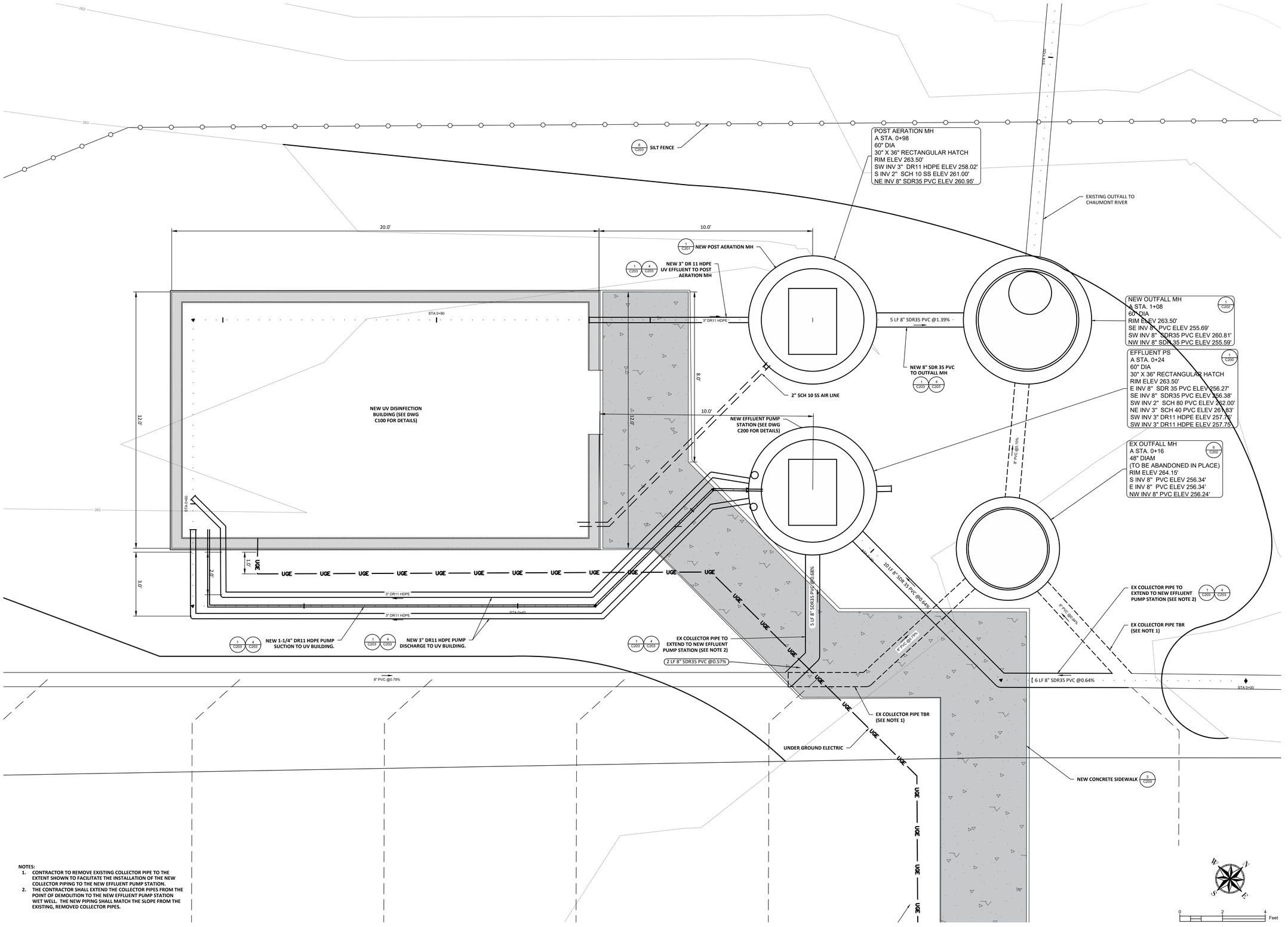

NOTES:

1. CONTRACTOR TO REMOVE EXISTING COLLECTOR PIPE TO THE EXTENT SHOWN TO FACILITATE THE INSTALLATION OF THE NEW COLLECTOR PIPING TO THE NEW EFFLUENT PUMP STATION.
2. THE CONTRACTOR SHALL EXTEND THE COLLECTOR PIPES FROM THE POINT OF DEMOLITION TO THE NEW EFFLUENT PUMP STATION WET WELL. THE NEW PIPING SHALL MATCH THE SLOPE FROM THE EXISTING, REMOVED COLLECTOR PIPES.

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CLIENT: TOWN OF CLAYTON
PROJECT: DEPAUVILLE WWTP
DISINFECTION SYSTEM
IMPROVEMENTS

DRAWN BY: DEB / WAW
CHECKED BY: RJC
SCALE: NONE

DATE: MARCH 10, 2026
REVISED:

WWTP ENLARGED
SITE PLAN

C003

Z:\Shared\Documents\Depauville Disinfection\DWG's\BASEMAP.dwg, 3/11/2026 8:40:38 AM

Point Table

Point #	Northing	Easting	Elevation	Description
265	1507872.81	954134.75	263.50	BUILDING CORNER
266	1507887.74	954148.21	263.50	BUILDING CORNER
267	1507879.63	954157.20	263.50	BUILDING CORNER
268	1507864.70	954143.73	263.50	BUILDING CORNER
269	1507872.81	954134.72	263.42	GR
270	1507864.66	954143.74	263.42	GR
271	1507887.75	954148.19	263.42	GR
272	1507879.62	954157.21	263.42	GR
273	1507887.80	954148.33	263.50	SIDEWALK
274	1507890.77	954151.01	263.42	SIDEWALK
275	1507885.44	954156.92	263.42	SIDEWALK
276	1507885.94	954166.82	263.42	SIDEWALK
277	1507892.50	954172.74	263.42	SIDEWALK

Point Table

Point #	Northing	Easting	Elevation	Description
278	1507860.10	954208.63	264.00	SIDEWALK
279	1507840.71	954230.11	264.00	SIDEWALK
280	1507856.59	954244.68	264.00	SIDEWALK
281	1507853.91	954247.65	264.00	SIDEWALK
282	1507835.06	954230.40	264.00	SIDEWALK
283	1507886.84	954173.02	263.42	SIDEWALK
284	1507882.03	954168.68	263.42	SIDEWALK
285	1507881.53	954158.84	263.42	SIDEWALK
286	1507879.76	954157.24	263.50	SIDEWALK
287	1507857.13	954205.95	264.00	SIDEWALK
288	1507888.85	954161.83	263.50	PUMP STATION
289	1507894.21	954155.89	263.50	POST AERATION MH
290	1507901.68	954162.62	263.50	OUTFALL MH

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IMPROVEMENTS

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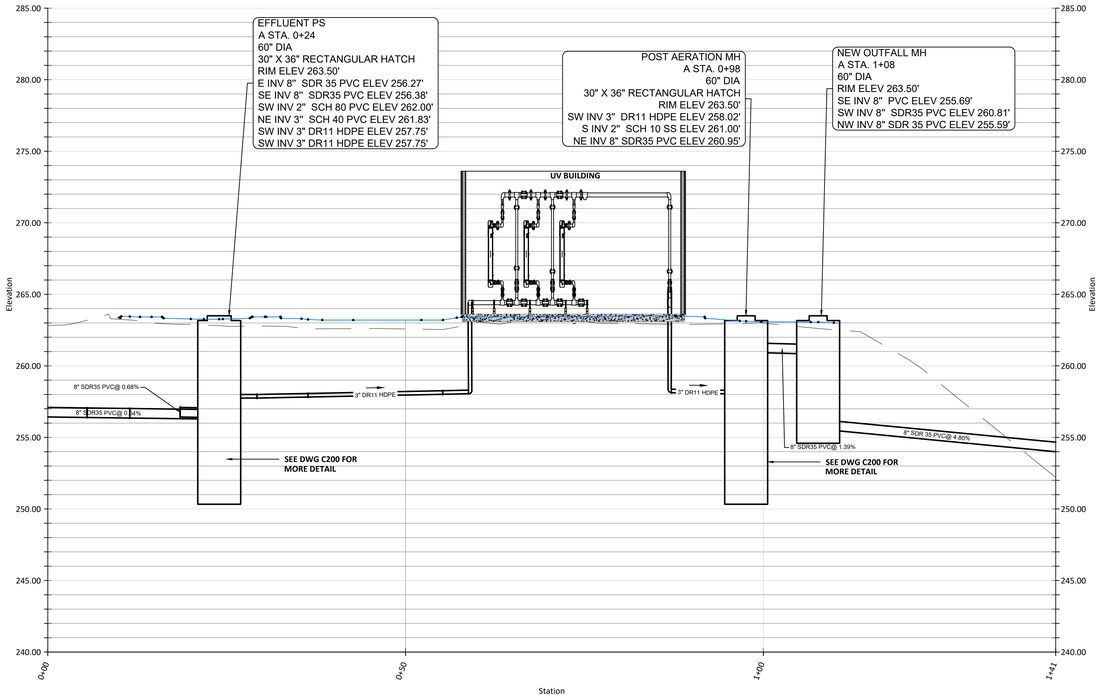
DATE: MARCH 10, 2026
REVISED:

WWTP LAYOUT
AND GRADING
PLAN

C004

A PROFILE VIEW



HORIZONTAL SCALE: 1" = 10'-0"
VERTICAL SCALE: 1" = 5'-0"

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IMPROVEMENTS

DRAWN BY: DEB / WAW
CHECKED BY: RJC
SCALE: NONE

DATE: MARCH 10, 2026
REVISED:

WWTP PROFILE

C005

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WWTP INFLUENT	
PARAMETER	AVERAGE MONTH
AVERAGE DAILY FLOW (HISTORICAL)	0.017 MGD
MAX MONTH AVERAGE DAILY FLOW (HISTORICAL)	0.038 MGD
MAX DAY FLOW (HISTORICAL)	0.222 MGD, 152 GPM
PEAK HOURLY FLOW (ESTIMATED)*	0.222 MGD, 152 GPM
PEAK INSTANTANEOUS FLOW (HISTORICAL)	0.310 MGD, 215 GPM
DESIGN FLOW (AVERAGE DAILY)	.034 MGD
BOD (MAX MONTH)	118 MG/L, 37.5 LBS/DAY
TSS (MAX MONTH)	43 MG/L, 14 LBS/DAY

DOSING CHAMBER CRITERIA	
NO OF TANKS	2
TOTAL VOLUME (EA TANK)	3,856 GAL
MAX OPERATIONAL VOLUME (EA TANK)	2,693 GAL
DOSING VOLUME	5,386 GAL
DOSES / DAY (MAX MONTH AVERAGE DAILY FLOW)	7
DOSES / DAY (MAX DAY FLOW)	42
AVERAGE DOSING DURATION	12 MIN

SEPTIC TANK CRITERIA	
TOTAL VOLUME (EA TANK)	6,417GAL
MAX OPERATIONAL VOLUME (EA TANK)	5,000 GAL
TOTAL OPERATION VOLUME	20,000 GAL
HYDRAULIC RETENTION TIME (BASED ON MAX MONTH AVERAGE DAILY FLOW)	12.63 HOURS
HYDRAULIC RETENTION TIME (BASED ON MAX DAY FLOW)	2.16 HOURS

DOSING SIPHON	
SIPHON SIZE	6"
AVERAGE DISCHARGE	450 GPM
FLOW RATE AT LOW WATER	350 GPM

EFFLUENT PUMP STATION CRITERIA	
CONFIGURATION	1 DUTY / 1 REDUNDANT
PUMP HP	3 HP
SPEED	VARIABLE
DESIGN FLOW/HEAD/SPEED PER PUMP	100 GPM/48 FT/3450 RPM
MINIMUM FLOW/HEAD/SPEED PER PUMP	45 GPM/29 FT/2250 RPM
MAXIMUM FLOW/HEAD/SPEED PER PUMP	104 GPM/49 FT/3600 RPM

BLOWER DESIGN	
NO OF UNITS	2 (1 DUTY, 1 REDUNDANT)
AIR FLOW (DESIGN)	20 SCFM
DISCHARGE PRESSURE	5 PSIG
BLOWER HP	3 HP

CLOSED VESSEL UV DESIGN	
NO OF UNITS	3 (2 DUTY, 1 REDUNDANT)
CONFIGURATION	SERIES
FLOW (DESIGN)	100 GPM
FLOW (PER UNIT)	75 GPM
UV DOSE	30 MJ/CM^2
UV TRANSMITTANCE (UVT)	35-80% UVT
MAX WATER HARDNESS	855 MG/L

POST AERATION MH DESIGN	
DIAMETER (FT)	5 FT
WORKING VOLUME (GAL)	1472 GAL
DETENTION TIME (MIN)	14.72 MIN
NO OF DIFFUSERS	8
DIFFUSER SUBMERGENCE (FT)	9 Ft
AIR FLOW (SCFM)	20 SCFM
AIR FLOW PER DIFFUSER (SCFM)	2.5 SCFM

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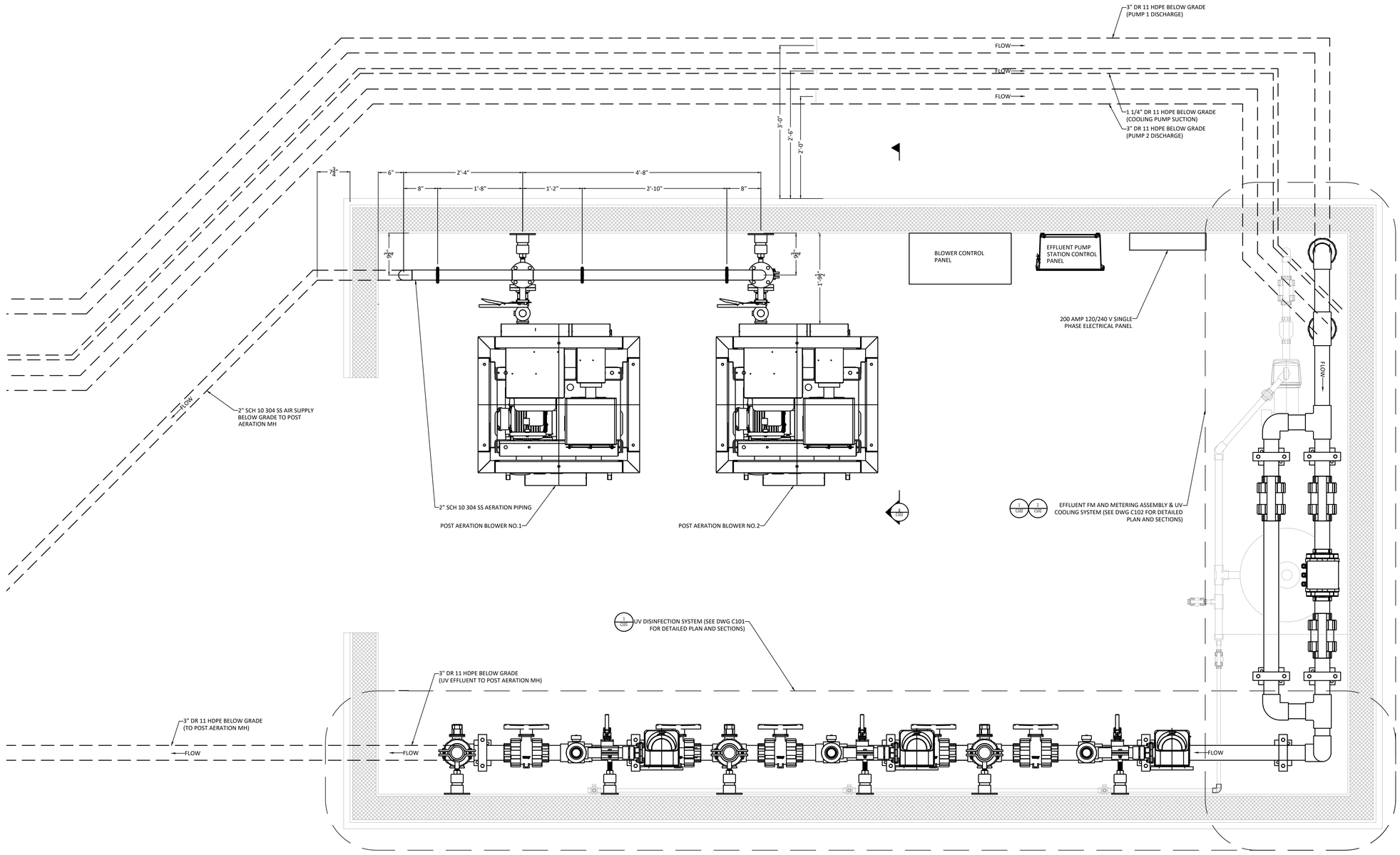
DRAWN BY: DEB / WAVY | CHECKED BY: RJC | SCALE: NONE

DATE: OCTOBER 1, 2025
REVISED:

PROCESS FLOW AND BASIS OF DESIGN

C006



1 UV BUILDING PROCESS PLAN
SCALE: 1" = 1'-0"

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DISINFECTION SYSTEM
IMPROVEMENTS

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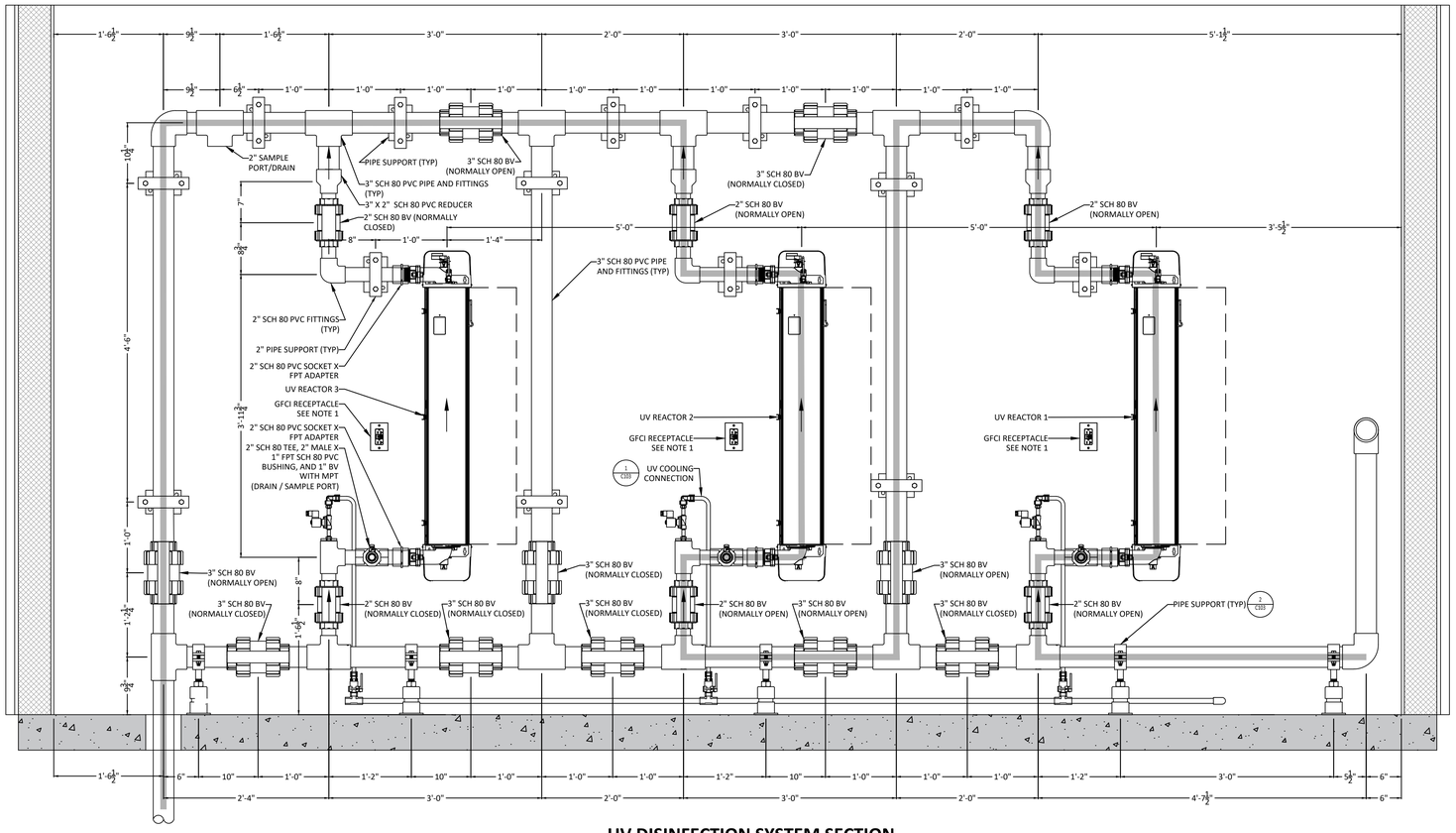
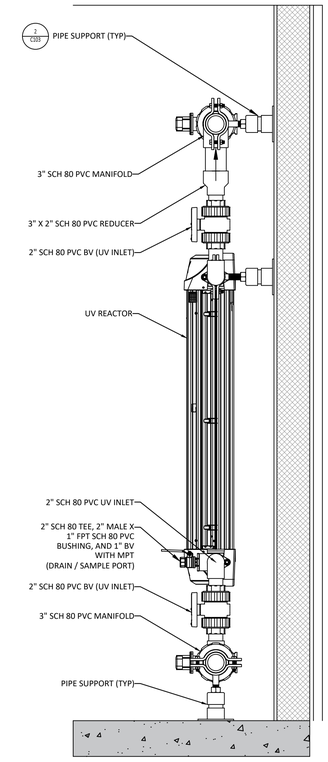
DATE: MARCH 10, 2026
REVISED:

