ROCKLAND GREEN
166 S. Route 303
West Nyack, NY 10994

REQUEST FOR PROPOSALS

RFP 2026-03

Furnish and Install New Oil/Water Separator, and Associated Work
At the
Clarkstown Transfer Station
West Nyack, New York

May 12, 2026

TABLE OF CONTENTS

RECEIPT CONFIRMATION

NOTICE TO PROPOSERS

I. PURPOSE OF RFP 3

II. BACKGROUND 3

III. SCOPE OF SERVICES SUMMARY 3

IV. PROCUREMENT SCHEDULE 4

V. CONSTRUCTION SCHEDULE 5

VI. COORDINATION WITH ONGOING OPERATIONS 6

VII. SEQUENCING OF THE WORK 6

VIII. QUESTIONS 6

IX. PROPOSAL SUBMISSION REQUIREMENTS 7

X. STATEMENT OF RIGHTS AND GENERAL PROCUREMENT CONDITIONS 8

XI. DETAILED SCOPE OF SERVICES 13

XII. QUALIFICATIONS AND EXPERIENCE 14

XIII. COMPENSATION 14

XIV. CONTENTS OF PROPOSALS 15

XV. PROPOSAL EVALUATION 18

APPENDICES:

Appendix A – Proposal Forms (must be completed as part of the Proposal)

Business Proposal Forms

Business Proposal Form 1	Signature Page
Business Proposal Form 2	Addenda Acknowledgement Form
Business Proposal Form 3	Exceptions Taken to this Request for Proposal
Business Proposal Form 4	Form of Proposal Bond and Consent of Surety
Business Proposal Form 5	Letter of Intent Performance and Payment Bonds or Letter of Credit
Business Proposal Form 6	Contractor Qualifications
Business Proposal Form 7	Statement of Non-Collusion
Business Proposal Form 8	Disclosure Statement
Business Proposal Form 9	Affirmative Action Plan
Business Proposal Form 10	FOIL Acknowledgement Form
Business Proposal Form 11	Proposer Questions

TABLE OF CONTENTS (cont'd)

Business Proposal Form 12 Disclosure of Contractor Responsibility Statement

Price Proposal Forms
Price Proposal Form 1

Appendix B – Insurance Requirements

Appendix C – Prevailing Wages

Appendix D – Technical Specifications

Appendix E – Drawings

Appendix F – Draft Contract

RECEIPT CONFIRMATION

[This form must be completed by each member of the Proposer team]

PLEASE COMPLETE AND RETURN THIS CONFIRMATION FORM WITHIN FIVE (5) BUSINESS DAYS OF RECEIVING THE RFP PACKAGE TO:

Attn: Dee Louis, Engineer II
Rockland Green
166 S. Route 103
West Nyack, NY 10994
Phone: (845) 753-2200, ext. 613
Fax: (845) 753-2281
Email: dlouis@rocklandgreen.com

Failure to return this form may result in no further communication or addenda regarding this RFP.

Company Name:_____

Address:_____

City:_____ State:_____ Zip Code:_____

Contact:_____

Phone Number:_____ Fax Number:_____

Email:_____

I have received a copy of the above noted Proposal:

_____ We will be submitting a Proposal for RFP 2026-03

_____ We will NOT be submitting a Proposal (please indicate reason)

I authorize Rockland Green to send further correspondence that Rockland Green deems to be of an urgent nature by the following method:

Courier Collect: _____ Mail: _____

Signature:_____ Title:_____

NOTICE TO PROPOSERS

Request For Proposals (RFP) 2026-03
Furnish and Install New Oil/Water Separator
at the Clarkstown Transfer Station

NOTICE IS HEREBY GIVEN THAT Rockland Green is seeking proposals for furnishing and installing a new oil/water separator, concrete containment pad, underground gravity sewers, and miscellaneous concrete pads at the Clarkstown Transfer Station in West Nyack, New York. The Request for Proposal ("RFP") document RFP 2026-03 may be obtained from the offices of Rockland Green located at 166 S. Route 303, West Nyack, NY 10994 between the hours of 9:00 am and 4:00 pm, Monday through Friday, except holidays, on or after May 12, 2026.

A pre-proposal construction meeting is scheduled for May 20, 2026 at 3:30 pm at the Clarkstown Transfer Station. Attendance is mandatory. Contact Dee Louis, Engineer II, at (845) 753-2200, ext. 613 for details.

Sealed proposals will be received by Rockland Green until June 9, 2026 at 2:00 pm Local time, in the offices of Rockland Green located at 166 S. Route 303 West Nyack, NY 10994. Any proposals not delivered in person should be mailed to Dee Louis, Engineer II, Rockland Green, 166 S. Route 303, West Nyack, NY 10994. All proposals shall be submitted in sealed envelopes and shall be plainly marked on the outside with the statement "RFP 2026-03" with the Proposer's name and the title of the RFP. The attention of the Proposers is directed to the applicable federal, state, and local law requirements and to the "Affidavit of Non-Collusion" in the proposal forms. Rockland Green encourages the fullest possible utilization of Minority and Women's Business Enterprises (M/WBE's).

By Order Of:

Rockland Green

166 S. Route 303

West Nyack, NY 10994

By: Gerard M. Damiani, Jr., Executive Director

I. PURPOSE OF RFP

Rockland Green is issuing this Request for Proposals ("RFP") to companies who are interested in providing the services described herein.

II. BACKGROUND

Rockland Green is a public benefit corporation organized and existing under the laws of the State of New York. Rockland Green's purpose, as reflected in its mission statement, is to "develop the education, programs, and technology to lead the waste prevention, recovery, responsible disposal movement, and animal management services in Rockland County." Rockland Green owns and operates multiple facilities that handle various types of waste streams throughout the county. These include the following operations at the West Nyack (Clarkstown) Transfer Station:

- A Municipal Solid Waste Transfer Station for collection and transfer of solid waste and construction and demolition debris (the largest transfer station in the county).
- A Yard Waste Composting Facility which produces compost from leaves and other green waste.
- A mulch processing area that produces wood chips from brush and trees (the area where the culvert replacement work is scheduled to be completed).
- A concrete and asphalt crushing operation that recycles demolished concrete and asphalt debris. This is adjacent to the mulch processing area.

The transfer stations are used by commercial haulers and residents as convenient local disposal points for municipal solid waste (MSW), construction & demolition debris (C&D), and some recyclable products. The delivered waste products are loaded into larger transport vehicles and sent to an out-of-county private landfill or local recycling processing facilities. A separate fueling facility is located behind the transfer station building and fuel is supplied by Rockland Green for long haul transfer vehicles. Given the daily waste disposal needs in the county, it is essential that these facilities remain operational with minimal disruption to public service.