UV BUILDING
PROCESS PLAN

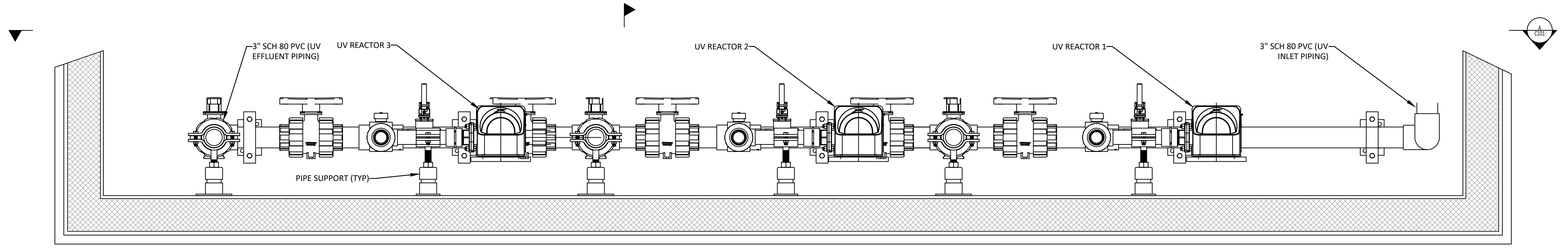
C100



A UV DISINFECTION SYSTEM SECTION
SCALE: 1" = 1'-0"



B UV DISINFECTION SYSTEM SECTION
SCALE: 1" = 1'-0"



1 UV DISINFECTION SYSTEM DETAIL
SCALE: 1" = 1'-0"

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DISINFECTION SYSTEM
IMPROVEMENTS

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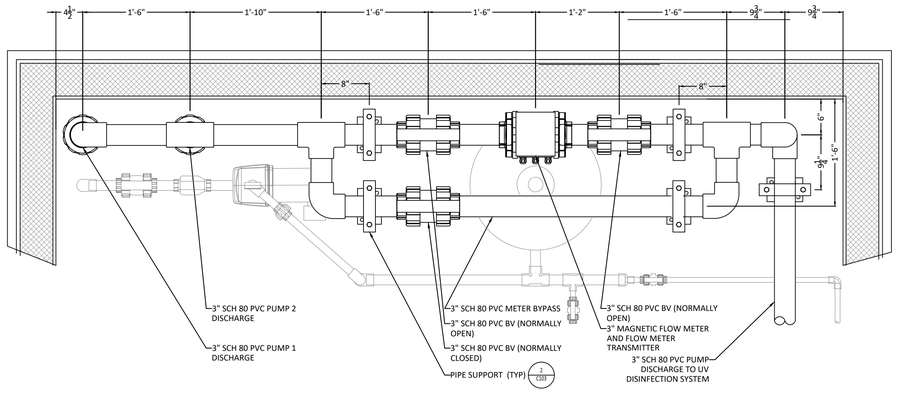
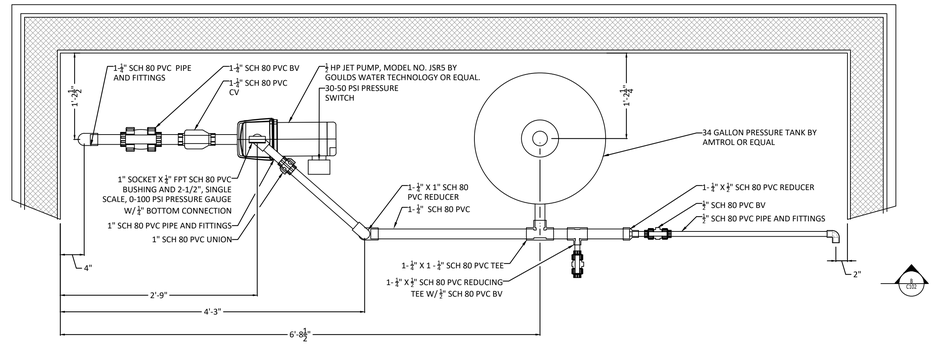
DATE: MARCH 10, 2026
REVISED:

UV BUILDING
PROCESS DETAILS

C101



1 METERING ASSEMBLY DETAIL
SCALE: 1" = 1'-0"



2 UV COOLING STYSTEM ASSEMBLY DETAIL
SCALE: 1" = 1'-0"

A METERING ASSEMBLY SECTION
SCALE: 1" = 1'-0"

B UV COOLING STYSTEM ASSEMBLY DETAIL
SCALE: 1" = 1'-0"

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SCALE: NONE

DATE: MARCH 10, 2026
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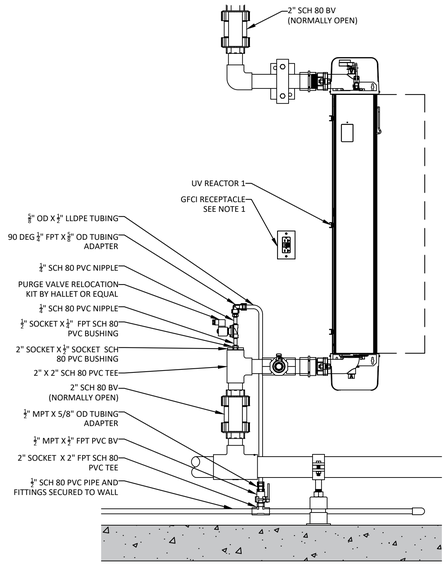
UV BUILDING PROCESS DETAILS

C102



1 UV COOLING SYSTEM CONNECTION DETAIL
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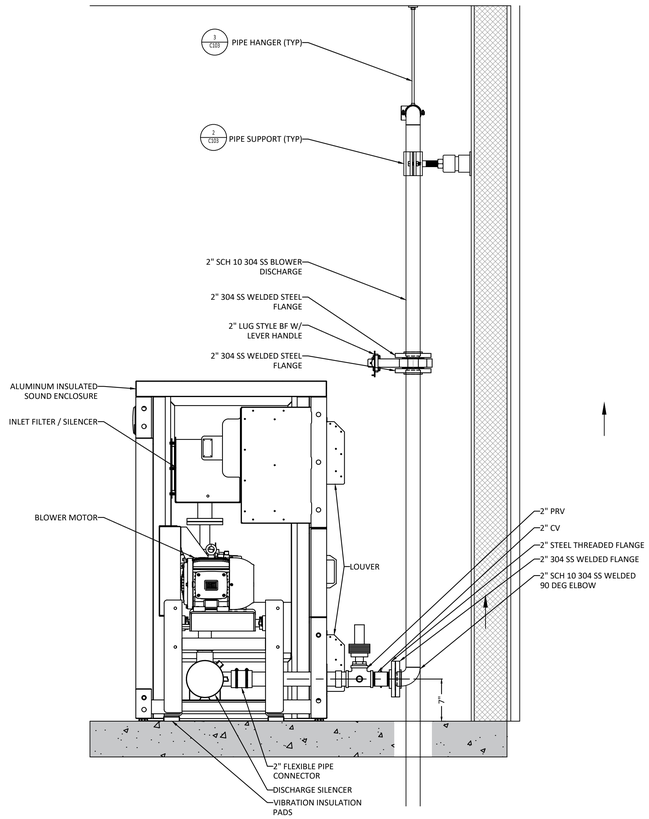
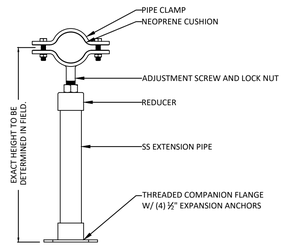
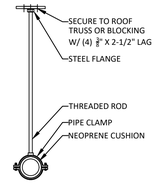


B BLOWER ASSEMBLY SECTION
SCALE: 1" = 1'-0"



2 PIPE SUPPORT DETAIL
SCALE: SCALE: NTS



3 PIPE HANGER SUPPORT DETAIL
SCALE: SCALE: NTS

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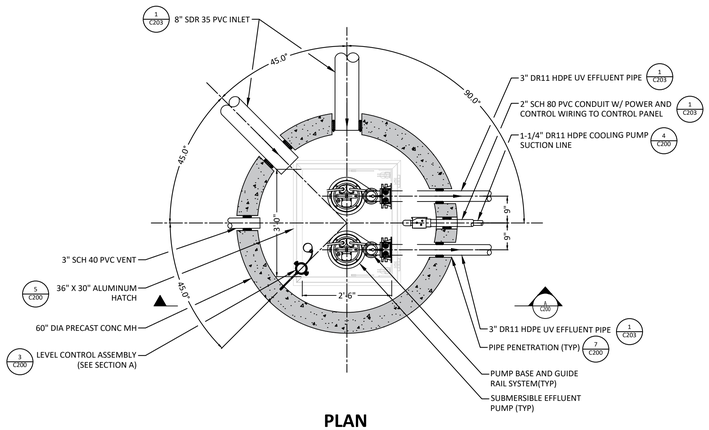
DISINFECTION SYSTEM
IMPROVEMENTS

DRAWN BY: DEB. / WAW | CHECKED BY: RJC | SCALE: NONE

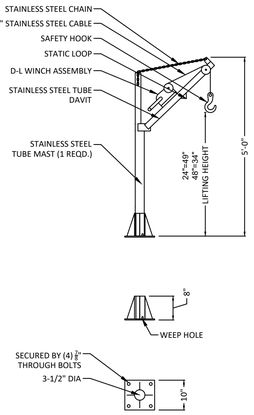
DATE: MARCH 10, 2026
REVISED:

UV BUILDING
PROCESS DETAILS

C103

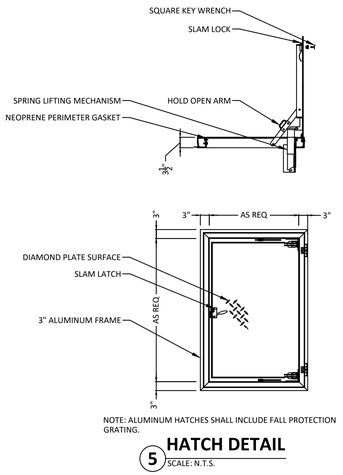


PLAN



2 DAVIT CRANE DETAIL

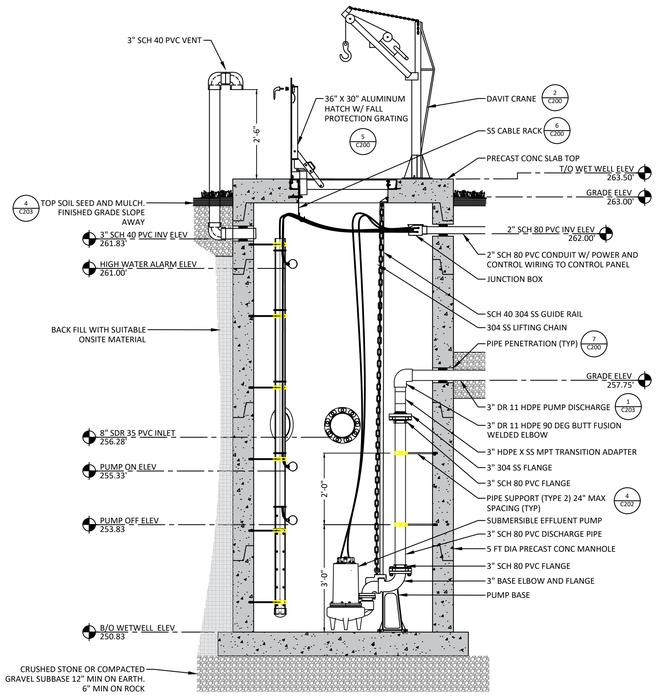
SCALE: N.T.S.



NOTE: ALUMINUM HATCHES SHALL INCLUDE FALL PROTECTION GRATING.

5 HATCH DETAIL

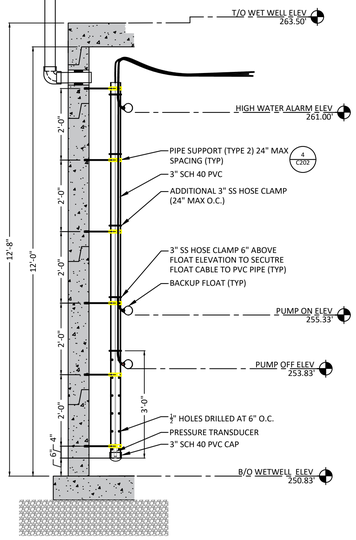
SCALE: N.T.S.



SECTION A

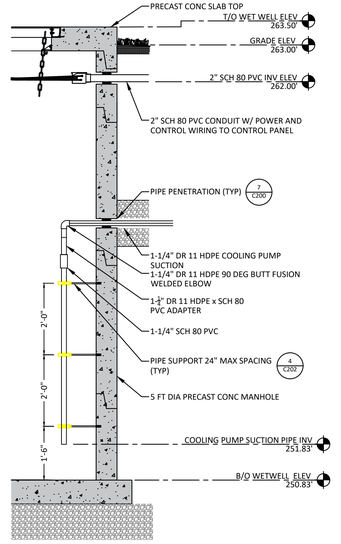
1 EFFLUENT PUMP STATION DETAIL

SCALE: 1/2" = 1'-0"



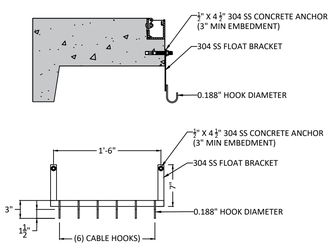
3 LEVEL CONTROL ASSEMBLY

SCALE: 1/2" = 1'-0"



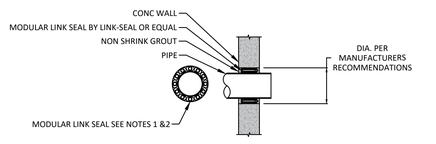
4 COOLING PUMP SUCTION PIPE ASSEMBLY

SCALE: 1/2" = 1'-0"



6 CABLE RACK DETAIL

SCALE: N.T.S.



NOTES:
1. SEALING ELEMENTS SHALL BE EPDM.
2. SIZING SHALL BE IN ACCORDANCE WITH THE MANUFACTURES RECOMMENDATIONS FOR THE APPLICATION

7 PIPE PENETRATION DETAIL

SCALE: N.T.S.

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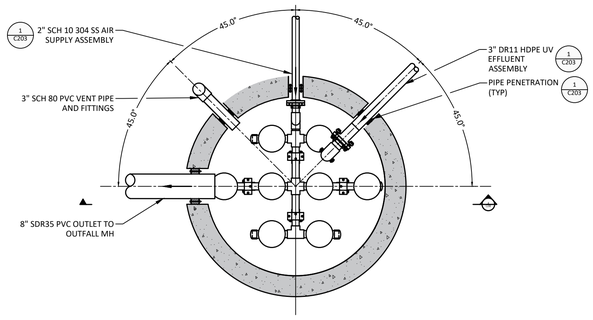
DISINFECTION SYSTEM
IMPROVEMENTS

DRAWN BY: DEB / WAW
CHECKED BY: RJC
SCALE: NONE

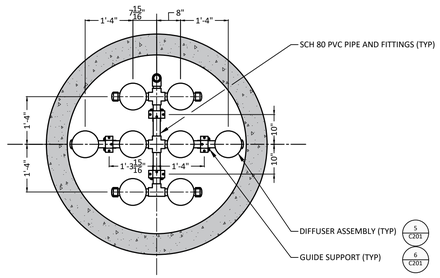
DATE: MARCH 10, 2026
REVISED:

WWTP SITE DETAILS

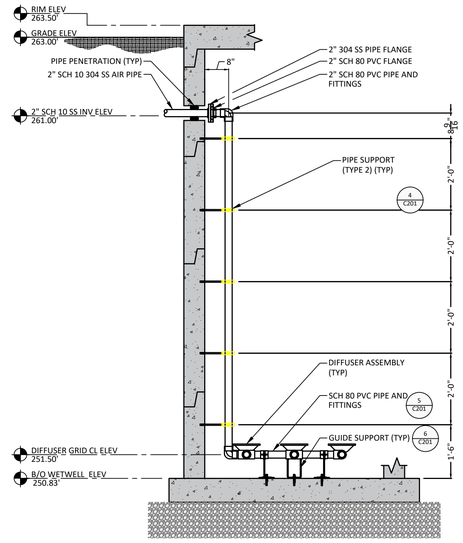
C200



PLAN (OVERALL LAYOUT)

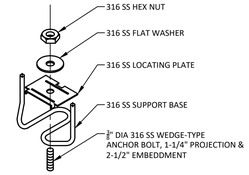


PLAN (AERATION GRID LAYOUT)



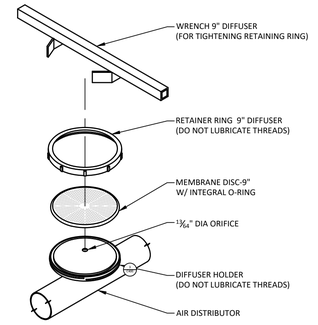
2 AIR SUPPLY ASSEMBLY DETAIL

SCALE: 1/2" = 1'-0"



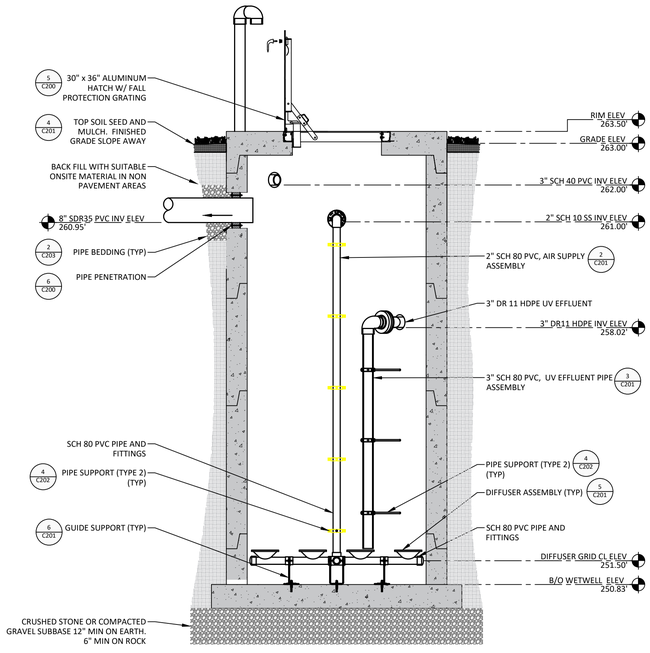
4 ANCHOR ASSEMBLY

SCALE: NTS



5 DIFFUSER ASSEMBLY

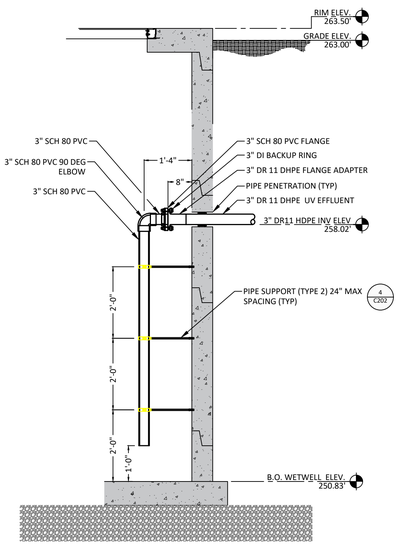
SCALE: NTS



SECTION A

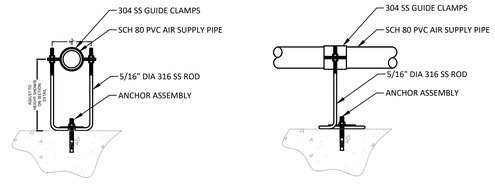
1 POST AERATION MANHOLE DETAIL

SCALE: 1/2" = 1'-0"