Rockland Green desires to install a concrete containment area at the fueling station, including a small oil/water separator as an extension of the existing gravity sanitary sewer conveyance system on site. The work will also include the addition of three separate concrete pads at the site as shown on the drawings.

III. SCOPE OF SERVICES SUMMARY

Rockland Green's objective is to execute a Contract with a qualified Proposer to provide the following services:

1. The Proposer shall furnish all materials, equipment, and labor for installing the following items, all in accordance with the drawings, specifications, and requirements of RFP-2026-03.
2. Install a prefabricated oil/water separator sized according to the design flow rate. All work shall comply with federal, state, and local environmental regulations, as well as manufacturer installation requirements.
3. Install all inlet and outlet piping, cleanouts, and associated fittings. Ensure all joints are watertight and compliant with relevant plumbing and environmental codes.
4. Install a gravity sewer system to convey water from the oil/water separator to the sewer system.
5. Excavate, grade, and prepare the installation area per the approved site plans.
6. Install temporary erosion and sediment controls as required.
7. Furnish all materials, equipment, and labor to install three (3) additional concrete pads as shown on the drawings.
8. Complete all site restoration as necessary to repair existing surface conditions that are disturbed or damaged during construction activities.
9. Prepare and submit all required shop drawings as outlined in the technical specifications. No work shall commence until shop drawings have been reviewed and approved by Rockland Green's Engineer.
10. Prepare and submit a construction schedule for review and acceptance by Rockland Green.
11. Prepare and submit as-built drawings to Engineer for preparation of Record Drawings.

Proposers must identify on Business Proposal Form 3, any and all exceptions taken to the scope of services, or any other aspect of the requirements stated in this RFP. Failure to identify such exceptions in the proposal may result in Rockland Green's rejection of the proposal.

IV. PROCUREMENT SCHEDULE

Issuance of RFP[(1)]	May 12, 2026
Pre-Proposal Site Visit[(2)]	May 20, 2026
Deadline for Clarification Questions from Proposers	May 28, 2026
Rockland Green Response to Clarification Questions	June 2, 2026
Deadline for Submittals[(3)]	June 9, 2026
Award of Contract	June 25, 2026

(1) *Within five (5) business days following the receipt of the RFP package, the Receipt Confirmation Form found at the front of this RFP must be completed and returned to Rockland Green as indicated thereon.*

(2) *Pre-Proposal site visit will be held at 3:30 pm at the Clarkstown Transfer Station located at 166 S. Route 303, West Nyack, NY 10994.*

(3) *Proposals are due no later than 2:00 pm on the Proposal due date. One (1) original and two (2) hard copies of each Proposal shall be submitted in a single envelope, bearing on the outside the name of the Proposer and the name of the procurement.*

V. CONSTRUCTION SCHEDULE

Time is of the essence for completion of construction activities. **All work under this RFP may be completed during normal business hours. The operating hours for the Clarkstown Transfer Station are as follows:**

Monday – Friday, 7:00 am – 4:00 pm; Saturday, 7:00 am – 12:00 pm

Rockland Green will maintain full operations of the transfer station as the work proceeds. Rockland Green's intent is to minimize the duration of construction activities so that full operational services may be restored as soon as possible. See Section VI for additional coordination requirements.

Construction activities shall not begin until Proposer has completed or received the following:

1. A fully executed Contract, including all required forms, bonds, and proof of insurance.
2. A written Notice to Proceed from Rockland Green that will formally establish Contract dates based on the specified Contract duration periods noted below, with initiation from the date of Notice to Proceed to establish the date for Substantial Completion and Final Completion.
3. Submittal of a written schedule to indicate sequencing of work.
4. Submittal of a written Schedule of Values that provides sufficient detail for tracking the progress of work, including labor and material breakout, and backed-up with whatever supporting information Rockland Green may reasonably request.
5. Written receipt of all shop drawing approvals from Rockland Green's Engineer.
6. Delivery of all materials, equipment, and other temporary facilities associated with mobilization of work crews.
7. Written notice to Rockland Green when the work will begin.
8. Authorization to begin work from Rockland Green.

The Contract dates will be established as follows:

Notice of Award	June 26, 2026
Contract Date (Contract Execution)	Within 10 Calendar Days of Notice of Award
Notice to Proceed	Within 3 Business Days of Contract date
Date of Substantial Completion*	60 Calendar Days from Notice to Proceed
Date of Final Completion*	30 Calendar Days from Date of Substantial Completion

**If Proposer believes there will be a delay in delivery of some materials or equipment, they shall immediately inform Rockland Green in writing documenting reasons for the delay. Shipping delays will not automatically be a justification for a modification to the Contract times.*

VI. COORDINATION WITH ONGOING OPERATIONS

1. All work activities shall be coordinated with Rockland Green. Adjustments or deviations to daily work schedules can only be approved by Rockland Green.
2. Proposer shall coordinate staging of on-site materials with Rockland Green.
3. Work shall not commence until all shop drawings have been approved.
4. Rockland Green will temporarily modify the use of the fueling facility by their hauling contractor (during construction activities)to have trucks fueled by 7:00 am and after 5:00 pm. Proposer shall be responsible for maintaining access to the fuel pump at the end of each day (and weekends) by providing temporary driving surfaces or steel plates to protect work in place.
5. During initial curing of the concrete containment pad Rockland Green will temporarily divert fueling services for long haul vehicles to an alternative facility. Proposer shall advise Rockland Green at least 48 hours in advance of when concrete placement will occur. After an initial 3 day cure, Proposer shall provide and maintain temporary steel plates over the new concrete for an additional 7 days to allow Rockland Green to resume fueling operations.

VII. SEQUENCING OF THE WORK

1. Sequencing work shall be outlined in the Proposer's schedule.

VIII. QUESTIONS

All questions concerning this RFP must be submitted in writing by the deadline in the schedule above, to Dee Louis at dlouis@rocklandgreen.com. Rockland Green will respond to all questions submitted prior to the deadline set forth above.

IX. PROPOSAL SUBMISSION REQUIREMENTS

This section contains instructions regarding the required content and organization of the Proposals. All Proposers must provide all required information in the order set forth below. Rockland Green reserves the right to add or delete specific items from the final award or to negotiate modifications to specific items prior to such award.