3 UV EFFLUENT PIPE ASSEMBLY DETAIL

SCALE: 1/2" = 1'-0"



6 GUIDE SUPPORT

SCALE: NTS

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745 GRAVES, CLAYTON NEW YORK, 13624
315/783-6384 315/408-7443
www.fourthcoast.com - www.stlawrenceengineering.com

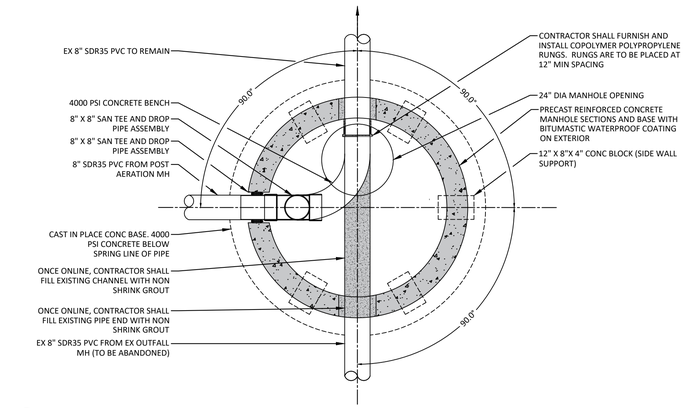
CLIENT: TOWN OF CLAYTON
PROJECT: DEPAUVILLE WWTP
DISINFECTION SYSTEM
IMPROVEMENTS

DRAWN BY: DEB
CHECKED BY: RJC
SCALE: NONE

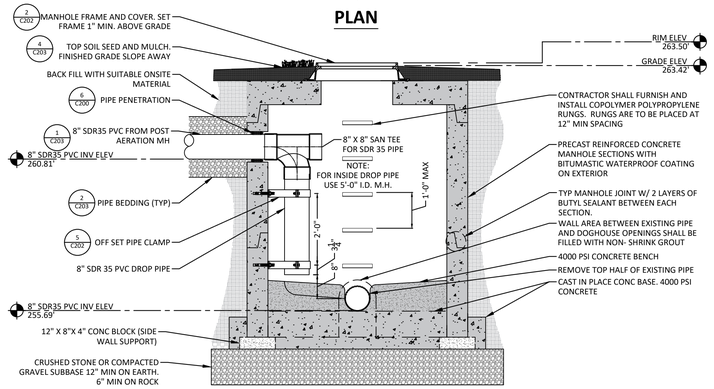
DATE: MARCH 10, 2026
REVISED:

WWTP SITE
DETAILS

C201



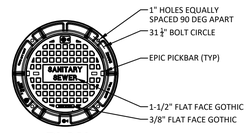
PLAN



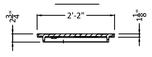
SECTION A

1 OUTFALL MH DETAIL

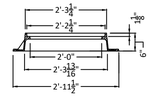
SCALE: 1/2" = 1'-0"



PLAN



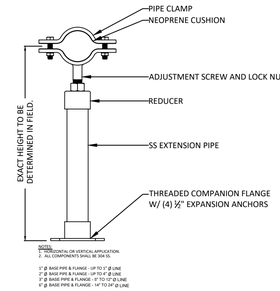
COVER SECTION



FRAME SECTION

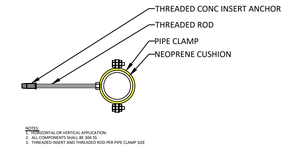
2 FRAME AND COVER DETAIL

SCALE: 1/2" = 1'-0"



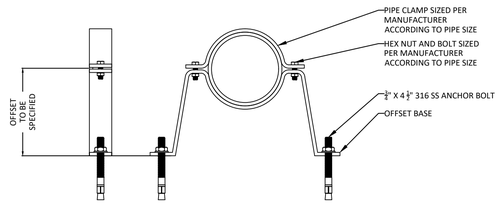
3 PIPE SUPPORT (TYPE 1) DETAIL

SCALE: SCALE: NTS



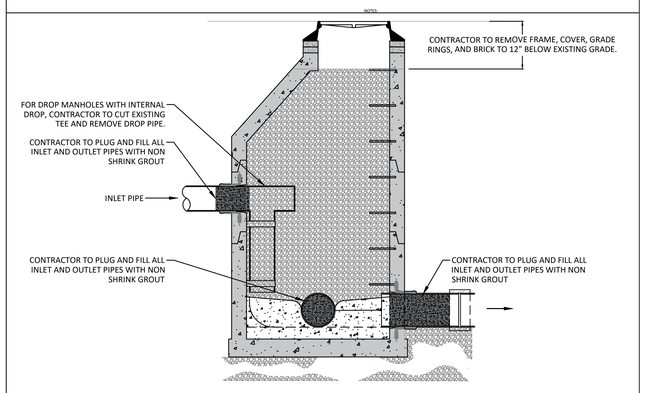
4 PIPE SUPPORT (TYPE 2)

SCALE: N.T.S.



5 PIPE SUPPORT (TYPE 3)

SCALE: N.T.S.



NOTES:

1. CONTRACTOR TO RESTORE TOP 12" ACCORDING TO THE MANHOLE LOCATION. REFER TO RESTORATION DETAILS

6 MANHOLE ABANDONMENT DETAIL

SCALE: 1/2" = 1'-0"

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SCALE: NONE

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WWTP SITE DETAILS

C202

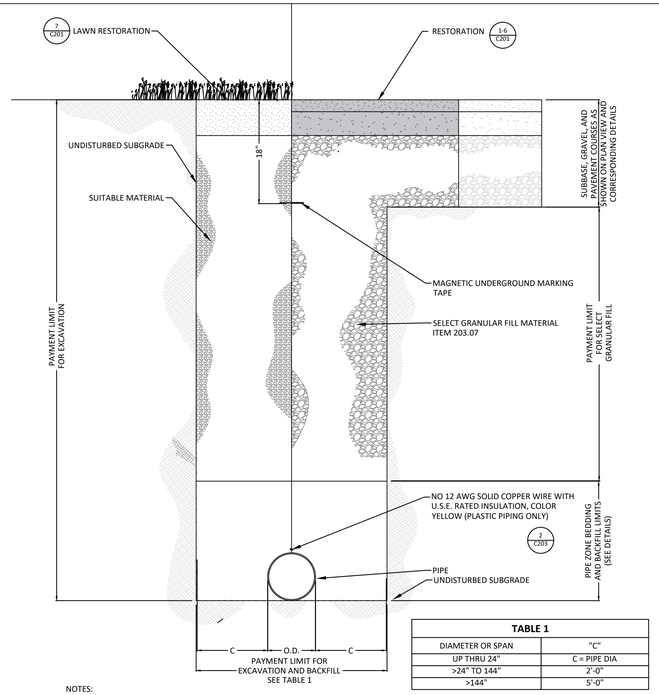
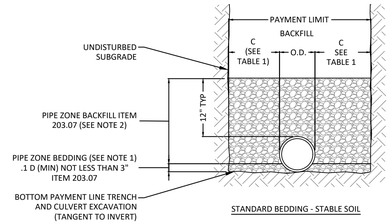


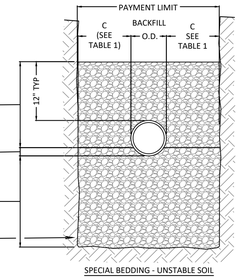
TABLE 1	
DIAMETER OR SPAN	"C"
UP THRU 24"	C = PIPE DIA
>24" TO 144"	2'-0"
>144"	5'-0"

NOTES:
1. THE MINIMUM DEPTH OF BEDDING SHALL BE 3" FOR PLASTIC PIPES AND CORRUGATED METAL PIPE-ARCHES.
2. COMPACTION REQUIREMENTS SHALL CONFORM TO 203-3.06, "SELECT GRANULAR FILL.

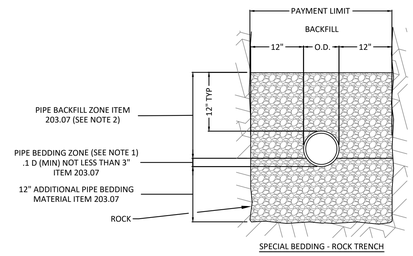
1 TYPICAL STORM DRAIN TRENCH DETAIL
SCALE: NTS



STANDARD BEDDING - STABLE SOIL



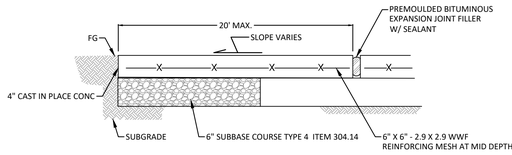
SPECIAL BEDDING - UNSTABLE SOIL



SPECIAL BEDDING - ROCK TRENCH

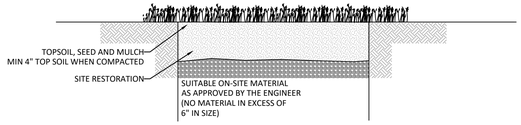
NOTE:
1. PIPE ZONE BEDDING SHALL CONSIST OF SELECT GRANULAR FILL MATERIAL PLACED, PRE-SHAPED AND COMPACTED TO FURNISH UNIFORM AND STABLE SUPPORT FOR PIPE PRIOR TO PIPE PLACEMENT.
2. PIPE ZONE BACKFILL SHALL CONSIST OF SELECT GRANULAR FILL MATERIAL PLACED AND COMPACTED EXTENDING FROM THE PIPE ZONE BEDDING TO A HEIGHT OF 12" ABOVE THE PIPE CROWN.

2 PIPE BEDDING DETAIL
SCALE: NTS



NOTES:
1. EXPANSION JOINTS TO BE PROVIDED EVERY 20 FEET.
2. CONTROL JOINTS SHALL BE 0.5" WIDE AND PROVIDED EVERY 5 FEET
3. CONCRETE SHALL BE 4000 PSI CLASS D AIR ENTRAINED AS PER NYSDOT SPECIFICATIONS.
4. EXPOSED CONCRETE SURFACE TO BE BROOM FINISHED & ALL EDGES TO BE TROWELED.
5. ALL EXPOSED CONCRETE TO RECEIVE TWO COATS OF CURING COMPOUND- SEALER SUCH AS "ACCUSEAL", CURE-N-HAND "POLYCLEAR" OR APPROVED EQUAL.
6. EXPANSION JOINTS TO BE PLACED BETWEEN ADJACENT SLABS, AT BUILDING LINE, AT CURBS, OR AT PENETRATING STRUCTURES.

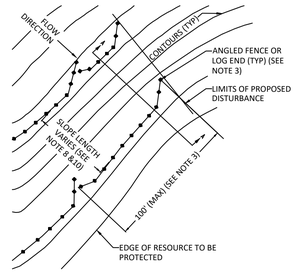
3 CONCRETE SIDEWALK
SCALE: NTS



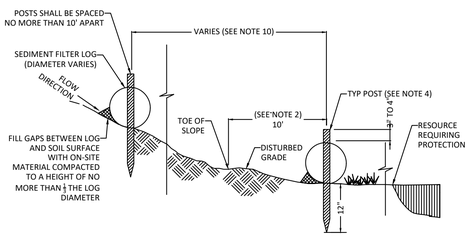
SEED MIXTURE	
KENTUCKY BLUE GRASS (3 VAR MIN)	15-40 PERCENT
FINE FESCUE (2 VAR MIN MUST INCLUDE CREEPING RED)	30-50 PERCENT
PERENNIAL RYEGRASS (2 VAR MIN)	15-40 PERCENT
ANNUAL RYEGRASS (2 VAR MIN)	5-15 PERCENT

NOTES:
1. TOPSOIL SHALL BE FERTILE, FRIABLE, NATURAL LOAM FREE OF SUBSOIL, CLAY LUMPS, BRUSH, STONES OR OTHER DELETERIOUS MATERIALS LARGER THAN TWO (2) INCHES IN GREATEST DIMENSION, CONFORMING TO THE REQUIREMENTS OF NYSDOT SECTION 713-01 AND MEETING THE FOLLOWING GRADATION REQUIREMENTS:
   SIEVE - PERCENT PASSING
   - 2" = 100 %
   - 1" = 85 - 100%
   - ¼" = 65 - 100%
2. SEED: APPLY SEED MIX AT A RATE 1.5 TO 2 TIMES THE MANUFACTURERS RECOMMENDED RATE EVENLY IN TWO INTERSECTING DIRECTIONS.
3. DO NOT SEED AREAS MORE THAN THAT WHICH CAN BE MULCHED ON SAME DAY.
4. MULCH: SHALL CONSIST OF CLEAN STRAW.
5. IMMEDIATELY FOLLOWING SEEDING AND COMPACTING, APPLY MULCH TO A THICKNESS OF 2 INCHES. APPLY WATER WITH FINE SPRAY IMMEDIATELY AFTER EACH AREA HAS BEEN MULCHED. SATURATE TO 4 INCHES OF SOIL.

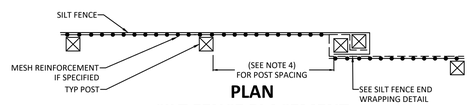
4 LAWN RESTORATION DETAIL
SCALE: NTS



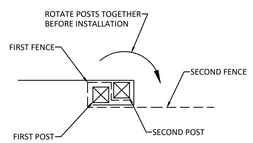
PLAN
EXAMPLE LAYOUT OF SILT FENCE OR SEDIMENT FILTER LOG



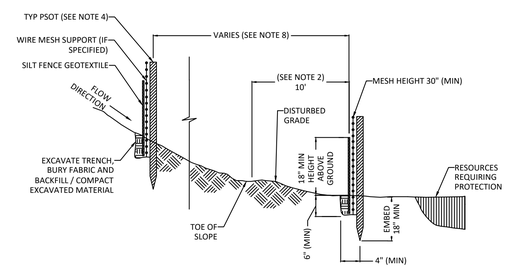
SECTION A-A
SEDIMENT FILTER LOG



PLAN
SILT FENCE PLACEMENT



SILT FENCE END WRAPPING DETAIL



SECTION A-A
SILT FENCE - TEMPORARY

5 SILT FENCE & SEDIMENT FILTER LOG DETAILS
SCALE: NTS

APPLICATION NOTES:

A. THE PRIMARY PURPOSE OF A SILT FENCE OF SEDIMENT FILTER LOG IS TO INTERCEPT SEDIMENT LADEN RUNOFF BY IMPOUNDING WATER BEHIND THE FENCE OR LOG SO THAT SEDIMENT FALLS OUT OF SUSPENSION.
B. IDENTIFY ONSIDE AND OFFSITE RESOURCES THAT NEED TO BE PROTECTED USING THE SILT FENCE OR SEDIMENT FILTER LOG (E.C. WETLANDS, PONDS, WATERWAYS, OR ENVIRONMENTALLY SENSITIVE AREAS). SILT FENCE OR SEDIMENT FILTER LOGS ARE TYPICALLY USED WITH EROSION OR SEDIMENT CONTROL MEASURES, SUCH AS MULCH AND/OR ROLLED EROSION CONTROL FABRIC.
C. SILT FENCE OR SEDIMENT FILTER LOGS SHALL NOT BE USED IN OR ACROSS A FLOWING CHANNEL, OR AREAS OF CONCENTRATED FLOW. DO NOT USE SILT FENCE OR SEDIMENT FILTER LOGS AS A PERIMETER CONTROL, TO DEFINE PROPERTY LINES, OR TO DELINEATE A RESOURCE.

GENERAL NOTES:

1. SILT FENCE OF SEDIMENT FILTER LOGS SHALL BE INSTALLED ON A LINE OF EQUAL ELEVATION (CONTOUR). IT MAY BE INSTALLED AT INTERMEDIATE POINTS UP SLOPES AS WELL AS AT THE BOTTOM.
2. FOR LOCATIONS THAT WARRANT PLACEMENT OF SILT FENCE OR SEDIMENT FILTER LOGS AT THE BASE OF SLOPES, SILT FENCE OR SEDIMENT FILTER LOGS SHALL BE PLACED A MINIMUM OF 10 FEET FROM THE TOE OF THE SLOPE. TO PROVED ADEQUATE AREA FOR SEDIMENT STORAGE AND FACILITATE MAINTENANCE OF THE SEDIMENT CONTROL AREA.
3. THE ENDS OF A ROW OF SILT FENCE OR SEDIMENT FILTER LOGS SHALL BE ANGLED UP SLOPE TO PREVENT CHANNELIZED FLOW FROM BEING CONVEYED PAST THE ENDS OF THE FENCE. A SECTION OF SILT FENCE OF SEDIMENT FILTER LOGS SHOULD NOT EXCEED 100 FEET IN LENGTH.
4. WOOD POSTS FOR SILT FENCE SHALL HAVE A CROSS-SECTION AREA OF 3.5 SQUARE INCHES OR STEEL POSTS SHALL BE "T" OR "U" SHAPE AND 1.33 POUND/FEET (MINIMUM) FOR STEEL. SPACING FOR THE PROVIDED SILT FENCE POSTS SHALL BE AS DESIGNATED ON THE DEPARTMENT APPROVED LIST FOR SILT FENCE. THE LENGTH OF SILT FENCE POSTS SHALL BE 40 INCHES. WOOD POSTS FOR SEDIMENT FILTER LOGS SHALL BE NOMINAL 2X2. THE LENGTH OF FILTER LOG POSTS SHALL BE 16" GRATER THAN THE DIAMETER OF THE LOG.
5. THE BOTTOM EDGE OF SILT FENCE SHALL BE BURIED A MINIMUM OF 6" BELOW GROUND. THE FENCE SHALL BE INSTALLED WITH THE POST ON THE DOWNSLOPE SIDE OF THE FABRIC.
6. WHERE ENDS OF GEOTEXTILE FABRIC COME TOGETHER, THEY SHALL BE OVERLAPPED AND FOLDED AND STAPLED TO PREVENT SEDIMENT BYPASS, OR THE END POSTS OF TWO SECTIONS SHALL BE WRAPPED AS SHOWN IN THE DETAIL FOR SILT FENCE END WRAPPING.
7. SEDIMENT SHALL BE REMOVED WHEN ACCUMULATION REACHES ONE-HALF OF THE ABOVE GROUND HEIGHT OR WHEN BULGES DEVELOP IN THE FABRIC. SEDIMENT SHALL BE DISPOSED OF AS UNSUITABLE MATERIAL.
8. THE FOLLOWING ARE MAXIMUM SLOPE LENGTHS (DISTANCE BETWEEN ROWS) FOR SILT FENCE INSTALLATION.

SILT FENCE MAXIMUM SLOPE LENGTH (FEET)			
SLOPE	STEEPNESS	STANDARD**	REINFORCED***
*5-10%	20:1 TO 10:1	125	250
10-20%	10:1 TO 5:1	100	150
20-33%	5:1 TO 3:1	60	80
33-50%	3:1 TO 2:1	40	70
>50%	>2:1	20	30

* FOR SLOPES LESS THAN 5% SILT FENCE IS NOT REQUIRED UNLESS IN SENSITIVE AREAS OR HIGHLY ERODIBLE SOIL.
** STANDARD SILT FENCE IS FABRIC ROLLS STAPLED TO WOODEN POSTS DRIVEN 18 INCHES INTO THE GROUND
*** REINFORCED SILT FENCE IS FABRIC PLACED AGAINST WELDED WIRE MESH WITH ANCHORED STEEL POSTS DRIVEN 18 INCHES INTO THE GROUND.