Proposals must be received by the deadline in the schedule above. Proposals received after the deadline will be late and ineligible for consideration. Each proposal shall be prepared simply and economically avoiding the use of elaborate promotional materials beyond those sufficient to provide a complete, accurate, and reliable presentation. Rockland Green is not interested in receiving marketing brochures, generic narratives, or laundry lists of unrelated experience in the response.

One (1) original and two (2) copies of the proposal shall be submitted. One copy must be clearly marked "original" and must contain all original executed copies. Late proposals will be considered non-responsive and may be returned to the Proposer unopened. NO PROPOSAL will be accepted unless filed on or before the date and at the place designated herein. When sent by mail, the sealed Proposal, marked as above, shall be enclosed in an additional envelope similarly marked and addressed to the person stipulated in the Notice to Proposers. Proposals received prior to the time of opening will be securely kept unopened. Proposals received thereafter will be returned unopened.

All hard copy submittals must be delivered by-hand, regular mail or by a nationally recognized express mail carrier to Rockland Green at the address listed below.

Attn: Dee Louis, Engineer II
Rockland Green
166 S. Route 303
West Nyack, NY 10994

The package or box must be clearly marked on the outside with the Proposer's name and the statement **"Response to RFP-2026-03 Enclosed".** The response shall be typed or printed on 8½" x 11" paper, with a minimum font size of 12.

Proposals shall be submitted with the Proposal Forms set forth in this RFP. All blank spaces for Proposal prices shall be properly filled in, in ink, or typed, in both words and figures. In case of any price shown in words and its equivalent shown in figures do not agree, the written words shall be binding on the Proposer. All Proposal Forms included in this RFP must be completed and submitted with all blank spaces for Proposal prices filled in with the Proposal amount to be considered a responsible Proposer.

All submittals become the property of Rockland Green and will not be returned.

X. STATEMENT OF RIGHTS AND GENERAL PROCUREMENT CONDITIONS

This RFP constitutes only an invitation to provide a proposal to Rockland Green. This section describes Rockland Green's responsibilities, rights, and options as they relate to various business, legal, and financial aspects of the procurement. Rockland Green reserves, holds and may at its sole discretion, exercise the following rights and options with respect to this RFP. By responding to this RFP, Proposers acknowledge and consent to the following conditions relative to the RFP process.

1. This RFP does not obligate Rockland Green to contract for any services whatsoever.
2. All costs incurred by a Proposer in connection with responding to this RFP, the evaluation and selection process, and any negotiations entered into with Rockland Green will be borne by the Proposer, and with the express understanding that no claim can be made for reimbursement from Rockland Green for any associated costs.
3. Rockland Green has the right to cancel this RFP without issuing another RFP.
4. Rockland Green reserves the right to select and enter into negotiations with the Proposer(s) who best satisfies the interests of Rockland Green and is most responsive to the RFP, and not necessarily on the basis of price or any other single factor.
5. Any and all responses not received by the deadline for receipt of proposals may be rejected and returned unopened in Rockland Green's sole discretion.
6. Rockland Green may select and enter into negotiations with one or more, or none of the Proposers whose response best satisfies the interests of Rockland Green and to discontinue and resume such negotiations at any time prior to execution of an agreement.
7. Rockland Green reserves the right to determine in Rockland Green's sole discretion which, if any, Proposers are responsive and deemed qualified, and at any time to determine that any or all Proposers will not be selected for further consideration.
8. Rockland Green reserves the right to eliminate any Proposer who submits an incomplete and inadequate response or is not responsive to the requirements of this RFP.
9. Rockland Green may reject non responsive submissions without evaluation, but also has the right, in its sole discretion, to waive any technicalities, immaterial irregularities or minor noncompliance.
10. Rockland Green reserves the right to reject, for any reason, any and all proposals and components thereof and to eliminate any and all Proposers responding to the RFP from further consideration for this procurement.
11. Rockland Green reserves the right to issue additional requests and/or amendments to this RFP and to cancel this RFP at any time.

12. Rockland Green reserves the right to conduct investigations of the Proposers and their responses to this RFP and to request additional evidence to support the information included in any such response.
13. Rockland Green reserves the right to conduct interviews with representatives from Proposers.
14. Rockland Green reserves the right to conduct clarification discussions, at any time, with one or more Proposers, request additional information, and to receive questions from Proposers and provide answers as it deems appropriate.
15. Rockland Green reserves the right to modify deadlines.
16. Rockland Green reserves the right to enter into agreements for only portions of the services contemplated by the responses submitted or not to enter into any agreement[s].
17. Neither Rockland Green, its staff, its representative, nor any of its consultants will be liable for any claims or damages resulting from the solicitation, collection, review, or evaluations of responses to this RFP.
18. Rockland Green reserves the right to enter into concurrent or sequential negotiations with two (2) or more Proposers.
19. No Contract awarded by Rockland Green shall be binding and valid until fully executed by the parties.
20. Rockland Green reserves the right to designate, at any time, one (1) or more Proposers with whom it may select to have a full evaluation of their proposal.
21. If a site visit is required, Rockland Green reserves the right to waive the site visit on a case-by case basis.
22. The proposals will constitute formal offers to Rockland Green that are binding on the Proposer for 180 calendar days from the submittal date of the proposal.

Minority and Women's Business Enterprises

Rockland Green encourages the fullest possible utilization of Minority and Women Owned Business Enterprises.

Authority To Do Business in New York

Any entity formed under the laws of the State of New York must provide a certificate of good standing from the New York Secretary of State, and any entity not formed under the laws of the State of New York must provide a certificate of authority from the New York State Secretary of

State to do business in New York in accordance with Article 13 of the New York Business Corporation Law.

No Discrimination

The Proposers shall not discriminate against employees or applicants for employment because of race, creed, color, national origin, sex, sexual orientation, age, disability, military status, predisposing genetic characteristics, or marital status and will undertake or continue existing programs of affirmative action to ensure that minority group members and women are afforded equal employment opportunities without discrimination.

Confidentiality

The New York State Freedom of Information Law, Public Officers Law, Article 6, Sections 84-90 provides for public access to government records. However, proposals may contain trade secrets and other technical, financial, or administrative data whose public disclosure could cause substantial injury to the Proposer's competitive position. Proposers must clearly indicate whether there are portions of their proposals that contain trade secrets and other technical, financial, or administrative data whose public disclosure could cause substantial injury to the Proposer's competitive positions. Accordingly, to protect the Proposer from release of this sensitive information under the State Freedom of Information Law, the Proposer should specifically identify and mark the pages of its submittal(s) that contain such information and insert the following notice in the front of its submittal:

Notice

The data on pages [_____] of this proposal identified by an asterisk (*) contain technical or financial information, which are trade secrets and/or whose disclosure would cause substantial injury to the Proposer's competitive position. The Proposer requests that such data be used only for the evaluation of the proposal, but understands that the disclosure will be limited to the extent that Rockland Green considers proper under the law. If an Agreement is entered into with this Proposer, Rockland Green shall have the right to use or disclose the data, as provided in the Agreement, unless otherwise obligated by law.