9. INSTALLATION OF SILT FENCE OR SEDIMENT FILTER LOG, INCLUDING EXCAVATION, BACKFILL, AND COMPACTION OF SOIL SHALL BE INCLUDED IN THE UNIT PRICE BID ITEM.
10. SEDIMENT FILTER LOG POSTS SHALL BE PLACED NO MORE THAT 10 FEET APART. ENDS OF LOGS SHALL BE OVERLAPPED BY 24 INCHES AND STAKED SIDE BY SIDE. THE MAXIMUM SLOPE LENGTH (DISTANCE BETWEEN ROWS) SHALL NOT EXCEED THE FOLLOWING LIMITS):

SEDIMENT FILTER LOG MAX SLOPE LENGTH (FEET)							
DIA. (IN)	SLOPE %						
	2	5	10	20	25	33	50
12	250	225	125	65	50	40	25
18	275	250	150	70	55	45	30
24	350	275	200	130	100	60	35

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FOUNDATION NOTES:

1. TOP OF FIRST FLOOR CONCRETE SLAB = REFERENCE ELEVATION = 0' - 0"
2. TOP OF FOUNDATION WALL ELEVATION = 1' - 0" U.N.O.
3. TOP OF FOOTING ELEVATION = SEE PLAN
4. CONCRETE REINFORCEMENT IS TO HAVE A YIELD STRESS OF 60,000psi U.N.O.
5. BAR REINFORCEMENT LAP SPLICES SHALL BE 40x BAR DIA. OR 2'-0" MINIMUM U.N.O.
6. ALL WELDED WIRE MESH (WWM) SHEETS ARE TO BE LAPPED A MINIMUM OF 8". AT LEAST ONE CROSS BAR OF EACH LAPPED SHEET MUST OCCUR IN THE LAP.
7. TERMINATION OF WELDED WIRE MESH (WWM) MUST OCCUR AT A CROSS BAR.
8. U.N.O. CONCRETE WALL STRIP FOOTING STRIP ARE 24" WIDE X 12" THICK W/ (3) #5 CONT HORIZ BARS AND #5 TRANSVERSE BARS @ MAX 16"o.c.
9. INTERIOR CONCRETE SLABS ON GRADE, U.N.O. :
   A. HAVE A 28 DAY COMPRESSIVE STRENGTH OF 5,000psi.
   B. ARE 6" THICK
   C. ARE REINFORCED W WWM 4x4 W2.9 X W2.9
   D. ARE ALSO REINFORCED W/ FORTA-FERRO MACRO SYNTHETIC FIBER REINFORCEMENT 2-1/4" LONG AT A DOSAGE OF 6 lbs/cuyd.
   E. ARE INSTALLED OVER 15mil CLASS A MOISTURE BARRIER OVER MIN 6" COMPACTED SELECT GRANULAR FILL. SEE GEOTECHNICAL REPORT FOR SOIL OR FILL REQUIREMENTS BELOW SLAB.
10. MAINTAIN SLAB THICKNESS AT ALL RECESSED AND SLOPING SLABS ON GRADE, U.N.O.
11. INSTALL A 3/8" COMPRESSIBLE ISOLATION STRIP BETWEEN ALL CONCRETE SLAB ON GRADES AND FOUNDATION WALLS U.N.O..
12. CONCRETE SPREAD, STRIP, AND COMBINED FOOTINGS:
   A. ARE TO HAVE A 28 DAY COMPRESSIVE STRENGTH OF 3,000PSI
   B. ARE TO BE PLACED OVER UNDISTURBED SOIL. REMOVE ALL DISTURBED AND/OR UNSUITABLE SOIL PRIOR TO PLACING FOOTINGS.
   C. IF REQUIRED FILL BELOW FOOTINGS IS TO BE CONCRETE, FLOWABLE FILL, OR 12" OF COMPACTED SELECT GRANULAR FILL.
   D. FOOTINGS ARE NOT TO BE PLACED DIRECTLY ON BEDROCK. A MINIMUM OF 12" OF COMPACTED SELECT GRANULAR FILL IS TO BE PLACED BETWEEN THE BOTTOM OF FOOTINGS AND BEDROCK. IF NECESSARY, BEDROCK IS TO BE OVER EXCAVATED TO PERMIT INSTALLATION OF REQUIRED FILL.
   E. CONTINUE STRIP FOOTING LONG REINFORCING BARS THROUGH COLUMN SPREAD FOOTINGS.
13. FOUNDATION WALLS.
   A. CONCRETE WALLS ARE TO HAVE A 28 DAY COMPRESSIVE STRENGTH OF 3,000psi
   B. WALL REINFORCING BARS ARE TO PASS CONTINUOUSLY THROUGH INTERSECTING WALLS.
   C. HORIZONTAL REINFORCING BARS ARE TO TERMINATE WITH STANDARD HOOKS.
14. FOUNDATION WALLS ARE NOT TO BE BACKFILLED:
   A. UNTILL THEY HAVE BEEN PERMITTED TO CURE FOR 7 DAYS.
   B. UNTILL BOTTOM OF THE WALLS HAVE BEEN BRACED BY A CONCRETE SLAB ON GRADE OR
   C. UNTILL THE TOP OF THE WALLS HAVE BEEN BRACED BY FLOOR FRAMING
15. FOUNDATION WALLS MAY BE BACKFILLED PRIOR TO INSTALLATION OF THE SECOND FLOOR SLAB CONCRETE PROVIDED THAT THEY HAVE BEEN SHORED TO THE SATISFACTION OF THE ENGINEER OF RECORD. A SHORING PLAN DESIGNED, DETAILED, AND SEALED BY A NYS LICENSED PROFESSIONAL ENGINEER MUST BE SUBMITTED AND APPROVED PRIOR TO BACKFILLING.
16. COORDINATE CONDUIT SLEEVE LOCATIONS IF REQUIRED WITH OTHER PRIMES.
17. FOUNDATION WALL EXTERIOR BACKFILL SHALL BE APPROVED COMPACTED GRANULAR FILL MATERIAL.
18. FOUNDATION WALL INTERIOR BACKFILL SHALL BE COMPACTED SELECT GRANULAR FILL.
19. SUBGRADE FILL WITHIN THE BUILDING FOOTPRINT SHALL BE COMPACTED SELECT GRANULAR FILL.
20. MINIMUM 6" COMPACTED SELECT GRANULAR FILL REQUIRED UNDER ALL SLABS.
21. FROST DEPTH = 5'-0" BELOW GRADE. PER GEOTECH REPORT.
22. REVIEW GEOTECHNICAL REPORTS ATTACHED TO THE PROJECT SPECIFICATIONS FOR FURTHER INFORMATION.

WOOD NOTES:

1. WOOD DESIGN STANDARDS:
   A. AWC NDS - 2018: NATIONAL DESIGN SPECIFICATION FRO WOOD CONSTRUCTION - WITH 2018 NDS SUPPLEMENTS
   B. AWC SDPWS - 2015: SPECIAL DESIGN PROVISIONS FOR WIND AND SEISMIC
2. ALL WOOD SHALL BE KILN DRIED TO BETWEEN 6% AND 8% MOISTURE CONTENT.
   A. ALL WOOD STAGED ON SITE SHALL BE COVERED OR OTHERWISE PROTECTED FROM THE ELEMENTS.
3. WOOD MEMBERS ARE TO BE SPRUCE PINE FIR (SPF) No 1&2 U.N.O.
4. WOOD FRAMING, SHEATHING, AND CONNECTIONS DEPICTED IN THE STRUCTURAL DRAWINGS ARE STRUCTURALLY SIGNIFICANT. ARCHITECTURAL REQUIREMENTS MAY REQUIRE ADDITION FRAMING, SHEATHING, OR COMPONENTS NOT DEPICTED IN THE STRUCTURAL DRAWINGS. COORDINATE WITH ARCHITECTURAL DRAWINGS.
5. STUD WALLS:
   A. 2x6 SPF No 1&2 @ 24"o.c. U.N.O.
   B. HAVE A SINGLE BOTTOM SILL PLATE OF EQUAL SIZE TO THE STUDS.
      a. SILL PLATE BUTT JOINTS:
         • OCCUR UNDER A STUD.
         • HAVE A BLOCK SPLICING THE PLATE. MINIMUM DISTANCE FROM A SOLE PLATE JOINT AND A BLOCK END = 4"
   C. HAVE DOUBLE TOP PLATES:
      a. BOTTOM PLY OF EQUAL SIZE TO THE WALL STUDS.
      b. BOTTOM PLY BUTT JOINTS MUST OCCUR OVER A STUD.
      c. TOP PLY OF SIZE OF WALL STUDS + 2".
      d. TOP PLY SHOULD BE CONTINUOUS W/ BUTT JOINTS MUST BE A MINIMUM OF 48" FROM ANY ADJACENT JOINT.
      e. TOP PLY MAY BE BLOCKING OF SIZE OF WALL STUDS + 2". CONNECT BLOCKING W/ CONTINUOUS SST CSMSTC16 STEEL STRAPPING. STRAPPING IS TO EXTEND FROM END OF WALL TO OPPOSITE END OF WALL. FASTEN STRAPPING PER MANUFACTURERR'S INSTRUCTIONS.
6. WOOD WALL EXTERIOR SHEATHING IS 5/8" OSB U.N.O.
   A. ALL SHEATHING EDGES ARE TO BE BLOCKED.
   B. WALL SHEATHING SHALL BE FASTENED W/ 8d NAILS:
      a. AT 8"o.c. ALONG PANEL EDGES.
      b. AT 12"o.c. IN FIELD,
7. WOOD SHEAR WALLS U.N.O.:
   A. SHEAR WALL CHORDS SHALL BE DOUBLE 2x THE SAME WIDTH AS THE WALL STUDS U.N.O.
   B. SHEAR WALL SHEATHING SHALL BE 5/8" OSB.
   C. ALL PANELS:
      a. EDGES SHALL BE BLOCKED.
      b. FASTENED TO SHEAR WALL CHORDS W/ 8d NAILS @ 4"o.c. STAGGER NAILS INTO EACH PLY OF THE SHEAR WALL CHORD.
      c. EDGES SHALL BE FASTENED W/ 8d NAILS @ 4"o.c.
      d. FEILD SHALL BE FASTENED W/ 8d NAILS @ 12"o.c..
   D. SHEARWALL HOLD DOWNS ARE:
      a. SWHD1 = SST HDU8-SDS2.5 U.N.O.
      b. SWHD2 = SST HDU2-SDS2.5 U.N.O.
   E. SHEAR WALL HOLD DOWNS BOLTS ARE :
      a. SWHD1 - 7/8"ø x 24" THREADED ROD & SST SB7/8x24 CONNECTED W/ SST CNW78 COUPLER U.N.O.
      b. SWDH2 - 5/8"ø x 24" THREADED ROD & SST SB5/8x24 CONNECTED W/ SST CNW58 COUPLER U.N.O.
   F. BOLTS **MUST** BE CAST IN PLACE WITH THE CONCRETE. POST INSTALLED BOLT INSTALLATION IS **NOT** ACCEPTABLE.
8. CEILING DIAPHRAGM:
   A. SHEATHING IS 5/8" O.S.B.
   B. SHEATHING IS FASTENED TO 2x4 FURRING @ MAX 24"o.c,
9. WOOD MEMBERS:
   A. ARE SPF No. 1&2 U.N.O.
   B. WOOD IN CONTACT WITH CONCRETE IS TO BE PRESSURE TREATED SP No. 1&2
      a. SILL PLATES ARE TO BE SEPARATED FROM CONCRETE W/ A CONTINUOUS FOAM SILL PLATE GASKET.
10. WOOD SILL PLATES ARE ANCHORED TO CONCRETE U.N.O.:
   A. SINGLE 2x6 SILL PLATES W/ SST STB2-62700MGR20 EXPANSION ANCHORS @ MAX 5'- 6" o.c..
   B. SILL ANCHOR BOLTS ARE TO BE INSTALLED W/ SST BP 5/8-3 STEEL PLATE WASHERS
   C. SILL BOLT MINIMUM DISTANCE FROM FOUNDATION OR SLAB EDGE = 3"
   D. MINIMUM SILL BOLT EMBEDMENT = 4".
11. WALL SHEATHING 5/8" OSB
12. ROOF FASCIA
   A. CONTINUOUS 2x6. FASTEN TO ROOF TRUSS TAILS W/ (3) 12d NAILS.
   B. FASTEN TO TRUSS HEEL & ROOF LADDER RUNG W/ (3) 10d NAILS.
   C. FASCIA BUTT JOINTS MUST OCCUR OT ROOF TRUSS HEEL OR ROOF LADDER RUNG.
   D. STAGGER FASCIA BUTT JOINTS A MINIMUM OF 4'-0" FROM SUB FASCIA BUTT JOINTS.
13. BUILT UP COLUMNS AND, ADJACENT STUDS, KING STUDS, AND JACK STUDS ARE TO FASTENED TOGETHER W/ (2) VERTICAL ROWS OF FASTENERS:
   A. 2x STUDS W/ 10d NAILS:
      a. END DISTANCE 2 1/2"
      b. EDGE DISTANCE MIN 3/4" MAX 3"
      c. ROW HORIZONTAL SPACING MIN 1 1/2" MAX 4"
      d. VERTICAL NAIL SPACING MIN 3" MAX 8"
14. BOLTS:
   A. BOLTS CONNECTING WOOD MEMBERS ARE ASTM A307 U.N.O.
   B. BOLTS EXPOSED TO THE ELEMENTS ARE TO BE GALVANIZED.

PRE-ENGINEERED WOOD TRUSS NOTES:

UNLESS NOTED OTHERWISE:
1. THE STRUCTURAL FRAMING SHOWN IS SCHEMATIC IN NATURE.
2. THE DESIGN OF THE PRE-ENGINEERED WOOD TRUSSES IS DELEGATED TO A PROFESSIONAL ENGINEER WITH AN ACTIVE LICENSE IN NEW YORK STATE WHO HAS BEEN NOMINATED BY THE WOOD TRUSS SUPPLIER.
3. THE NOMINATED SPECIALTY ENGINEER MUST PROVIDE SIGNED AND SEALED SHOP DRAWINGS AND CALCULATIONS FOR APPROVAL PRIOR TO FABRICATION. RELEASE OF TRUSSES FOR FABRICATION PRIOR TO ENGINEER APPROVAL WILL BE AT THE SOLE RISK OF THE 'RELEASER'.
4. THE TRUSS FABRICATOR SHALL PROVIDE ENGINEERED SHOP DRAWINGS OF EACH INDIVIDUAL TRUSS AND A FULLY DIMENSIONED ERECTION PLAN SHOWN COMPONENT LAYOUT.
5. TRUSS DESIGNS SHALL BE SIGNED AND SEALED BY NOMINATED STATE LICENSED PROFESSIONAL ENGINEER.
6. CONTRACTOR SHALL SUBMIT SIGNED AND SEALED DRAWINGS OF ALTERNATE CONNECTION DETAILS AT TRUSSES/GIRDERS TO COLUMNS AND WALLS FOR APPROVAL.
7. HANDLING, ERECTION AND BRACING OF TRUSSES SHALL BE IN ACCORDANCE WITH TRUSS PLATE INSTITUTE RECOMMENDATIONS.
8. THE ROOF TRUSSES, U.N.O.
   A. HAVE MINIMUM 2x4 BOTTOM CHORDS
   B. HAVE MINIMUNM 2x4 TOP CHORDS
   C. HAVE 2x4 END WEBS WHERE INDICATED.

STRUCTURAL DESIGN INFORMATION:

1. BUILDING CODE:
   1.1. 2020 BUILDING CODE of NEW YORK STATE
   1.2. ASCE 7-16
   1.3. OCCUPANCY RISK CATAGORY: II
   1.4. DESIGN BASIS: ALLOWABLE STRESS DESIGN

2. DEAD LOADS:
   2.1 FLOOR
      2.1.1. 6" CONCRETE SLAB ON GRADE 75.0 psf
      2.1.2. COLLATERAL 15.0 psf
   2.2. ROOF
      2.2.1. ROOF 10.0 psf
      2.2.3. COLLATERAL 15.0 psf

3. LIVE LOADS:
   3.1. FLOOR CONCRETE SLAB ON GRADE 100 psf

4. SNOW LOADS:

4.1. FLAT ROOF SNOW LOAD	pf:	50.4 psf
4.2. GROUND SNOW LOAD	pg:	60.0 psf
4.3. SNOW EXPOSURE FACTOR	Ce:	1.0
4.4. SNOW IMPORTANCE FACTOR	Is:	1.0
4.5. THERMAL FACTOR	Ct:	1.2
4.6. SLOPE FACTOR	Cs	1.0
4.7. DRIFT LOADS		SEE DRAWING

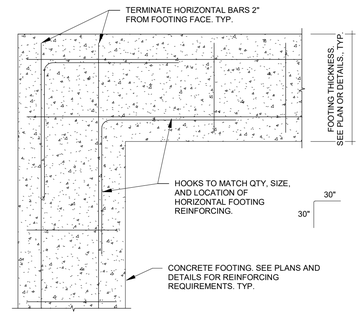
5. WIND LOAD:

5.1. BASIC WINDSPEED (3-SEC GUST)	Vult:	120mph
5.2. NOMINAL WIND SPEED (3-SEC GUST)	Vasd:	93mph
5.3. WIND EXPOSURE FACTOR:		B
5.4. WIND DIRECTIONALITY FACTOR		
5.4.1 MWFRS	Kd	0.85
5.4.2 COMPONENTS & CLADDING	Kd	0.85
5.5. ENCLOSURE		FULLY ENCLOSED
5.6. INTERNAL PRESSURE COEFFICIENT	Cpi	±0.18

6. EARTHQUAKE DESIGN DATA:

6.1. SEISMIC IMPORTANCE FACTOR	Ie:	1.00
6.2. SITE CLASSIFICATION:		D
6.3. MAPPED 5% DAMPED MCE SPECTRAL RESPONSE:		
6.3.1. SHORT TERM	Ss:	0.200g
6.3.2. 1 SEC	S1:	0.053g
6.4. DESIGN 5% DAMPED SPECTRAL RESPONSE:		
6.4.1. SHORT TERM	SDs:	0.170g
6.4.2. 1 SEC	SD1:	0.074g
6.5. LONG TERM TRANSITION PERIOD	TL:	6 SEC
6.6. SEISMIC FORCE RESISTING SYSTEM:		
6.6.1 LIGHT-FRAME (WOOD) WALLS SHEATHED WITH WOOD PANELS RATED FOR SHEAR RESISTANCE FOR SEISMIC RESISTANCE:		
	R:	6.5
6.7. SEISMIC RESPONSE FACTOR	Cs:	0.011
6.8. REDUNDANCY FACTOR	p:	1.0
6.9. ANALYSIS PROCEDURE: EQIV. LATERAL FORCE METHOD.		
6.10. SEISMIC BASE SHEAR: AS CALCULATED		
6.11. SEISMIC DESIGN CATEGORY	SDC:	B