Rockland Green does not assume any responsibility for disclosure or use of marked data for any purpose. In the event properly marked data are requested, pursuant to the State Freedom of

Information Law, the Proposer will be advised of the request and may expeditiously submit to Rockland Green a detailed statement indicating the reasons it has for believing that the

information is exempt from disclosure under the law. This statement will be used by Rockland Green in making its determination as to whether disclosure is proper under the law.

Correction, Modification, or Withdrawal of Proposal

A Proposer may correct, modify, or withdraw a proposal by written notice received by Rockland Green prior to the time and date set for the receipt of proposals. For any proposals received by Rockland Green, Rockland Green may elect to waive minor informalities or may elect to allow the Proposer to correct them.

Record of Proposals

All proposals are the property of Rockland Green and will not be returned. Rockland Green will use its best efforts to prevent the unauthorized disclosure of proprietary information, provided same is properly identified in accordance with this RFP. In no event will Rockland Green assume liability for any loss, damage, or injury, which may result from any disclosure or use of marked data within proposals.

Security Bond

A proposal bond or certified check in the amount of 5% of the proposed price made payable to Rockland Green must accompany the proposal. The bond shall provide that prior to the expiration or termination of the bond, the Proposer shall (1) if so requested by Rockland Green, negotiate an agreement with Rockland Green, and (2) if Rockland Green selects the Proposer's proposal as the most advantageous proposal, enter into a Contract. If the Proposer fails to comply with the above, the surety will pay to Rockland Green, as liquidated damages, the full amount of the proposal bond or, as applicable; the certified check shall become the property of Rockland Green and be deposited in Rockland Green's accounts. Any proposal bond must be valid for at least 180 days from the proposal submission date. If the Contract has not been executed prior to the expiration of the proposal bond, Rockland Green may require the renewal of the proposal bond for an additional 180 days. No proposal will be considered unless it is accompanied by the

required certified check or proposal bond. The form of the Proposal Bond and Surety Letter of Intent, which must be submitted, is described in Business Proposal Form 5.

The certified check or proposal bond submitted by a Proposer will be returned within ten (10) business days after the earliest to occur of 1) the rejection of the proposal of such Proposer by Rockland Green; and (2) the execution of the Contract by and between Rockland Green and the selected Proposer.

Independent and Separate Prices

Where separate prices are required by this RFP for specific services, such prices are understood to be independent and separable. Accordingly, elimination or modification by Rockland Green of any portion of the proposed scope of services should not affect the price proposed for any other portion of the scope of services. Rockland Green will reserve the right after Contract award to modify the scope of services within the limits of applicable law.

Sales Tax

The New York State Tax Law exempts from sales and use taxes, imposed under Article 28 and pursuant to Article 29 thereof, the sale or use of tangible property incorporated in structures, buildings, or real property owned by an exempt organization. Rockland Green is an exempt organization, and therefore, Proposers should not include sales and use tax in their proposals.

Insurance

Proposer shall possess or be able to obtain all insurance such as, Professional Liability Insurance, Commercial General Liability/Auto, and Workmen's Compensation Insurance, and other types of coverage, as indicated in the Insurance Requirements found in Appendix B to this RFP.

Performance and Payment Bonds

The Contractor shall provide financial security for the performance of its obligations and prompt payment of moneys that are due to all persons furnishing labor and materials hereunder through a Performance Bond and a Payment Bond each issued by a surety company: (1) approved by Rockland Green having a rating of "A" in the latest revision of the A.M. Best Company's Insurance

Report; (2) listed in the United States Treasury Department's Circular 570, "Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsurance Companies"; and (3) properly registered and licensed to conduct business in the State of New York. The Performance Bond and the Payment Bond shall each be issued in the amount of the Contract Price. The Performance Bond and the Payment Bond shall be substantially in the applicable form prescribed by Rockland Green and contained as Transaction Agreement Forms 1 and 2 included with the Draft Contract in Appendix F. A copy of the Performance Bond and the Payment Bond shall be kept by Rockland Green and shall be open to public inspection. The Penal sum of each bond required under this Section shall be in the full amount of the Contract Price.

The cost and expense of obtaining and maintaining the Security Instruments required under this RFP as security for the performance of the Contractor's obligations hereunder shall be borne by the Contractor without reimbursement from Rockland Green.

Labor, Wages, and Equal Employment Opportunity

Proposer will be expected to be familiar with and to comply with all Federal, State, and local labor laws, rules, regulations, ordinances, and executive orders, including without limitation, requirements for minimum wages, prevailing wages and benefits, workmen's compensation, and equal employment opportunity.

Affirmative Action

Proposer must also agree to comply with the affirmative action requirements of County Resolution 471 of 1975 if the Proposer 1) employs a minimum of fifteen (15) employees; and 2) does a minimum of fifty thousand dollars ($50,000) per annum business with Rockland County. See Business Proposal Form 8.

XI. DETAILED SCOPE OF SERVICES

The scope of work includes furnishing all equipment, materials, labor, rental equipment, and miscellaneous tools to satisfactorily complete the work to the acceptance of Rockland Green in accordance with this Request for Proposal 2026-03, the Technical Specifications, Drawings, and all attachments.

XII. QUALIFICATIONS AND EXPERIENCE

Proposers must provide the following information for the Proposer:

1. A summary of your company's experience in providing the services requested herein.
2. A list projects of a similar nature and scope completed by the Proposer in the past 5 years (minimum of 3 projects).
3. Contact information, project size, completion date, and any other relevant details for completed projects.
4. The name of the Project Superintendent and Project Foreman assigned to be on site and their related experience. Experience of other key personnel may be requested by Rockland Green as part of the evaluation process; and
5. Upon request by Rockland Green, provide additional information related to qualifications to clarify or supplement the qualifications information requested in Appendix A of this RFP.
6. Financial Information
7. Non-Financial Information
8. Evidence of Authorization to conduct business in the State
9. Evidence that demonstrates the ability to obtain the required insurance set forth herein.

XIII. COMPENSATION

The selected Proposer shall invoice Rockland Green on or before the tenth (10^{th}) calendar day of each month after commencement of services, but no more frequently than once monthly. The selected Proposer may submit a payment request for the period ending the last calendar day of the previous month. Payment Request shall be in such format and include whatever supporting information as may be reasonably required by the Engineer.