7. ALLOWABLE SOIL BEARING PRESSURE: 3,000 psf



1 TYP CONC FOOTING CORNER REINF
SCALE: 3/4" = 1'-0"

ABBREVIATIONS			
ARCH	ARCHITECTURAL	LONG	LONGITUDINAL
A.F.F. OR AFF	ABOVE FINISHED FLOOR	LL	LIVE LOAD
ALUM	ALUMINUM	LLH	LONG LEG HORIZONTAL
BLK	BLOCK	LLH	LONG LEG HORIZONTAL
BFE	BASE FLOOR ELEVATION	LSH	LONG SIDE HORIZONTAL
BM	BEAM	LSV	LONG SIDE VERTICAL
B.O.C. or BOC	BOTTOM OF COLUMN	LVL	LAMINATED VERTICAL LUMBER
B.O.F. or BOF	BOTTOM OF FOOTING	LW	LIGHT WEIGHT
B.O.S. or BOS	BOTTOM OF STEEL	MAX	MAXIMUM
B.O.W. or BOW	BOTTOM OF WALL	MFGR	MANUFACTURER
BOT	BOTTOM	mil	THOUSANDTHS (1/1000)
BP	BASE PLATE	MIN	MINIMUM
BRG	BEARING	MONO	MONOLITHIC OR MONOLIHICALY
B/S	BOTH SIDES	MTL	METAL
C.C. or c.c.	CENTER TO CENTER	NO. OR #	NUMBER
CDL	COLATERAL DEAD LOAD	NOM	NOMINAL
CFMF	COLD FORMED METAL FRAMING	N.S. or NS	NEAR SIDE
C.J.	CONTROL JOINT	N.T.S. or NTS	NOT TO SCALE
CLR	CLEAR	NW	NORMAL WEIGHT
CMU	CONCRETE MASONRY UNITS	O.C. or o.c.	ON CENTER
COL	COLUMN	O.S.C. or o.s.c.	ON STAGGERED CENTERS
CON J.	CONSTRUCTION JOINT	O.H.C. or o.h.c.	ON HORIZONTAL CENTER
CONC	CONCRETE	O.V.C. or o.v.c.	ON VERTICAL CENTER
CONN	CONNECTION	O.H.	OVERHEAD
CONT	CONTINUOUS	PL or pl	PLATE
COORD	COORDINATION	PT	PRESSURE TREATED
C.S.O.G. or CSOG	CONCRETE SLAB ON GRADE	QTY	QUANTITY
CUFT	CUBIC FEET	REBAR	REINFORCING BAR
CUYD	CUBIC YARD	REINF	REINFORCING
DET	DETAIL	REF	REFERENCE
DF	DOUGLAS FIR	REQ'D	REQUIRED
DFLN	DEFLECTION	REV	REVISION
DIA	DIAMETER	SEC	SECTION
DIM	DIMENSION	SF	SPREAD FOOTING
DIA	DIAMETER	SIM	SIMILAR
DISCON	DISCONTINUOS	SOG	SLAB ON GRADE
DL	DEAD LOAD	SPEC	SPECIFICATIONS
DWG	DRAWING	SP	SOUTHERN PINE
EA	EACH	SPF	SPRUCE PINE FIR
ELEV	ELEVATION	SQFT	SQUARE FEET
ELEC	ELECTRICAL	SQYD	SQUARE YARD
EMB PL	EMBED PLATE	ST	STRIP FOOTING
EQ	EQUAL	STD	STANDARD
ETR	EXISTING TO REMAIN	STL	STEEL
EXP	EXPANSION	STRUCT	STRUCTURAL
EXT	EXTERIOR	SW	SHEAR WALL
EXIST	EXISTING	T&B	TOP AND BOTTOM
E.J.	EXPANSION JOINT	THK	THICK
E/E	EACH END	T.O.	TOP OF
E/F	EACH FACE	T.O.C. or TOC	TOP OF COLUMN
E/S	EACH SIDE	T.O.C.S. or TOCS	TOP OF CONCRETE SLAB
E/W	EACH WAY	T.O.F.or TOF	TOP OF FOOTING
FIN	FINISH	T.O.P. or TOP	TOP OF PIER
FLR	FLOOR	T.O.S.or TOS	TOP OF STEEL
FND	FOUNDATION	T.O.W. or TOW	TOP OF WALL
FT	FOOT or FEET	TRANS	TRANSVERSE
FTG	FOOTING	TYP	TYPICAL
F.S. or FS	FAR SIDE	U.N.O. or UNO	UNLESS NOTED OTHERWISE
Ga OR GA	GAUGE	VERT	VERTICAL
GALV	GALVANIZED	WL	WIND LOAD
GT	GIRDER TRUSS	W/	WITH
HORIZ	HORIZONTAL	WWF	WELDED WIRE FABRIC
IN	INCH	WWM	WELDED WIRE MESH
INSUL	INSULATION	ø	DIAMETER
INT	INTERIOR	℄	CENTER LINE
I.J.	ISOLATION JOINT	±	PLUS OR MINUS
		≈	APPROXIMATLY
		∠°	ANGLE DEGREES

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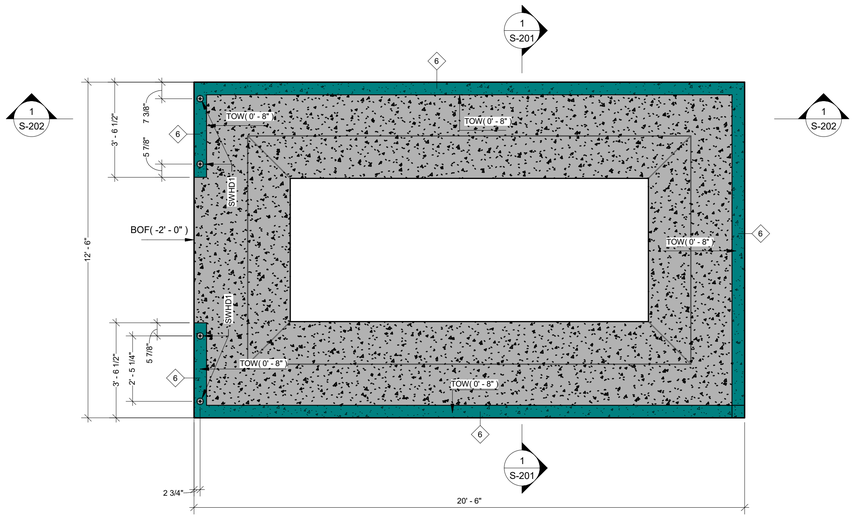
STANDARD STRUCTURAL NOTES I

Sheet No.
S-001



1. REFERENCE ELEVATION IS THE TOP OF THE FIRST FLOOR 5" CONCRETE SLAB ON GRADE.
2. REFERENCE ELEVATION = (0 ' - 0") = CIVIL (258.00')
3. BOTTOM OF THICKENED SLAB FOOTING ELEVATION IS: (-2' - 0") CIVIL (253.50')
4. CONCRETE SLAB U.N.O.:
   A. 28 DAY COMPRESSIVE STRENGTH fc' =3,000psi
   B. #4 BARS @ MAX 16"o.c. EACH WAY, (2) #5 BARS IN BOTTOM OF THICKENED SLAB FOOTING.
5. WALLS U.N.O.:
   A. 5,000psi GROUT AT ANCHOR BOLT CORES, PORTLAND CEMENTS AND SAND IN ALL OTHER CORES.
   B. SEE DETAILS FOR ADDITIONAL INFORMATION.

= SWHD = SHEAR WALL HOLD DOWN BOLT

6 = 6" CMU WALL
BOTTOM ELEVATION = (0' - 0")
TOP ELEVATION = (0' - 8")

1 FOUNDATION NOTES
SCALE: 3/4" = 1'-0"

1 FOUNDATION PLAN
SCALE: 3/8" = 1'-0"

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FOUNDATION PLAN

Sheet No.
S-100

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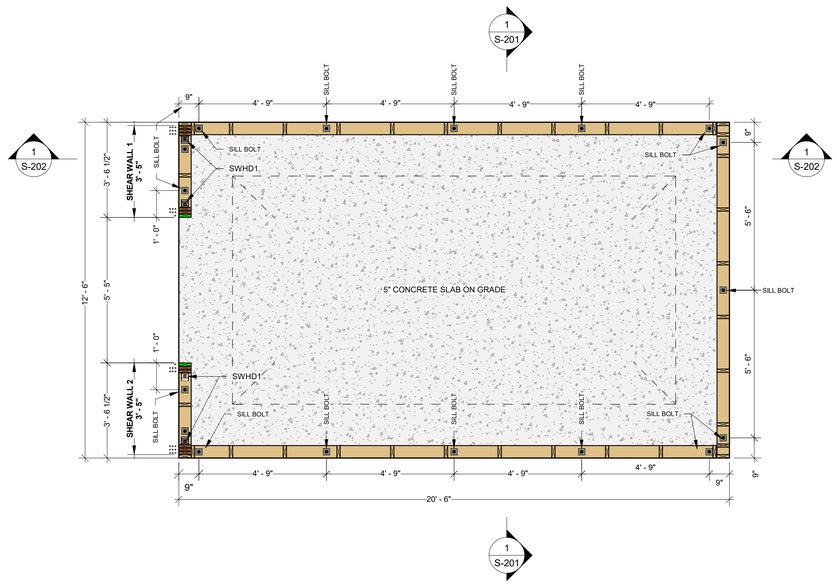
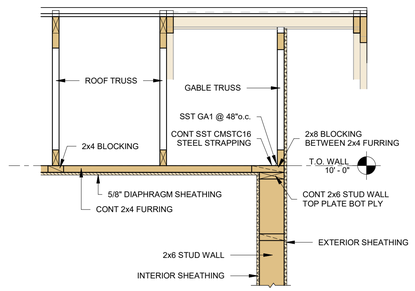
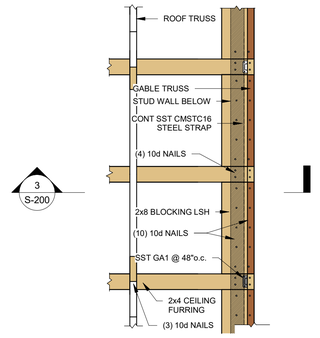


1 WALL FRAMING PLAN
SCALE: 3/8" = 1'-0"



3 CEILING DIAPHRAGM SECTION
SCALE: 3/4" = 1'-0"



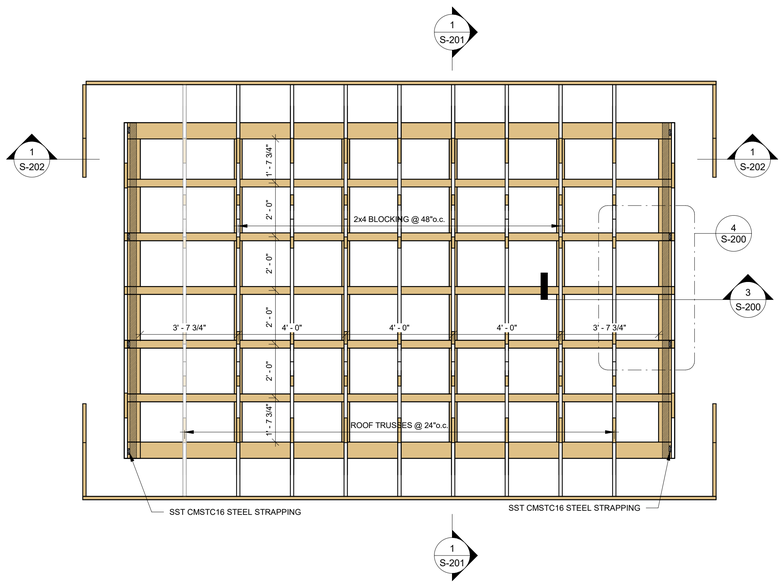
4 CEILING FRAMING PLAN - Callout 1
SCALE: 3/4" = 1'-0"

WOOD FASTENING SCHEDULE

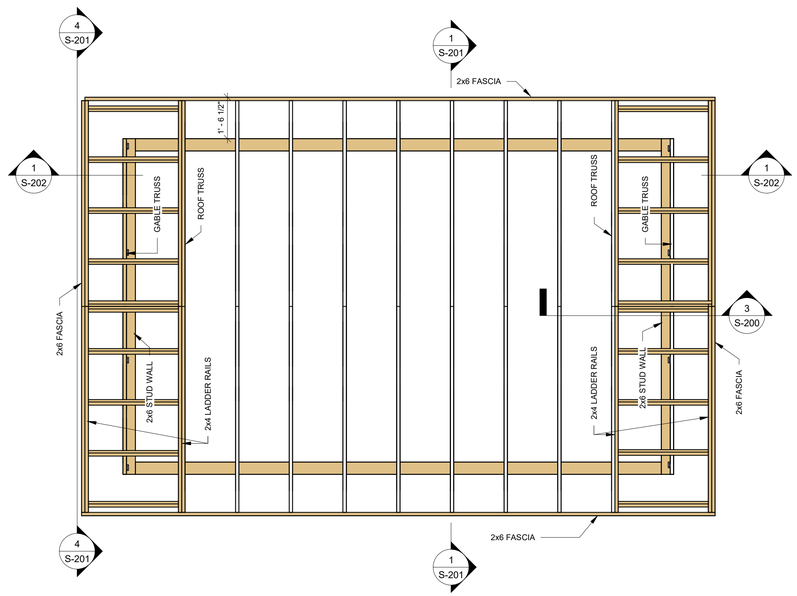
UNLESS NOTED OTHERWISE:
1. JOINTS NOT NOTED - REQUEST FASTENING INFORMATION FROM ENGINEER OF RECORD.
2. NAILS ARE 10d COMMON NAILS.
3. WALLS:
   A. 2x6 WALL STUDS TO WALL BOTTOM PLATE & TOP PLATE BOTTOM PLY - (3) 12d NAILS
   B. STUD WALL BLOCKING TO STUDS - (2) NAILS ONE SIDE & (2) TOE NAILS OTHER SIDE.
4. CEILING GENERAL:
   A. CEILING SHEATHING:
      a. PANEL EDGES: 8d NAILS @ 6"o.c
      b. PANEL FIELD: 8d NAILS @ 12"o.c.
   B. CEILING FURRING:
      a. TO EACH ROOF TRUSS BOTTOM CHORD - (2) 10d NAILS
      b. TO WALL TOP PLATE - (4) 10d NAILS
5. ROOF EAVE LADDERS:
   A. LADDER RUNGS TO LADDER RAILS (3) 10d NAILS.
   B. LADDER RUNGS TO GABLE TRUSSES - (2) 10d TOE NAILS.
   C. LADDER RAILS TO ROOF TRUSSES - 10d NAILS @ 6"o.s.c.
   D. WALL SHEATHING BLOCKING - (2) 10d TOE NAILS EACH END.
   E. NOTE: OUTSIDE LADDER RAIL IS THE ROOF SUB FASCIA.
6. ROOF TRUSSES:
   A. ROOF TRUSS TO STUD WALL - SST H10A TIE
   B. ROOF SHEATHING TO ROOF TRUSS:
      a. PANEL EDGES: 8d NAILS @ 6"o.c
      b. PANEL FIELD: 8d NAILS @ 12"o.c.
   C. FASCIA TO ROOF TRUSS HEELS - (3) 12d NAILS
   D. GABLE TRUSS TO STUD WALL - SST GA1 @ MAX 48"o.c.
7. WALL OPENINGS:
   A. BOTTOM SILL PLATES:
      a. PLATE TO WALL CRIPPLE STUDS:
         • 2x6 (3) 12d NAILS.
      b. SPF PLATE TO KING STUDS;
         • 2x6 (4) 12d NAILS PER PLY.
      c. MULTI PLY SILL PLATES;
         • SPF FASTEN PLIES TOGETHER W/ (2) 10d NAILS @ 6"o.c.
   B. TOP PLATES - SEE BOTTOM PLATES.
   C. LINTELS:
      a. BOTTOM & TOP LINTEL HORIZONTAL PLY:
         • TO KING STUD - (3) 10d NAILS
         • TO VERTICAL LINTEL MEMBERS - 10d NAILS @ 6"o.c.
         • TO ADJACENT HORIZONTAL PLIES - 10d NAILS @ 6"o.s.c.
      b. VERTICAL LINTEL PLIES:
         • 2x6 (4) 12d NAILS PER PLY

WOOD FRAMING LEGEND

- 2x6 WALL STUD
- • 2x6 JACK STUD
- •• 2x6 KING STUD
- •••• 2X6 SHEAR WALL CHORD
- SST HOLD DOWN
- SILL BOLT



2 CEILING FRAMING PLAN
SCALE: 3/8" = 1'-0"



5 ROOF FRAMING PLAN
SCALE: NOT TO SCALE

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FRAMING PLANS
Sheet No.
S-200

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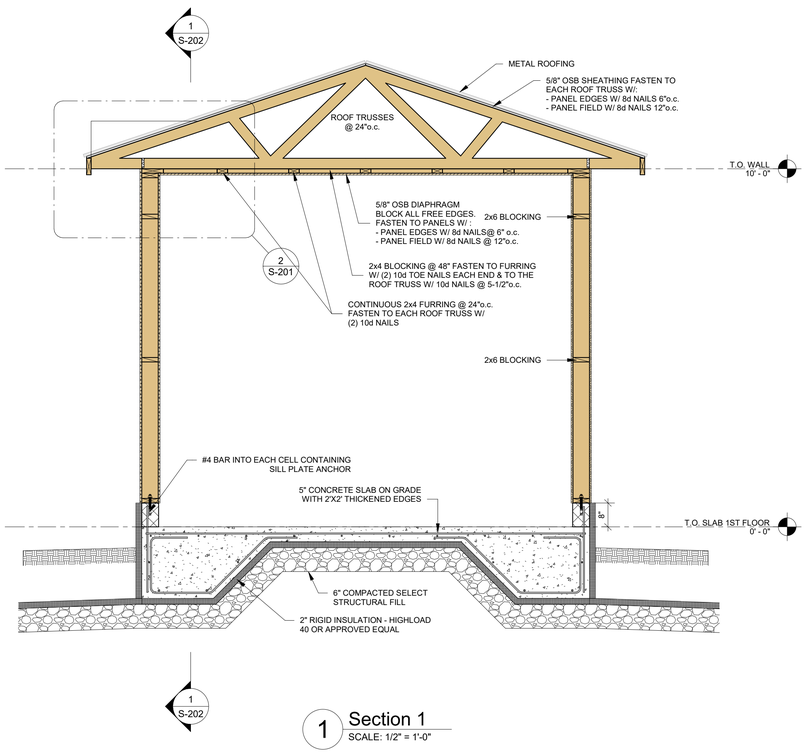
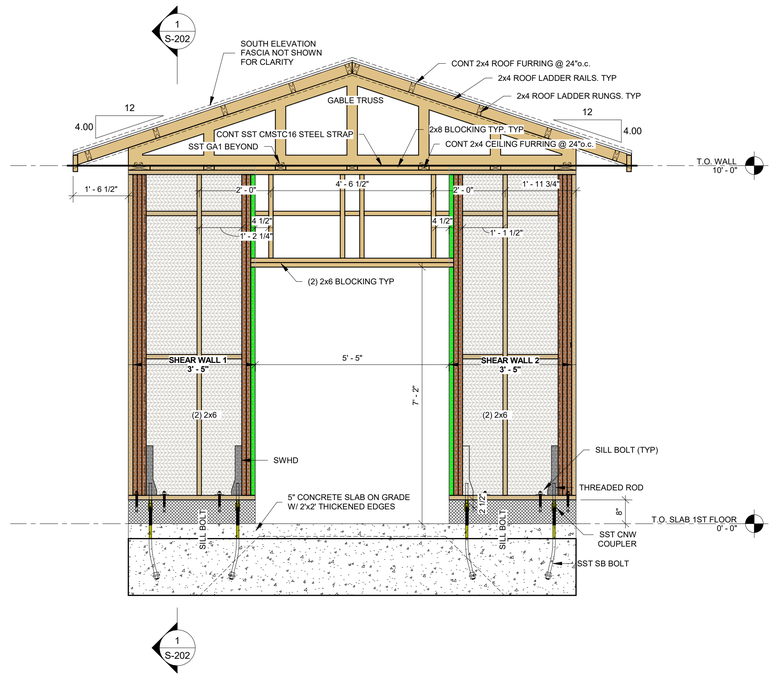
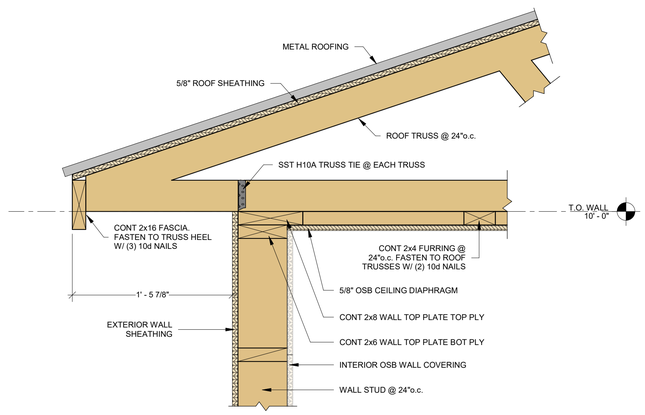


1 Section 1
SCALE: 1/2" = 1'-0"



4 SOUTH WALL FRAMING ELEVATION
SCALE: 1/2" = 1'-0"



2 Section 1- Callout 1
SCALE: 1 1/2" = 1'-0"

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SECTION- SOUTH
ELEVATION & DETAILS