In its Payment Request, the selected Proposer may request payment for a portion of the Contract Price allocable to the Contract Services that have been properly provided, including labor,

materials and equipment properly incorporated in the Work, and materials or equipment necessary for the Work and properly stored at the Project Site, less the total amount of previous payments received from Rockland Green. Partial payment for offsite storage may be approved in writing by Rockland Green with proof of safe storage and full property insurance coverage for the offsite stored materials. Each payment made to the selected Proposer by Rockland Green will be subject to ten (10%) retainage holdback.

Proposers must complete the price proposal form attached as Price Proposal Form 1.

XIV. CONTENTS OF PROPOSALS

Proposers are required to submit with their proposals all the information, documentation, and Forms requested in this RFP. The proposal must be organized as follows; details on each of the items below are provided after this section:

1. Cover Letter and Proposal Bond
2. Acknowledgement of responsiveness to this request for proposal (in cover letter), including the following:
    a. The Proposer has reviewed and fully understands the scope of work, sequencing of work, and timing for the project.
    b. The Proposer has provided the requested information relative to qualifications and experience, including for those of the helical pile installer.
3. Qualifications and Experience
4. General Requirements
5. Proposal Forms
6. Evidence of Proposer's ability to obtain the required insurance and performance bonds, if selected.
7. All comments, if any, to the draft Agreement, included with this RFP, if any

8. A certificate of good standing or authority from the New York State Secretary of State to do business in New York in accordance with Article 13 of the New York Business Corporation Law

The Proposal Cover Letter is the Proposer's official letter transmitting the complete proposal to Rockland Green. The format required for the Proposal Cover Letter is provided in Table XIV-1 below. The letter is to be written in text form and is not to exceed three (3) pages, typed, and double-spaced. Since the Proposal Cover Letter introduces the Proposer to Rockland Green, it should clearly and concisely summarize the proposal. This letter is to be typed on the Proposer's letterhead and is to be signed by the Proposer's Chief Executive Officer ("CEO") and attested by another officer of the Proposer. If the Proposer is a joint venture, the CEO of the lead or sponsoring Proposer is to sign the letter.

TABLE XIV-1
FORMAT OF PROPOSAL COVER LETTER

A. Addressee	Dee Louis, Engineer II Rockland Green 166 S. Route 303 West Nyack, NY 10994
B. Content of Letter	First Paragraph:
	• Name of Proposer (or Proposers, if joint venture) submitting the Proposal. • If a joint venture, the name of the lead or sponsoring Proposer. • Confirm that the signatory is authorized to make the Proposal. Second Paragraph:
	• Response to the requirement for a Proposal Bond, which must be enclosed. Third Paragraph:
	• A brief description of the Proposer(s). • Summarize qualifications of the Proposer(s). • Commitment of the Proposer(s) to deliver the services required in the Request for Proposals and described in the attached Proposal and at the prices quoted in the Proposal. Fourth Paragraph:
	• Commitment of the Proposer to enter into an Agreement with Rockland Green at the prices stated in the Proposal. Fifth Paragraph:
	• Acknowledgement of responsiveness to the Request for Proposals Sincerely, President/CEO Attachments: Proposal Bond or Certified Check Statement of Surety Intent to Provide Performance Bonds Certificates of Insurance Certificate New York Secretary of State

Scope of Services

Proposers must address all aspects of the scope of services described in this RFP. The Proposer must acknowledge an understanding of and a commitment to meeting all the responsibilities and obligations stated in this RFP.

Qualifications and Experience

Qualifications - The Proposer must demonstrate qualifications consistent with the minimum qualifications described in Section XII of this RFP.

Experience - The Proposer must demonstrate experience consistent with the requirements described in Section XII of this RFP.

Proposal Forms

All proposals must include at least one (1) complete set of Business, Price, and Technical Proposal Forms, as applicable, completed by the Proposer.

XV. PROPOSAL EVALUATION

This section describes Rockland Green's proposal evaluation process and criteria. Rockland Green will evaluate the net total and net present value costs of each proposal and the Proposer's ability and willingness to meet all of the Proposer's responsibilities. Each section of a proposal will be evaluated in terms of the commitments made, the completeness and the reliability of the approach taken, and conformance with the requirements and the instructions provided in this RFP. A Proposer's failure to adequately respond to all of the technical and pricing requirements in this RFP, to accurately complete the Proposal Forms, to disclose violations of applicable laws, codes or regulations, or to provide other business-related information required in the RFP, shall be grounds to deem a proposal as non-responsive.

Selection will not be solely based on the lowest cost, although cost will be a factor in the evaluation process.

After evaluating the proposals, Rockland Green may short-list Proposers for interviews and enter into Contract negotiations with one (1) or more Proposers who meet(s) Rockland Green's evaluation criteria and whose proposals are regarded as most advantageous to Rockland Green.

Evaluation Team

The proposal evaluation and selection process described in this Section will be conducted by an evaluation team led by Rockland Green. The team may consist of personnel from Rockland Green and its technical, legal, and financial consultants. The team will review and evaluate proposals and select one (1) or more Proposers with whom Rockland Green will conduct negotiations.

Cost Evaluation

The Price Proposal will be evaluated on the basis of the fees proposed by the Proposer in all Proposal Forms. Proposers are strongly advised to submit pricing wholly consistent with the RFP, then to clearly delineate any caveats or exceptions to baseline pricing.

Requests for Clarification

Once proposals have been reviewed, Rockland Green may request that the Proposer submit additional information or clarify certain aspects of the proposal.

Proposal Interviews

After proposals have been evaluated according to the process described above, the evaluation team may choose to meet with and interview the Proposers who submitted the most advantageous proposal(s). Following the interviews, Rockland Green may select the Proposer(s) with whom to conduct Contract negotiations.

APPENDIX A

PROPOSAL FORMS

BUSINESS PROPOSAL FORM 1

SIGNATURE PAGE

To the Rockland County Solid Waste Management Authority d/b/a Rockland Green:

The Proposer, in compliance with your Request for Proposals for [_____ _____], having examined the Request for Proposals and being familiar with all conditions surrounding the project, hereby proposes to furnish all labor, equipment, materials and supplies necessary to meet the obligations of the proposal in accordance with the solicitation, within the time and prices set forth therein.

Proposer understands that Rockland Green reserves the right to reject any or all proposals and to accept any item or items in any one proposal and to waive any informalities in the RFP process.

Respectfully Submitted:

_____
Signature

_____
Printed Name

_____
Title

_____
Date

_____
Business Address

(Seal, if corporation)

BUSINESS PROPOSAL FORM 2

ADDENDA ACKNOWLEDGEMENT FORM

The undersigned hereby acknowledges receipt of the following Addenda (if any) to the Request for Proposals for **RFP 2026-03 Furnish and Install New Oil/Water Separator, and Associated Work:**

Addendum No.	Date
_____	_____
_____	_____
_____	_____
_____	_____

Person, firm, or corporation submitting this Proposal:

_____
Contractor

_____
Signature

_____
Title

_____
Date

BUSINESS PROPOSAL FORM 3

EXCEPTIONS TAKEN TO THIS REQUEST FOR PROPOSAL

_____ No exceptions taken.

_____ Exceptions taken (please provide cross references, as shown below):

Request for Proposal Page _____, Section _____

Exception Taken: _____

_____

_____

_____
Signature

_____
Printed Name

_____
Title

_____
Date

BUSINESS PROPOSAL FORM 4

FORM OF PROPOSAL BOND

KNOW ALL MEN BY THESE PRESENT, that we [NAME OF PROPOSER], as Principal (hereinafter the "Proposer") and [NAME OF SURETY], a [Corporation],[Partnership] duly organized under the laws of the State of _____, as Surety, are held and firmly bound unto Rockland Green (the "Rockland Green"), as Obligee, in the sum of [_____] ($[ ]) lawful money of the United States of America to be paid to Rockland Green, its successors or assigns, for which payment, well and truly to be made, we bind ourselves, our successors and assigns, jointly and severally, firmly by these present, and

WHEREAS, the above-named Proposer has submitted or is about to submit to Rockland Green a proposal to provide [_____] as described in the Request for Proposals (RFP [ ]), dated [_____] (the "RFP"), issued by Rockland Green and covered by the Proposal submitted by the Proposer in response thereto, which Proposal is made a part hereof.

NOW THEREFORE, the Surety hereby understands that if the above-referenced Proposer is selected by Rockland Green as the most advantageous Proposer, then the Proposer will enter into an Agreement based on its proposal within the time specified in the RFP or any extension thereof agreed to in writing by Rockland Green. Surety hereby agrees that if the Proposer shall fail to do so, Surety will pay to Rockland Green, as liquidated damages, the full amount of this Bond within thirty (30) calendar days after receipt by the Proposer and Surety of written notice of such failure from Rockland Green, which notice shall be given with reasonable promptness, identifying this Bond and including a statement of the amount due. Upon execution of the Agreement, this Bond shall thereafter become null and void, otherwise to remain in full force and effect unless terminated as hereinafter provided.

It is agreed that this Bond shall become effective on the date the Proposal is submitted and will continue in full force and effect for three hundred sixty-five (365) days from such date of submittal (unless extended for up to an additional three hundred sixty-five (365)) or until terminated, as hereinafter provided.

If the Proposal is not accepted within the time specified in the RFP, or any extension thereof agreed to in writing by Rockland Green, then after written notice by Rockland Green of such non-acceptance, this Bond may be terminated by the Surety or Proposer upon written notice to each other and to Rockland Green by registered mail at least ten (10) days prior to the termination date specified in such notice. Upon the giving of such notice, Surety shall be

discharged from all liability under this Bond for any act or omission of the Proposer occurring after the date of the notice of non-acceptance.

Any suit or action under this bond shall be commenced only in a court of competent jurisdiction located in the State of New York.

IN WITNESS WHEREOF, Surety and Proposer, intending to be legally bound hereby, do each cause this Proposal bond to be duly executed on its behalf by its authorized officers, agent or representative.

Signed and sealed this _____day of _____, _____.

SURETY	PROPOSER
[NAME OF SURETY]	[NAME OF CONTRACTOR]
_____	_____
Name	Name
_____	_____
Signature	Signature
_____	_____
Title	Title

BUSINESS PROPOSAL FORM 5

SURETY LETTER OF INTENT AND FORM OF PERFORMANCE BOND

(To be typed on Surety's Letterhead)

General Counsel
Rockland County Solid Waste Management Authority d/b/a Rockland Green
172 Main Street
Nanuet, NY 10954

Dear General Counsel:

_____ (the "Proposer") has submitted herewith a Proposal in response to Rockland Green ("Rockland Green") Request for Proposals ("RFP") to Furnish and Install New Oil/Water Separator and Associated Work. The RFP requires the selected Proposer to enter into an agreement to provide services consisting of demolition, removal and partial roof replacement at the Co-composting Facility, and to comply with all applicable permits, licenses, approvals and other Applicable Law; and perform the other related and ancillary responsibilities set forth in the RFP.

The Surety has reviewed the Proposer's Proposal and the form of Performance Bond issued with the RFP, which will form the basis of the Service Contract. The Surety hereby certifies that if Rockland Green elects to require such security, it intends to issue on behalf of the Proposer as security for performance under the Service Contract, an Operations Performance Bond substantially in the form attached to the RFP and equal to one (1) year of the annualized gross Service Fee, for the benefit of Rockland Green in the event the Proposer is selected for final negotiations and execution of the Service Contract.

_____
Signature

_____
Name of Surety

_____
Name of Authorized Signatory

_____
Title

BUSINESS PROPOSAL FORM 6

CONTRACTOR QUALIFICATIONS

This form must be completed by each member of Proposer team.
(Section C must be signed before a Notary Public)

A. General Information

1. *Firm: _____
2. Address: _____
3. Telephone: _____
4. Contact Person: _____
5. Type of Organization (e.g., a corporation; joint venture; partnership; and individual):

   _____
6. Name of Parent Company, if any: _____
7. Name of Affiliate Companies, if any: _____
8. *Identity of Joint Venture Partners, if any: _____
9. Financial References: _____
10. New York Surety: _____
11. Signature of person duly authorized to submit on behalf of the Proposer:

_____
Signature

_____
Title

Referred to in Proposal Forms individually and collectively as "Proposer." Information requested must be provided with respect to each party to the Proposal.