Sheet No.
S-201

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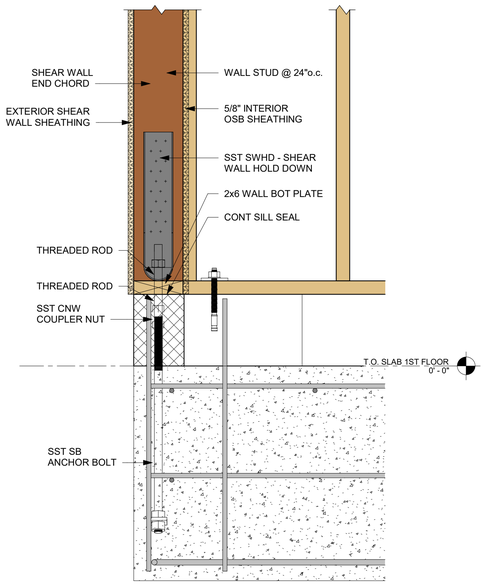
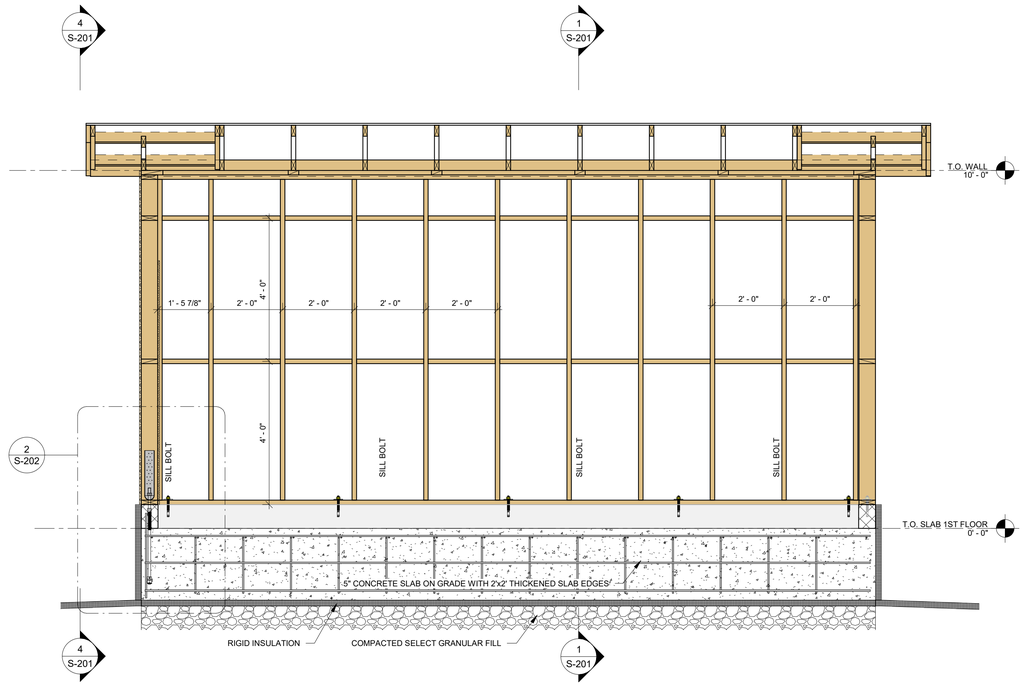


2 EAST FRAMING ELEVATION/SECTION - Callout 1

SCALE: 1 1/2" = 1'-0"



WEST ELEVATION SIMILAR

1 EAST FRAMING ELEVATION/SECTION

SCALE: 1/2" = 1'-0"

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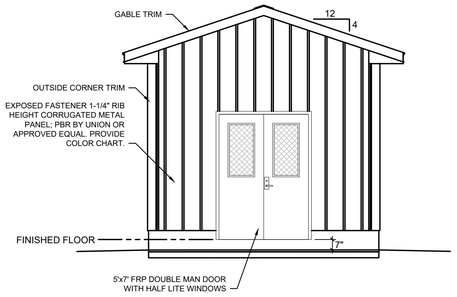
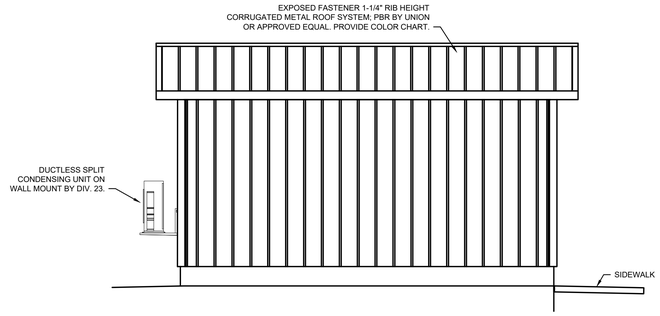
WEST WALL ELEVATION / SECTION

Sheet No.
S-202



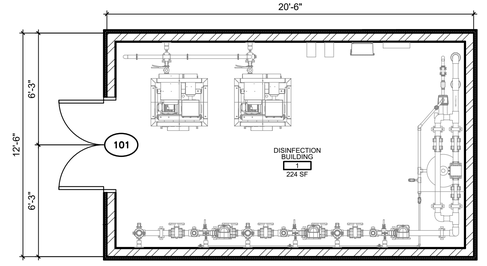
NORTHEAST ELEVATION 1

NO SCALE



SOUTHEAST ELEVATION 2

NO SCALE

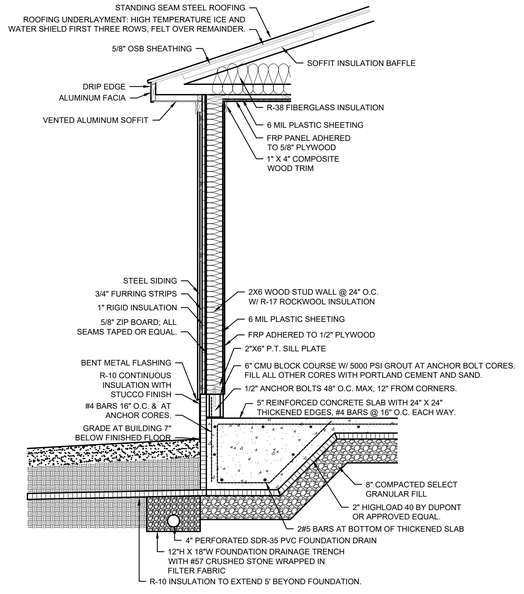


FLOOR PLAN

1/4" = 1'-0"

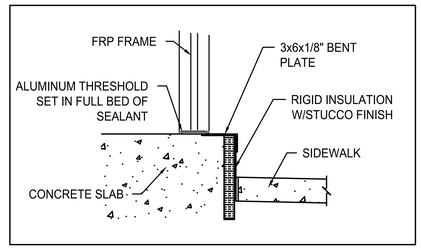
DOORS:

- DOORS SHALL BE FRP / FIBERGLASS COMPOSITE DOORS BY SPECIAL-LITE INC. MODEL AF 200 OR APPROVED EQUAL.
- FRP DOOR FRAME SHALL BE TYPE IN COMPLIANCE WITH PERFORMANCE REQUIREMENTS OF SPECIFIED DOORS.
- PAINTED FINISH: TWO-PART ALIPHATIC POLYURETHANE, LOW VOC INDUSTRIAL COATING (MIN 5 MILS, INCH WET THICKNESS)
- DOOR TO INCLUDE FIBERGLASS ASTRAGAL ON ACTIVE PANEL.
- DOOR TO INCLUDE SURFACE BOLT AT TOP AND BOTTOM OF INACTIVE PANEL. SURFACE BOLTS SHALL BE IVES 253, AN ALLEGION BRAND, OR EQUAL. BOLT TO HAVE 8" LENGTH WITH A 1-1/8" THROW.
- DOOR HANDLES SHALL BE 3553 - ENTRY - (F109) BY HAGAR CO. OR APPROVED EQUAL. LOCKS SHALL BE KEYED TO MATCH OWNERS'S CURRENT KEYING SYSTEM.
- HINGES: 4X4 BUTTS BB11914124 - STAINLESS STEEL BY HAGAR OR APPROVED EQUAL.
- CLOSERS: HOLD OPEN D-4550MCxHCSx619 BY STANLEY OR APPROVED EQUAL.
- THRESHOLD: 412S MIL BY HAGAR OR APPROVED EQUAL.
- SWEEP: 777S BY HAGAR OR APPROVED EQUAL.
- HEAD DRIP: 810S BY HAGAR OR APPROVED EQUAL.
- WEATHER STRIPPING: 803S BY HAGAR OR APPROVED EQUAL.



WALL SECTION 3

NO SCALE



THRESHOLD AT DOOR 4

NO SCALE

FOURTH COAST INC -
ST LAWRENCE ENGINEERING DPC
745 GRAVES, CLAYTON NEW YORK, 13624
315/783-6384 315/408-7443
www.fourthcoastLcom - www.stlawrenceengineering.com

CLIENT: TOWN OF CLAYTON
PROJECT: DEPAUVILLE WWTP
DISINFECTION SYSTEM
IMPROVEMENTS

DRAWN BY: DEB
CHECKED BY: RJC
SCALE: NONE

DATE: MARCH 10, 2026
REVISED:

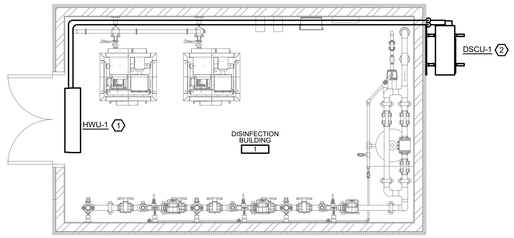
ARCHITECTURAL
PLAN

A-100

DUCTLESS SPLIT SYSTEM SCHEDULE

UNIT TAG	LOCATION	ARRANGEMENT	COOLING CAPACITY @95F (BTU/H)	HEATING CAPACITY @5F (BTU/H)	MIN SEER	SUPPLY CFM	ELECTRICAL			REMARKS	UNIT TAG	LOCATION	SERVICE	ELECTRICAL				REMARKS	BASIS OF DESIGN MANUFACTURER	BASIS OF DESIGN MODEL NUMBER (INDOOR UNIT)	BASIS OF DESIGN MODEL NUMBER (OUTDOOR UNIT)
							VOLTS	PHASE	MCA					VOLTS	PHASE	MCA	MOP				
HWU-1	RM 102	HIGH WALL UNIT	18,000	19,000	22.5	-	230	1	1	(1)	DSCU-1	WALL MOUNT	HWU-1	230	1	23	40	(2)	MITSUBISHI	MSZ-GX18NL	MUZ-GX18NLHZ

(1) POWERED THRU OUTDOOR UNIT. (2) PROVIDE WALL MOUNTING BRACKET.



KEY NOTES THIS SHEET:

1. INSTALL DUCTLESS SPLIT HIGH WALL UNIT (HWU-1) IN LOCATION SHOWN. PROVIDE CONDENSATE DRAIN. CONDENSATE DRAIN SHALL BE PERMITTED TO DROP IN CORNER OF ROOM AND OUT THRU SIDE WALL 18" ABOVE GRADE.

2. INSTALL AIR COOLED DUCTLESS SPLIT CONDENSING UNIT (DSCU-1) ON WALL MOUNTING BRACKET. PROVIDE 1/4"x1/2" LINESET WITH A MINIMUM LENGTH OF 17 FEET OR AS RECOMMENDED BY MANUFACTURER. PROVIDE LINE HIDE INSIDE AND OUTSIDE OF BUILDING. COORDINATE FOR CONNECTION OF ELECTRICAL SERVICE BY DIVISION 26.

FOURTH COAST INC -
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CLIENT: TOWN OF CLAYTON
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DISINFECTION SYSTEM
IMPROVEMENTS

DRAWN BY: DEB | CHECKED BY: RJC | SCALE: NONE

DATE: MARCH 10, 2026
REVISED:

MECHANICAL PLAN

M-100

GENERAL SPECIFICATIONS

1. ALL WORK SHALL BE IN ACCORDANCE WITH THE CURRENT EDITION OF THE NATIONAL ELECTRICAL CODE.
2. THESE DRAWINGS ARE SCHEMATIC IN NATURE AND REPRESENT A COMPLETED PROJECT. MINOR MODIFICATIONS OF WORK SHALL BE PROVIDED BY THE CONTRACTOR TO COMPLY WITH PROJECT REQUIREMENTS, LOCATIONS OF DEVICES AND EQUIPMENT SHOW A GENERAL ARRANGEMENT AND INTENDED FUNCTION. ALL COMPONENTS SHOWN ON THE RISER DIAGRAMS, BUT NOT ON THE PLAN OR VICE VERSA, SHALL BE INCLUDED AS IF SHOWN ON BOTH. EXACT LOCATION OF MECHANICAL EQUIPMENT THAT REQUIRE ELECTRICAL CONNECTIONS ARE SHOWN ON THE MECHANICAL DRAWINGS. BEFORE INSTALLATION OF WORK, CHECK FOR SWINGS AND ALL REQUIRED CLEARANCES, TO AVOID INTERFERENCE WITH OTHER TRADES. COORDINATE WITH ALL CONTRACT DOCUMENTS, SHOP DRAWINGS AND EQUIPMENT DRAWINGS. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL REQUIRED CONTRACT DRAWINGS.
3. PROVIDE ELECTRICAL CONNECTION FOR EVERY FIXTURE, OR ITEM OF EQUIPMENT REQUIRING SAME, WHICH IS SHOWN ON ANY CONTRACT DRAWING.
4. INSTALL EQUIPMENT IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS AND CONDITIONS FOR WARRANTY AND GUARANTEE. PROVIDE ALL ACCESSORIES REQUIRED FOR A COMPLETE AND SATISFACTORY INSTALLATION READY FOR CONTINUOUS USE.
5. WHERE WIRE SIZE IS NOT NOTED ON DRAWINGS, CONTRACTOR SHALL SIZE ACCORDING TO THE NEC AND SHALL ADHERE TO THE FOLLOWING CRITERIA:
   - EQUIPMENT CIRCUITS AND FEEDERS LESS THAN OR EQUAL TO 100A SHALL BE SIZED USING THE 60°C COPPER AMPACITY COLUMN (NEC T310.16).
   - EQUIPMENT CIRCUITS AND FEEDERS GREATER THAN 100A SHALL BE SIZED USING THE 75°C COPPER AMPACITY COLUMN (NEC T310.16). MINIMUM WIRE SIZE SHALL BE #12 THHN/THWN.
   - ALUMINUM SHALL NOT BE USED. CONDUCTORS SHALL BE SOLID UP THROUGH #10.
6. GROUNDING: PROVIDE GROUNDING & BONDING IN ACCORDANCE WITH NEC ARTICLE 250. CONDUCTORS SHALL BE COPPER. ALL FEEDERS, BRANCH CIRCUITS, AND OTHER WIRING SYSTEMS SHALL HAVE A SEPARATE DEDICATED GREEN INSULATED GROUND WIRE.
   BONDING: PROVIDE BONDING IN ACCORDANCE WITH NEC ARTICLE 250. ELECTRICALLY CONDUCTIVE MATERIALS ASSOCIATED WITH THE PROJECT SHALL BE CONNECTED TOGETHER IN A MANNER THAT CREATES A PERMANENT, LOW IMPEDANCE PATH FOR GROUND FAULT CURRENT.
7. EQUIPMENT OR MATERIALS SHALL BE NEW AND FOR ANY GIVEN SYSTEM AND SHALL BE A PRODUCT OF THE SAME MANUFACTURER, UNLESS NOTED OTHERWISE.
8. ALL BRANCH CIRCUITS REQUIRING A NEUTRAL SHALL HAVE SEPARATE DEDICATED FULL SIZE NEUTRAL CONDUCTORS.
9. PERFORM WORK AS REQUIRED BY CODES, REGULATIONS AND LAWS OF LOCAL, STATE AND FEDERAL GOVERNMENTS AND OTHER AUTHORITIES WITH LAWFUL JURISDICTION. APPROVED FOR INTENDED SERVICE. ALL MATERIAL AND EQUIPMENT SHALL BE UL, NEMA, ANSI, IEEE, ADA & CBM
10. MAINTAIN RECORD DRAWINGS ON SITE. RECORD SET MUST BE COMPLETE AND CURRENT AND AVAILABLE FOR INSPECTION WHEN REQUISITIONS FOR PAYMENT ARE SUBMITTED. GUARANTEE WORK IN WRITING FOR ONE YEAR FROM DATE OF FINAL ACCEPTANCE.
11. SHOP DRAWINGS AND SUBMITTALS SHALL BE PROVIDED FOR ALL EQUIPMENT SHOWN ON THE DRAWINGS. DEVIATION FROM CONTRACT DOCUMENTS, OR PROPOSED SUBSTITUTION OF MATERIALS OR EQUIPMENT FOR THOSE SPECIFIED, SHALL BE REQUESTED IN ADVANCE.
12. ALL EQUIPMENT SHALL BE INSTALLED IN A NEAT AND WORKMANLIKE MANNER, RECTILINEAR TO BUILDING STRUCTURE.
13. ALL RACEWAYS RUNNING THROUGH BUILDING EXPANSION JOINTS SHALL BE EQUIPPED WITH EXPANSION FITTINGS.
14. MINIMUM BRANCH CIRCUIT WIRING SHALL BE NO. 12 AWG SOLID COPPER. BRANCH CIRCUITS LONGER THAN 75 FEET FOR 120V CIRCUITS SHALL BE AT LEAST #10 FROM PANEL TO LAST OUTLET.
15. CUT AND PATCH BUILDING STRUCTURE AS REQUIRED. PROVIDE U.L. LISTED FIRE STOP METHODS FOR PENETRATIONS OF FIRE-RATED BUILDING COMPONENTS OR BARRIERS PER UL REQUIREMENTS. REFER TO ARCHITECTURAL DRAWINGS FOR WALL AND CEILING RATINGS.. WATERPROOF ALL EXTERIOR OUTDOOR PENETRATIONS. THIS WORK SHALL BE SUBJECT TO INSPECTION AND APPROVAL.
16. CONTRACTOR SHALL FIELD VERIFY ALL SITE CONDITIONS AND DIMENSIONS PRIOR TO COMMENCEMENT OF ANY WORK OR SHOP FABRICATION. REQUIRED CHANGES TO WORK SHOWN ON CONSTRUCTION DRAWINGS SHALL BE APPROVED BY THE ENGINEER IN WRITING, OTHER TRADES AND OWNER AS REQUIRED PRIOR TO ANY CONSTRUCTION.
17. THE WORK INCLUDED IN THIS CONTRACT ENCOMPASSES THE DRAWINGS AND SPECIFICATIONS. WORK INCLUDED ON THE DRAWINGS ONLY, OR IN THE SPECIFICATIONS ONLY, SHALL BE INCORPORATED AS IF INCLUDED IN BOTH. ALL SYSTEMS SHOWN ARE INTENDED TO BE COMPLETE AND FULLY FUNCTIONING. THE CONTRACTOR SHALL PROVIDE SUCH COMPONENTS AS NECESSARY FOR A FULLY FUNCTIONING SYSTEM.
18. PROVIDE ALL CUTTING AND PATCHING OF BUILDING COMPONENTS REQUIRED TO ACCOMMODATE THE WORK OF THIS CONTRACT. ALL PATCHING SHALL MATCH THE EXISTING COMPONENTS AND FINISHES. CUTTING AND PATCHING WORK SHALL BE PERFORMED BY PERSONNEL TRAINED AND REGULAR EMPLOYED FOR SUCH SERVICES.
19. THIS CONTRACTOR SHALL PROVIDE NECESSARY SUPPORT FRAMING, STIFFENERS, BRACING, AND HANGERS WHETHER SHOWN OR NOT TO ENSURE A COMPLETE AND DURABLE SYSTEM. SUPPORT FRAMING CONNECTIONS SHALL BE WELDED UNLESS SPECIFICALLY SHOWN OTHERWISE. ACTUAL SUPPORTS MAY VARY FROM THOSE SHOWN IN DETAILS AND AS REQUIRED FOR EQUIPMENT TO BE FURNISHED OR FOR EXISTING FIELD CONDITIONS.