BUSINESS PROPOSAL FORM 6 (cont'd)

CONTRACTOR QUALIFICATIONS

B. Business Information

1. Brief history of Proposer(s) involved in the Proposal (attach additional sheets as necessary):_____

2. Name and address of all partners, key shareholders, principals and/or owners:_____

3. Has Proposer ever failed to complete any contract awarded to it? _____
4. If so, where and why:_____

5. Has any officer or partner of Proposer ever been an officer or partner of some other organization that failed to complete a contract? _____
6. If yes, state name of individual, other organization, reason, and bonding company:

7. In what other lines of business is Proposer directly or indirectly involved? _____

8. With what individual or entities have you been associated as partner or otherwise during the past five (5) years? _____

BUSINESS PROPOSAL FORM 6 (cont'd)

CONTRACTOR QUALIFICATIONS

9. Describe the principal and any secondary nature of your current business: _____

_____

_____

10. State the length of time you have been in that business under your present name and identify all other names under which you have done business: _____

_____

_____

11. Has any individual, partner, shareholder, principal, owner or affiliate of your firm been the subject of administrative or judicial action for an alleged violation of environmental or public health laws or regulations? If so, state the details and disposition. _____

_____

_____

12. Are you, your partners, joint venturers, parent corporation or subsidiaries a party to any legal actions that may affect your ability to perform the obligations described in your Proposal? If so, identify these actions: _____

_____

_____

13. Have you, any partner, key shareholder, principal, owner or affiliate of your firm been the subject of any criminal conviction(s) indictment(s) or investigation(s)? If so, state the details: _____

_____

_____

14. Are you, your partners, joint venturers, parent company or subsidiaries a party to or subject to any threatened or pending litigation, either civil or criminal? If so, state the details: _____

_____

BUSINESS PROPOSAL FORM 6 (cont'd)

CONTRACTOR QUALIFICATIONS

15. List any and all civil penalties, judgments, consent decrees or other sanctions within the last five (5) years, as a result of a violation of any law, rule, regulation or ordinance in connection with its business activities, by the Proposer, any affiliate of the Proposer, or any key shareholder, officer or director of the Proposer or any affiliate thereof.

16. List any and all current investigations, indictments or pending litigation by any Federal, State or local jurisdiction of the Proposer, any affiliate of the Proposer or any key shareholder, officer or director of the Proposer or any affiliate thereof.

17. List any and all actions occurring within the last five (5) years which have resulted in revocation or suspension of any permit or authority to do business in any Federal, State or local jurisdiction, by the Proposer, any affiliate of the Proposer, or any key shareholder, officer or director of the Proposer or any affiliate thereof.

18. List any and all actions occurring in the past five (5) years that have resulted in the barring from public bidding by the Proposer, any affiliate of the Proposer, or any key shareholder, officer or director of the Proposer or any affiliate thereof.

BUSINESS PROPOSAL FORM 6 (cont'd)

CONTRACTOR QUALIFICATIONS

19. List any bankruptcy proceedings in the past five (5) years by the Proposer, any affiliate of the Proposer, or any shareholder, officer or director of the Proposer or any affiliate thereof.

_____

_____

20. List the names, addresses, and telephone numbers, and contact name of municipalities or other organizations which have utilized your services: _____

_____

_____

21. List the names, addresses and telephone numbers, and contact name of municipalities for whom you have provided services of the same nature as those contemplated in this RFP: _____

_____

_____

22. Please attach a description of the services you provide(d) for each reference municipality, including the term of your agreement with each such municipality: _____

_____

_____

_____

_____

23. For the past three (3) years, have any of the reference projects in this RFP been the subject of administrative or judicial action for an alleged violation of environmental or public health laws or regulations? If so, state the details and disposition: _____

_____

_____

BUSINESS PROPOSAL FORM 6 (cont'd)

CONTRACTOR QUALIFICATIONS

C. Financial Information (To be signed before a Notary Public)

Attach financial statements, prepared on an accrual basis, in a form which clearly indicates the Proposer's assets, liabilities and net worth over the most recent three (3) year period or as many years as your firm has been in business if less than three (3) years.

Dates of financial statements: _____

Name(s) of firms(s) preparing statements: _____

Dated this _____ day of _____, 20____

_____
(Print Name of Proposer)

(Seal, if corporation)

By:_____

Title:_____

_____ being duly sworn, deposes and says that the financial statement(s) referenced above are a true and accurate statement of Proposer's financial condition as of the date hereof; and all of the foregoing qualification information is true, complete and accurate.

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

_____
Notary Public

BUSINESS PROPOSAL FORM 7

STATEMENT OF NON-COLLUSION

In accordance with applicable law, all proposals and contracts awarded or accepted by a municipality must contain a Statement of Non-collusion. By submission of this Proposal, the Proposer certifies that:

Each Proposer and each person signing on behalf of any Proposer certifies, and in the case of a joint Proposal, each party thereto certifies as to its own organization, under penalty of perjury, that to the best of his knowledge and belief:

(a) The prices in this Proposal have been independently without collusion, consultation, communication, or agreement, for the purpose of restricting competition as to any matter relating to such prices with any other Proposer or with any competitor.

(b) Unless otherwise required by law, the prices which have been quoted in this Proposal have not been knowingly disclosed by the Proposer and will not knowingly be disclosed by the Proposer prior to opening, directly or indirectly, to any other Proposer or to any competitor.

(c) No attempt has been or will be made by the Proposer to induce any other person, partnership or corporation to submit or not to submit a proposal for the purpose of restricting competition.

(d) The person signing this Proposal certifies that he has fully informed himself regarding the accuracy of the statements contained in this certification under the penalties of perjury, affirms the truth thereof such penalties being applicable to the Proposer, as well as to the person signing on its behalf.

(e) If a corporation, the attached hereto is a certified copy of the resolution authorizing the execution of this certificate by the signature of this Proposal on behalf of the corporate Proposer.

BUSINESS PROPOSAL FORM 7 (cont'd)

STATEMENT OF NON-COLLUSION

Resolved that _____ (Name of Individual) be authorized to sign and submit the Proposal of _____for the _____ _____ and to certify as to non-collusion required by applicable law as the act and deed of such corporation and for any inaccuracies or misstatements in such certificates this corporate Proposer shall be liable under the penalties of perjury.

_____
Signature and Title

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

_____
Notary Public

BUSINESS PROPOSAL FORM 8

DISCLOSURE STATEMENT

(Proposer must sign this form before a Notary Public)

STATE OF NEW YORK)
) ss
COUNTY OF _____)

I, _____, _____
(Name) (Title - Officer of Corporation, Partner or Principal)

being duly sworn depose and swear under the penalties of perjury:

1. That, in connection with the above Proposal or Agreement for the _____ _____, no other person will have any direct or indirect interest in this Proposal except:

_____
(In case of corporations, all officers of the corporation and stockholders owning more than 5% of the corporation stock must be listed. Use attached sheet if necessary.)