GENERAL ABBREVIATIONS

A	AMPERES
ADA	AMERICANS WITH DISABILITIES ACT
AFF	ABOVE FINISH FLOOR
AFG	ABOVE FINISH GRADE
AHJ	AUTHORITY HAVING JURISDICTION
AIC	AMPERE INTERRUPTING CAPACITY
AL	ALUMINUM
AWG	AMERICAN WIRE GAUGE
BFG	BELOW FINISH GRADE
BLDG	BUILDING
C	CONDUIT
CB	CIRCUIT BREAKER
CKT	CIRCUIT
CL	CENTERLINE
CLF	CURRENT LIMITING FUSE
CT	CURRENT TRANSFORMER
CU	COPPER
DWG	DRAWING
EC	ELECTRICAL CONTRACTOR
EF	EXHAUST FAN
EM	EMERGENCY
EMT	ELECTRICAL METALLIC TUBING
F	FUSE
FLA	FULL LOAD AMPERES
FMC	FLEXIBLE METAL CONDUIT
FT	FEET
GFCI,GFI	GROUND-FAULT CIRCUIT INTERRUPTER
GND,G	GROUND OR GROUNDING
HOA	HAND, OFF, AUTOMATIC SWITCH
KCMIL	THOUSAND CIRCULAR MILS
KVA	KILOVOLT AMPERES
KW	KILOWATTS
LTG	LIGHTING
LFMC	LIQUIDTIGHT FLEXIBLE METAL CONDUIT
MC	METAL CLAD CABLE
MCB	MAIN CIRCUIT BREAKER
MCP	MOTOR CIRCUIT PROTECTOR
MLO	MAIN LUGS ONLY
NC	NORMALLY CLOSED
NEC	NATIONAL ELECTRIC CODE
NEMA	NATIONAL ELECTRICAL MANUFACTURES ASSOCIATION
NF	NON FUSED
NTS	NOT TO SCALE
P	POLE
PH	PHASE
PVC	POLYVINYL CHLORIDE
QTY	QUANTITY
REQ'D	REQUIRED
RMC	RIGID METAL CONDUIT
RTU	ROOF TOP UNIT
SP	SPARE
TYP	TYPICAL
UG	UNDERGROUND OR UNDERGRADE
UON, UNO	UNLESS OTHERWISE NOTED
V	VOLT
W	WIRE
WP	WEATHER PROOF RATED DEVICE
XFMR	TRANSFORMER
Δ	DELTA
Y	WYE
ø	PHASE

GENERAL SCHEUDLES

DRAWING NOTATION

- HEAVY & DOTTED AND/OR HATCHED INDICATES EXISTING EQUIPMENT TO BE DEMOLISHED
- SOLID LIGHT INDICATES EXISTING TO REMAIN EQUIPMENT
- HEAVY & SOLID INDICATES EQUIPMENT TO BE PROVIDED

TEXT ADJACENT TO EQUIPMENT IS SOMETIMES ADDED FOR EXTRA CLARIFICATION ON DEMO/EXISTING TO REMAIN ITEMS. REFER TO LIST BELOW FOR DEFINITIONS.

TBR	EXISTING EQUIPMENT TO BE REMOVED.
ETR	EXISTING EQUIPMENT TO REMAIN.
ERE	EXISTING EQUIPMENT TO BE REMOVED AND RELOCATED AS SHOWN.
ETN	EXISTING EQUIPMENT TO BE REMOVED AND REPLACED WITH NEW.

CIRCUITING LEGEND

CIRCUITING

LPP1-1 — HOMERUN TO PANEL "LPP1", CIRCUITS #1 (VIA 20A-1P CB'S). PROVIDE INSULATED GROUND CONDUCTOR IN ACCORDANCE WITH SPECIFICATIONS. NUMBER OF CIRCUITS INDICATED BY QUANTITY OF ARROW HEADS

CIRCUIT ROUTING SHOWN ON DRAWINGS SHALL BE CONSIDERED DIAGRAMMATIC ONLY. CONTRACTOR SHALL PROVIDE NECESSARY OFFSETS AND ROUTE FEEDERS AFTER HAVING CONSIDERED ALL FIELD OBSTACLES

POWER EQUIPMENT

SINGLE LINE DIAGRAM

- POWER TRANSFORMER
- PT — POTENTIAL TRANSFORMERS
- CT — CURRENT TRANSFORMERS
- **AT — MOLDED CASE CIRCUIT BREAKER "AT" - INDICATES AMPERE TRIP SETTINGS
- DISCONNECT SWITCH (NON FUSED)
- SYSTEM GROUND OR EQUIPMENT GROUND
- # — PANELBOARD WITH MAIN CIRCUIT BREAKER # = 3-PHASE VOLTAGE
- # — CIRCUIT BREAKER # = 3-PHASE VOLTAGE

FLOOR PLAN

- SURFACE MTD BRANCH CIRCUIT PANELBOARD. 208/120 3PH, 4W.
- JUNCTION AND/OR PULL BOX
- AF/P — 240 VAC HEAVY DUTY NON-FUSED DISCONNECT SWITCH. "AF" - INDICATES FRAME SIZE "P" - INDICATES # OF POLES
- AF/AT/P — 240 VAC HEAVY DUTY FUSED DISCONNECT SWITCH. "AF" - INDICATES FRAME SIZE "AT" - INDICATES FUSE TRIP SIZE "P" - INDICATES # OF POLES
- ELECTRICAL CONNECTION AS DEFINED IN MECHANICAL EQUIPMENT SCHEDULE.
- D/R — MECHANICAL EQUIPMENT BRANCH CIRCUIT. CONTRACTOR SHALL DISCONNECT & RECONNECT TO FACILITATE WORK BY OTHERS.
- M — MECHANICAL EQUIPMENT BRANCH CIRCUIT.
- FSD — FIRE/SMOKE DAMPER PROVIDED BY DIVISION 23. E.C. SHALL CIRCUIT TO 120V SOURCE AND EQUIP WITH FIRE ALARM SHUTDOWN HARDWARE.

WIRING DEVICES

RECEPTACLES

1. FACEPLATE COLOR - LIGHT ALMOND, UON.
2. DEVICE COLOR - LIGHT ALMOND, UON.

- 125 VOLT, 2 POLE, 3 WIRE, 20 AMP., HEAVY DUTY DUPLEX RECEPTACLE, MOUNTING HEIGHT 18" AFF UON.
- 125 VOLT, 2 POLE, 3 WIRE, 20 AMP., HEAVY DUTY DUPLEX RECEPTACLE MOUNTED ABOVE COUNTER.

TEXT ADJACENT TO RECEPTACLES INDICATES CONFIGURATION OR ACCESSORIES. REFER TO LIST BELOW FOR DEFINITIONS.

#	INDICATES PANELBOARD CIRCUIT TO WHICH RECEPTACLE SHALL BE CIRCUITED TO. REFER TO HOMERUN FOR PANELBOARD DESIGNATION.
WP	EXTERIOR RECEPTACLES SUBJECT TO DAMP ENVIRONMENTS SHALL HAVE WEATHER PROOF IN USE BUBBLE COVER WITH PADLOCK CAPABILITY.
GFI	RECEPTACLE EQUIPPED WITH INTEGRAL GROUND FAULT CIRCUIT INTERRUPTOR.

SWITCHES

1. FACEPLATE COLOR - LIGHT ALMOND, UON.
2. DEVICE COLOR - LIGHT ALMOND, UON.

- 125V, 20A HEAVY DUTY SWITCH.

TEXT ADJACENT TO SWITCH INDICATES SPECIAL CONFIGURATION OR ACCESSORIES. REFER TO LIST BELOW FOR DEFINITIONS.

3,4	INDICATES A 3 OR 4-WAY SWITCH.
M	MOTOR RATED SNAP SWITCH WITH OVERLOADS. CONTRACTOR SHALL SIZE SWITCH AND OVERLOADS BASED ON ACTUAL NAMEPLATE DATA OF EQUIPMENT SUPPLIED/PURCHASED.
D	DIMMING SWITCH - SLIDER TYPE. LINE VOLTAGE STYLE SWITCH SHALL BE COMPATIBLE WITH FIXTURES.
K	KEYED SWITCH
HOA	HAND / OFF / AUTO SWITCH

LIGHTING

LIGHT FIXTURES

- A

"A" CAPITAL LETTER INDICATES FIXTURE TYPE.

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CLIENT: TOWN OF CLAYTON
PROJECT: DEPAUVILLE WWTP DISINFECTION SYSTEM UPGRADES

DRAWN BY: DEB / WAW | CHECKED BY: RJC | SCALE: NONE

DATE: MARCH 10, 2026
REVISED:

ELECTRICAL SCHEDULES

E-000

POWER OUTLET SCHEDULE

INDICATED BY ▲ ON PLAN SHEETS

EQUIPMENT			ELECTRICAL LOAD				POWER CONNECTION				CONTROL CONNECTION				FIRE ALARM SYSTEM CONNECTION			DISCONNECT/SAFETY SWITCH				STARTER				REMARKS
SPECIFIC NOTES: 1. WHEN LOCATION IS NOT INDICATED ON E-SHEETS, REFERENCE M-SHEETS. 2. LOCATIONS SHOWN ARE GENERAL IN NATURE, COORDINATE WITH DIV. 23 PRIOR TO ROUGH-IN.											SPECIFIC NOTES: 1. CONTROL DEVICE PROVIDED BY OTHERS. PROVIDE CIRCUITING AS INDICATED.				SPECIFIC NOTES: 1. DETECTORS AND REMOTE ANNUNCIATORS PROVIDED BY ELECTRICAL CONTRACTOR 2. COORDINATE INSTALLATION IN DUCTS WITH DIVISION 23. 3. ALL CABLING BY DIVISION 26/28			TYPES: A: NON FUSED B: FUSED M: MOTOR RATED SWITCH R: RECEPTACLE/CORD/PLUG N: NOT REQUIRED C: CKT BREAKER WITHIN SIGHT SIZES: AF: AMPERE FRAME AT: FUSE SIZE (RK5, UON)				TYPES: VFD: ENCLOSED DRIVE, EQUIP. W/ NEMA STYLE DISC. CMS: COMBINATION STARTER W/ DISC. ATL: ACROSS LINE, FVNR. M: MOTOR RATED SWITCH - MANUAL STARTER RELAY: CONTROL STYLE RELAY PACK N: NOT REQUIRED P: PACKAGED CONTROLLER BY MANUF.				
EQUIPMENT TAG	EQUIPMENT TYPE	LOCATION ON PLAN	HP / MCA / KW	FLA	V	PH	HOMERUN TO	CKT BKR	CONDUCTORS & CONDUIT	CONNECTION BY (DIVISION)	CONTROL TYPE/VOLTAGE	HOMERUN TO	CONDUCTORS	CONNECTION BY (DIVISION)	SUPPLY DUCT SMOKE	RETURN DUCT SMOKE	GENERAL FIRE ALARM SHUTDOWN	DISCONNECT TYPE/SIZE	NEMA ENCLOSURE TYPE	FURNISHED BY (DIVISION)	INSTALLED BY (DIVISION)	STARTER TYPE	ENCLOSURE TYPE	FURNISHED BY (DIVISION)	INSTALLED BY (DIVISION)	
PCP-1	PUMP CONTROL PANEL	UV BLDG	-	-	240	1	PP-1	40/2	(3)#8 & #10G, 3/4"C	DIV 26	-	-	-	-	-	-	-	C	-	-	-	N	-	-	-	-
P-1	SUBMERSIBLE PUMP	UV BLDG	3HP	9.6	240	3	PCP-1	-	12/4 VFD*, 1"C	DIV 26	-	PCP-1	SOOW CABLE*	DIV 26	-	-	-	C	-	-	-	VFD	-	GC	GC	* CABLES FURNISHED WITH EQUIPMENT BY G.C.; VFD WITHIN PUMP CONTROL PANEL
P-2	SUBMERSIBLE PUMP	UV BLDG	3HP	9.6	240	3	PCP-1	-	12/4 VFD*, 1"C	DIV 26	-	PCP-1	SOOW CABLE*	DIV 26	-	-	-	C	-	-	-	VFD	-	GC	GC	* CABLES FURNISHED WITH EQUIPMENT BY G.C.; VFD WITHIN PUMP CONTROL PANEL
P-3	COOLING PUMP	UV BLDG	1/2HP	9.8	120	1	PP-1	20/1	(2)#12 & #12G, 1/2"C	DIV 26	-	-	-	-	-	-	-	C	-	-	-	N	-	-	-	-
VFD-1	VFD	UV BLDG	-	17	240	1	PP-1	40/2	(3)#8 & #10G, 3/4"C	DIV 26	-	-	-	-	-	-	-	C	-	-	-	N	-	-	-	-
VFD-2	VFD	UV BLDG	-	17	240	1	PP-1	40/2	(3)#8 & #10G, 3/4"C	DIV 26	-	-	-	-	-	-	-	C	-	-	-	N	-	-	-	-
BLOWER-1	AIR BLOWER	UV BLDG	3HP	9.6	240	3	VFD-1	-	12/4 VFD*, 1"C	DIV 26	-	-	-	-	-	-	-	C	-	-	-	N	-	-	-	* PROVIDE SHIELDED VFD CABLE
BLOWER-2	AIR BLOWER	UV BLDG	3HP	9.6	240	3	VFD-2	-	12/4 VFD*, 1"C	DIV 26	-	-	-	-	-	-	-	C	-	-	-	N	-	-	-	* PROVIDE SHIELDED VFD CABLE
DSCU-1	AIR SOURCE HEAT PUMP	UV BLDG	23A	-	240	1	PP-1	30/2	(2)#10 & #10G, 3/4"C	DIV 26	-	-	-	26	-	-	-	A	3R	23	26	N	-	-	-	-
HWU-1	HIGH WALL UNIT	UV BLDG	1A	-	240	1	DSCU-1	-	14/3 SOOW*, 3/4"C	DIV 26	24V	DSCU-1	SOOW CABLE*	DIV 26	-	-	-	C	-	-	-	N	-	-	-	* POWER / CONTROL CABLES FURNISHED BY DIV. 23
UV-1	UV UNIT	OUTDOORS	0.403KW	-	120	1	PP-1	20/1	-	-	-	-	-	-	-	-	-	R	-	26	26	P	-	GC	GC	-
UV-2	UV UNIT	UV BLDG	0.403KW	-	120	1	PP-1	20/1	-	-	-	-	-	-	-	-	-	R	-	26	26	P	-	GC	GC	-
UV-3	UV UNIT	UV BLDG	0.403KW	-	120	1	PP-1	20/1	-	-	-	-	-	-	-	-	-	R	-	26	26	P	-	GC	GC	-

NOTES:
1. EQUIPMENT FURNISHED BY OTHERS. COORDINATE WITH ASSOCIATED TRADE CONTRACTOR.
2. CONFIRM HP, VOLTAGE AND PHASE CONNECTIONS PRIOR TO ROUGH-IN OF EQUIPMENT. COORDINATION REQUIRED BETWEEN TRADES.
3. STARTERS SHALL BE SIZED BASED ON ELECTRICAL LOAD DATA LISTED ON SCHEDULE.
4. MOTOR RATED SWITCHES SHALL BE EQUIPPED WITH HEATERS, WHICH SHALL BE SIZED BASED ON NAMEPLATE DATA (TO BE OBTAINED IN FIELD), NOT ON ELECTRICAL LOAD DATA ON SCHEDULE
5. CIRCUIT BREAKERS INDICATED ON SCHEDULE ABOVE SHALL BE PROVIDED BY THE CONTRACTOR IN THE PROPOSED PANEL (THEY ARE NOT EXISTING BREAKERS).
6. FOR THIS PROJECT, ASSUME:
   DIVISION 26: ELECTRICAL CONTRACTOR
   DIVISION 23: MECHANICAL CONTRACT AND/OR CONTROLS SUB CONTRACTOR
   DIVISION 22: PLUMBING CONTRACTOR

BRANCH CIRCUIT SCHEDULE

CIRCUIT BREAKER	PHASE CONDUCTORS AND/OR NEUTRAL CONDUCTORS	GROUND CONDUCTOR	CONDUIT
3 POLE CIRCUITS			
50/3	(3)#6	#10	3/4"C OR MC CABLE
40/3	(3)#8	#10	3/4"C OR MC CABLE
30/3	(3)#10	#10	3/4"C OR MC CABLE
20/3	(3)#12	#12	1/2"C OR MC CABLE
15/3	(3)#12	#12	1/2"C OR MC CABLE
2 POLE CIRCUITS			
50/2	(2)#6	#10	1"C OR MC CABLE
40/2	(2)#8	#10	3/4"C OR MC CABLE
30/2	(2)#10	#10	1/2"C OR MC CABLE
20/2	(2)#12	#12	1/2"C OR MC CABLE
15/2	(2)#12	#12	1/2"C OR MC CABLE
1 POLE CIRCUITS			
40/1	(2)#8	#10	3/4"C OR MC CABLE
30/1	(2)#10	#10	1/2"C OR MC CABLE
20/1	(2)#12	#12	1/2"C OR MC CABLE
15/1	(2)#12	#12	1/2"C OR MC CABLE

NOTES REGARDING THE USE OF THIS SCHEDULE:

1. USE THIS SCHEDULE FOR:
   - ALL RECEPTACLE AND LIGHTING CIRCUITS.
   - WHERE SPECIFIC CONDUCTOR/CONDUIT SIZING IS NOT INDICATED ELSEWHERE ON THE DRAWING SET.
   - FOR ANY BRANCH CIRCUITS THAT ARE REQUIRED TO BE RELOCATED/EXTENDED, ETC.
2. DO NOT USE THIS SCHEDULE:
   - FOR LARGE MECHANICAL LOADS (REFER THE MECHANICAL EQUIPMENT SCHEDULE ABOVE).
   - FOR SERVICE ENTRANCE CONDUCTORS.
   - WHERE SPECIFIC CONDUCTOR/CONDUIT IS CALLED FOR ON THE DRAWINGS.
3. WHERE CIRCUIT LENGTH EXCEEDS 100' - CONTRACTOR SHALL USE NEXT HIGHER PHASE/NEUTRAL CONDUCTOR SIZE, TO COMPENSATE FOR VOLTAGE DROP.

LUMINAIRE SCHEDULE

TYPE	DESCRIPTION	BASIS OF DESIGN FIXTURE	LENS/DIFFUSER	VOLTAGE	LAMPS	MOUNTING	REMARKS
A	WALL PACK, 4000K	MAXLITE WALLMAX WPC28U-WCSBPCCR	POLYCARBONATE	120-277V	LED 28W	WALL MOUNT APPROX 8'-6" AFF	DIMMING, WITH INTEGRAL PHOTOCELL
B	4' VAPOR TIGHT LED UTILITY, 4000K	MAXLITE LSV4U23CSCR	ACRYLIC	120-277V	LED 48W	SURFACE MOUNTED	DIMMING

FIXTURES SHALL BE BASIS OF DESIGN, COOPER, LITHONIA, OR APPROVED EQUAL.

PANEL 'MDP'

LOCATION: BOILER ROOM
MOUNTING: SURFACE
VOLTAGE / PHASE: 120/240 1ϕ
MIN AIC RATING: 22,000

BUS / MAIN: 400A MCB
FEEDER: 350MCM
CONDUIT: 3"
FED FROM: ATS

* - HANDLE LOCK
** - SHUNT TRIP BREAKER

LOAD DESCRIPTION	CB/ POLES	CKT. NO.	ϕ	CKT. NO.	CB/ POLES	LOAD DESCRIPTION
(E) PP-1	200/2	1	A	2	20/1	GENERATOR BATTERY CHARGER
↓		3	B	4	20/1	GENERATOR BLOCK HEATER
PP-5	150/2	5	A	6	-	SPACE
↓		7	B	8	-	SPACE
(FUTURE) PP-6	100/2	9	A	10	-	SPACE
↓		11	B	12	-	SPACE
SPACE	-	13	A	14	-	SPACE
SPACE	-	15	B	16	-	SPACE
SPACE	-	17	A	18	-	SPACE

PANEL 'PP-5'

LOCATION: UV BUILDING
MOUNTING: SURFACE
VOLTAGE / PHASE: 120/240 1ϕ
MIN AIC RATING: 10,000

BUS / MAIN: 225A MCB
FEEDER: 2/0AWG
CONDUIT: 3"
FED FROM: MDP

* - HANDLE LOCK
** - SHUNT TRIP BREAKER

LOAD DESCRIPTION	CB/ POLES	CKT. NO.	ϕ	CKT. NO.	CB/ POLES	LOAD DESCRIPTION
AIR SOURCE HEAT PUMP (DSCU-1)	30/2	1	A	2	40/2	PUMP CONTROL PANEL (PCP-1)
↓		3	B	4		↓
SPACE	-	5	A	6	40/2	BLOWER-1 (VFD-1)
SPACE	-	7	B	8		↓
SPACE	-	9	A	10	40/2	BLOWER-2 (VFD-2)
SPACE	-	11	B	12		↓
SPACE	-	13	A	14	20/1	UV UNIT #1 (UV-1)
RECEPTACLES	20/1	15	B	16	20/1	UV UNIT #2 (UV-2)
INDOOR LIGHTS	20/1	17	A	18	20/1	UV UNIT #3 (UV-3)
OUTDOOR LIGHTS	20/1	19	B	20	20/1	COOLING PUMP (P-3)
SPACE	-	21	A	22	-	SPACE
SPACE	-	23	B	24	-	SPACE
SPACE	-	25	A	26	-	SPACE
SPACE	-	27	B	28	-	SPACE
SPACE	-	29	A	30	-	SPACE

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CLIENT: TOWN OF CLAYTON
PROJECT: DEPAUVILLE WWTP
DISINFECTION SYSTEM
UPGRADES

DRAWN BY: DEB | WAV
CHECKED BY: RJC
SCALE: NONE

DATE: MARCH 10, 2026
REVISED:

ELECTRICAL SCHEDULES

E-001

I:\Municipalities\Clayton, Town of\Depauville Sewer Disinfection\Drawings\MEP\E-SITE.dwg, 3/13/2026 2:57:18 PM

E-100

ELECTRICAL SITE PLAN

DATE: MARCH 10, 2026
REVISED:

CLIENT: TOWN OF CLAYTON

PROJECT: DEPAUVILLE WWTP DISINFECTION SYSTEM IMPROVEMENTS

DRAWN BY: DEB | CHECKED BY: RJC | SCALE: NONE

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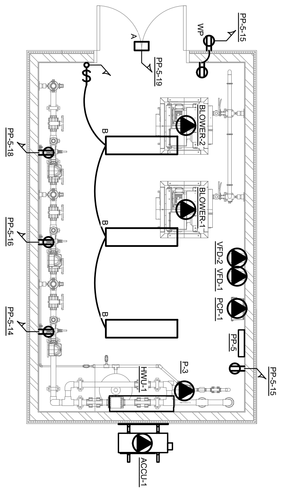

E-101

ELECTRICAL PLAN - UV BUILDING

DATE: MARCH 10, 2026
REVISED:

CLIENT: TOWN OF CLAYTON

PROJECT: DEPAUVILLE WWTP DISINFECTION SYSTEM IMPROVEMENTS

DRAWN BY: DEB	CHECKED BY: RJC	SCALE: NONE

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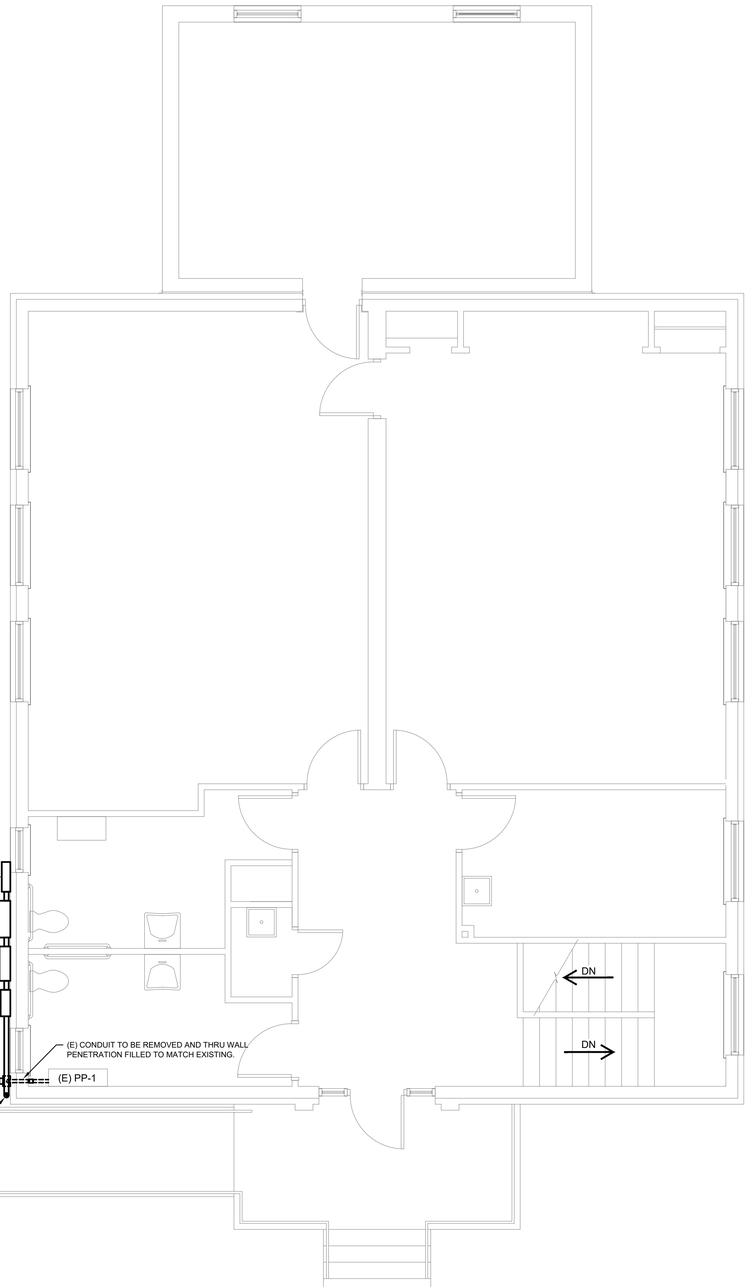
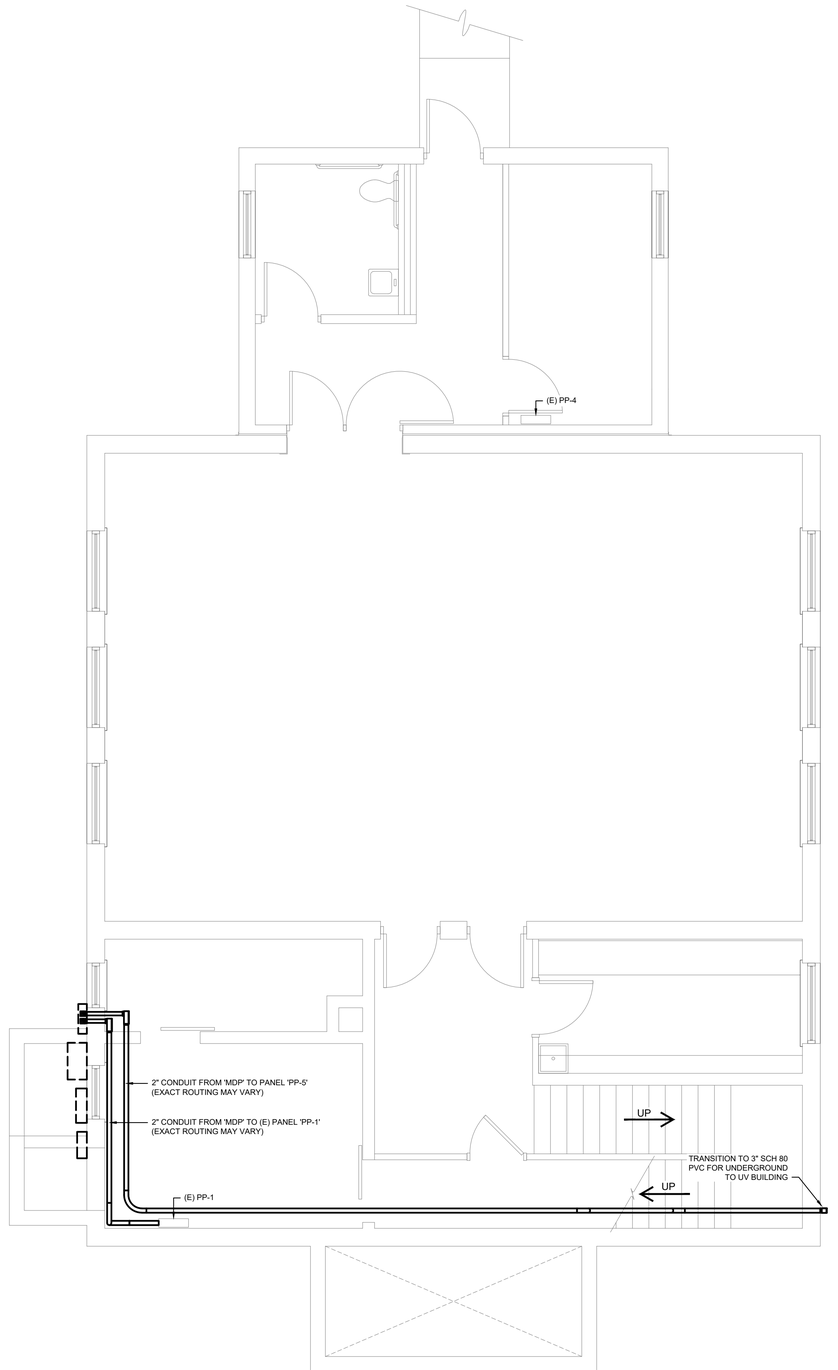


FIRST FLOOR PLAN
1/4" = 1'-0"



BASEMENT FLOOR PLAN
1/4" = 1'-0"

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SCALE: NONE

DATE: MARCH 10, 2026
REVISED:

ELECTRICAL PLAN -
LIBRARY

E-200

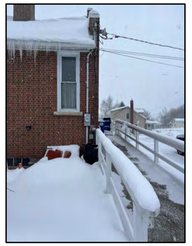

PHOTO 1 - EXISTING METER AND MAST

PHOTO 2 - EXISTING POWER PANEL 'PP-1'

SOUTH WEST ELEVATION (A)

1/4" = 1'-0"

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IMPROVEMENTS

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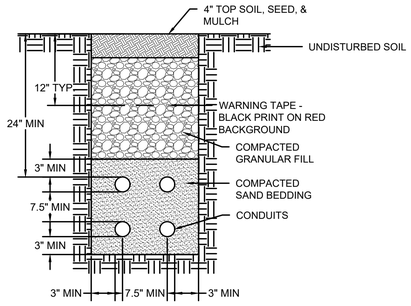
DATE: MARCH 10, 2026
REVISED:

ELECTRICAL
ELEVATION

E-201

GENERAL NOTES:

1. COORDINATE DUCT BANK REQUIREMENTS (IF ANY) FOR SERVICE WITH THE UTILITY.
2. POWER AND COMMUNICATION CONDUITS TO HAVE SEPARATION OF 12" MINIMUM.
3. DETAIL IS TYPICAL AND MAY NOT REFLECT EXACT QUANTITY AND LAYOUT OF CONDUITS REQUIRED FOR PROJECT.
4. FINISHED SURFACE TO MATCH SURFACE BEING DISTURBED.



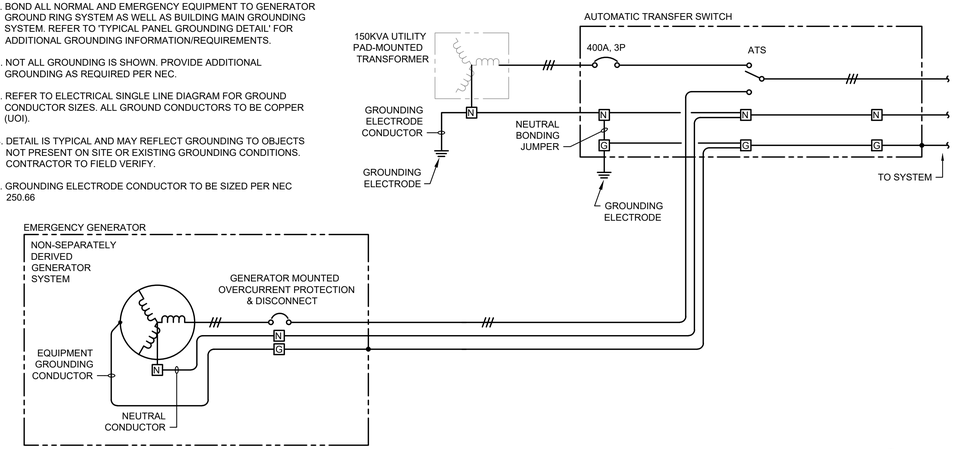
TYPICAL TRENCH DETAIL

D

NO SCALE

GENERAL NOTES:

1. BOND ALL NORMAL AND EMERGENCY EQUIPMENT TO GENERATOR GROUND RING SYSTEM AS WELL AS BUILDING MAIN GROUNDING SYSTEM. REFER TO 'TYPICAL PANEL GROUNDING DETAIL' FOR ADDITIONAL GROUNDING INFORMATION/REQUIREMENTS.
2. NOT ALL GROUNDING IS SHOWN. PROVIDE ADDITIONAL GROUNDING AS REQUIRED PER NEC.
3. REFER TO ELECTRICAL SINGLE LINE DIAGRAM FOR GROUND CONDUCTOR SIZES. ALL GROUND CONDUCTORS TO BE COPPER (UOI).
4. DETAIL IS TYPICAL AND MAY REFLECT GROUNDING TO OBJECTS NOT PRESENT ON SITE OR EXISTING GROUNDING CONDITIONS. CONTRACTOR TO FIELD VERIFY.
5. GROUNDING ELECTRODE CONDUCTOR TO BE SIZED PER NEC 250.66



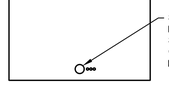
NON-SEPARATELY DERIVED GENERATOR SYSTEM DETAIL

A

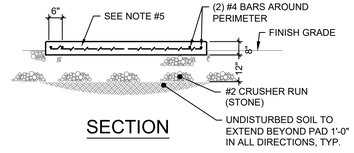
NO SCALE

GENERAL NOTES:

1. CONCRETE 4,000 PSI @ 28 DAYS.
2. DEFORMED BARS ASTM A-615, GRADE 60.
3. TOP SURFACE SHALL BE TROWEL FINISHED.
4. 3/4" CHAMFER ALONG ALL EXPOSED EDGES, INCLUDING OPENING.
5. REINFORCING SHALL BE AS FOLLOWS:
   · #4 BARS @ 12" EACH WAY
6. GENERATOR PAD SHALL BE CAST IN PLACE.
7. COORDINATE CONDUIT PENETRATIONS AT PAD WITH INSTALLED EQUIPMENT, AND FIELD CONDITIONS. CONTRACTOR TO FIELD VERIFY.



PLAN



SECTION

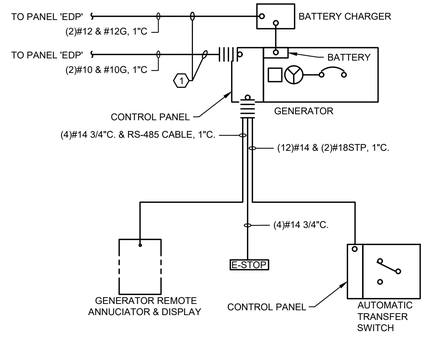
GENERATOR PAD DETAIL

B

NO SCALE

KEY NOTES:

1. PROVIDE CONDUCTORS / CABLE IN CONDUIT PER MANUFACTURER'S REQUIREMENTS. CONNECTION AT GENERATOR SHALL BE FLEXIBLE TYPE. TYPICAL OF ALL GENERATOR AUXILIARY EQUIPMENT.



GENERATOR CONTROL AND AUXILIARY EQUIPMENT SINGLE LINE DIAGRAM

C

NO SCALE

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SCALE: NONE

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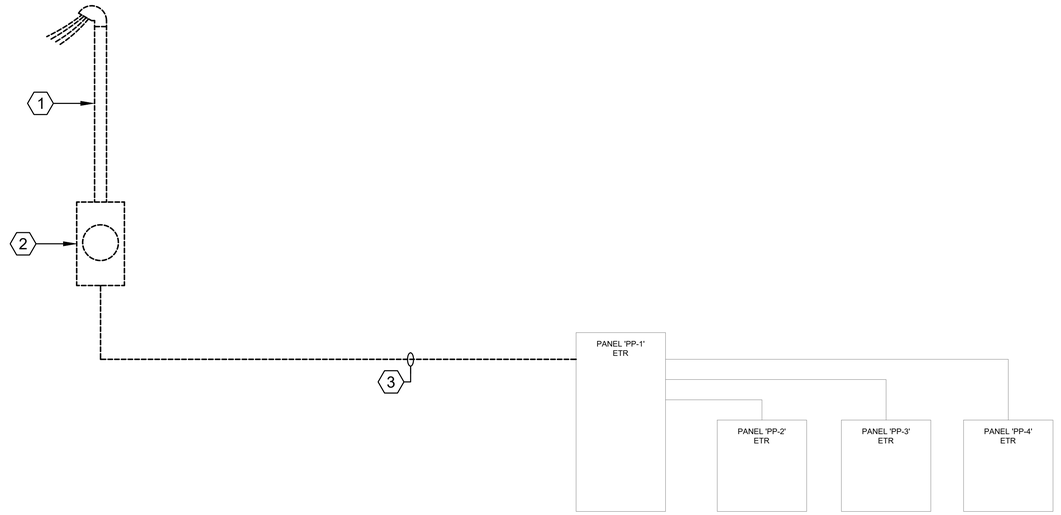
ELECTRICAL DETAILS

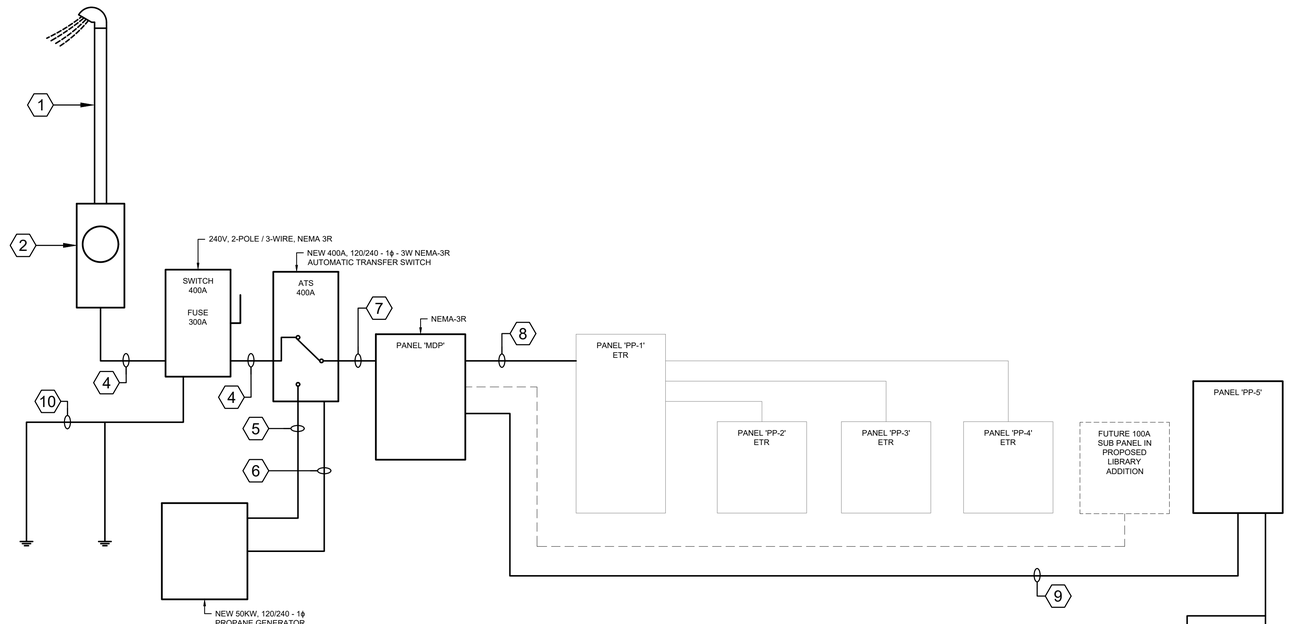
E-300



SINGLE LINE DIAGRAM
NO SCALE — DEMOLITION

KEY NOTES THIS SHEET:

1. EXISTING SERVICE MAST AND WEATHER HEAD TO BE REMOVED AND REPLACED WITH 3".
2. EXISTING METER SOCKET TO BE REPLACED. PROVIDE NEW 240V 320A RINGLESS METER SOCKET WITH BYPASS.
3. EXISTING CONDUIT AND CONDUCTORS TO BE REMOVED.
4. (3#500MCM, CU, 3"C)
5. (3#4/0, CU, #4G, 2-1/2"C)
6. CONTROL WIRING BETWEEN GENERATOR AND TRANSFER SWITCH. CONDUIT SIZED PER NEC.
7. (3#500MCM, CU, #3G, 3"C)
8. (3#3/0, CU, #6G, 2"C)
9. (3#2/0, CU, #6G, 2"C); 3" SCH 80 PVC CONDUIT BURIED OUTDOORS
10. #1/0 GROUND CONDUCTOR & 5/8" COPPER GROUND RODS.



SINGLE LINE DIAGRAM
NO SCALE — NEW WORK

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DATE: MARCH 10, 2026
REVISED:

ELECTRICAL
SINGLE LINE
DIAGRAM

E-700