2. That _____ related to any officer
(I am not) (none of the officers or stockholders are)

or employee of Rockland Green except:_____

_____

3. There is not any state or local officer or employee, or a member of Rockland Green interested in such application.

_____
Signature and Title

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

_____
Notary Public

BUSINESS PROPOSAL FORM 9

AFFIRMATIVE ACTION PLAN

(Proposer must sign this form before a Notary Public)

STATE OF NEW YORK)
) ss
COUNTY OF _____)

_____ being duly sworn, deposes and says that he/she is the _____ of _____. That I *do / do not* employ fifteen (15) employees and I *do / do* not do a minimum of $50,000 per annum business with Rockland Green.

Based on the above information, attached hereto is an Affirmative Action Plan or, because of the above, no Affirmative Action Plan is necessary.

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

_____
Notary Public

BUSINESS PROPOSAL FORM 10

FOIL ACKNOWLEDGEMENT FORM

The Proposer hereby acknowledges and recognizes that the New York State Freedom of Information Law, Public Officers Law, Article 6, Sections 84-90 provides for public access to government records. However, Proposals may contain trade secrets and other technical, financial, or administrative data whose public disclosure could cause substantial injury to the Proposer's competitive position.

Please indicate whether your Proposal contains trade secrets and other technical, financial or administrative data whose public disclosure could cause substantial injury to your competitive position by marking the applicable below.

_____The Proposal DOES contain trade secrets and other technical, financial or administrative data whose public disclosure could cause substantial injury to our competitive position, and we have clearly marked pages in our Proposal containing such information in accordance with Section 1.6 of the RFP.

_____The Proposal DOES NOT contain trade secrets and other technical, financial or administrative data whose public disclosure could cause substantial injury to your competitive position.

Person, firm or corporation making this Proposal:

_____
Proposer

_____
Signature

_____ _____
Title Date

BUSINESS PROPOSAL FORM 11

PROPOSER QUESTIONS

All questions pertaining to this solicitation must be submitted in writing.

Please use this form and fax it (845) 753-2281 or email (dlouis@rocklandgreen.com) **to the attention of Dee Louis**. Rockland Green will respond to all questions submitted prior to the cut-off date indicated in the RFP.

Date:_____

Proposer Name:_____

Proposer Company:_____

Telephone:_____ Fax:_____

Question(s):_____

BUSINESS PROPOSAL FORM 12

DISCLOSURE OF CONTRACTOR RESPONSIBILITY STATEMENT

(This form must be completed by each member of the Proposer team)

1. List any criminal investigations, indictments, or convictions of any person, subsidiary or affiliate of the Proposer arising out of obtaining or attempting to obtain a public or private contract or subcontract, or in the performance of such contract or subcontract.

2. List any indictments, convictions or ongoing investigations of any person, subsidiary, or affiliate of this Proposer for offenses such as embezzlement, theft, fraudulent schemes, etc. or any other offense indicating a lack of business integrity or business honesty which affect the responsibility of the Proposer.

3. List any convictions or civil judgments under state or federal antitrust statutes.

4. List any violations of contract provisions such as knowingly (without good cause) to perform, or unsatisfactory performance, in accordance with the specification of a contract.

5. List any prior suspensions or debarments by any government agency.

6. List any contracts not completed on time.

7. List any documented violations of federal or state labor laws, regulations or standards, or occupational safety and health rules.

I, _____, as _____
(Name of individual) (Title and Authority)

of _____, declare under oath that the
(Proposer Name)

above statements, including any supplemental responses attached hereto, are true.

_____
Signature

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

_____, representing himself/herself to be _____

of the Proposer.

_____
Notary Public

PRICE PROPOSAL FORM

RFP-2026-03: Furnish and Install New Oil/Water Separator, and Associated Work, Clarkstown Transfer Station Fueling Station, West Nyack, NY

Proposer shall perform the Work in accordance with the Contract Documents for the prices shown in the Price Proposal Summary shown below.

Proposer acknowledges that Proposer's price(s) constitute Proposer's sole compensation for performing all Work required by the Contract Documents, and if a particular part of the Work is not listed specifically in the Price Proposal Summary set forth below in Schedule A of this section, Proposer shall include that part of the Work in the Cost Item Description which it most logically belongs.

Schedule A: Lump Sum Cost Items

Lump sum items include all Work in the Contract Documents, except items specifically identified as Unit Price Work.

Measurement and payment of Lump Sum Cost Items is defined in Section 012210, Lump Sum Items, of the Technical Specifications and Rockland Green's Contract Terms and Conditions.

Lump Sum Cost Items Table			
Cost Item No.	**Description**	**Unit**	**Total Cost Item Price (figures in dollars and cents)**
A-1	Mobilization and Demobilization, as more fully described in Specification Section 012210, Bid Item Description A-1,complete.	LS	
A-2	Furnish and Install the Spill Containment Pad, Oil/Water Separator, Gravity Sewer System, Concrete Pads, and Site Restoration as more fully described in Specification Section 012210, Bid Item Description A-2, complete	LS	

(continued)

Schedule B: Total Proposal Price

Determination of the Total Proposal Price will be determined as follows:

a. All mathematical errors will be corrected. In case of discrepancy between the correct sum of individual bid items and the (incorrectly) calculated sum, the correct sum of individual cost items will govern.

Schedule	Total Proposed Price (figures in dollars and cents)
Total Proposal Price: (Sum of Schedule A)	

Total Proposal Price (In Words):

_____

_____

Submitted By (Name/ Title): _____

Signature: _____ Date:_____

Company Name:_____

Address: _____

_____

_____

Telephone No.: _____

APPENDIX B

INSURANCE REQUIREMENTS

Prior to the Contract commencement and throughout the term of the Contract, the Contractor shall maintain insurance issued by an insurance carrier satisfactory to Rockland Green to protect the parties hereto from and against any and all claims, demands, actions, judgments, costs, expenses and liabilities of every kind and nature which may arise or result, directly or indirectly, from or by reason of such loss, injury, including injury to the applicable Contractor's employees or employees of such Contractor's Subcontractors, or damage. Such insurance shall be maintained at the Contractor's sole expense.

1. The Contractor shall obtain and maintain throughout the term of the Contract the following types and minimum amounts, not including deductible, of insurance:

    - Commercial general liability and property damage insurance with broad form blanket contractual liability and products and completed operations coverage, shall be not less than $1,000,000 per occurrence and $2,000,000 general aggregate.

        – Prohibited exclusion(s) including, but not limited to: 1) 'gravity related' injuries; 2) injuries sustained by an employee of an/any insured; 3) liability assumed by Contract; 4) height limitation; or 5) territory restriction; and
        – Insurance must apply on a Per-Project basis; and
        – No Labor Law or Third-Party Action Over Exclusions.

    - Commercial comprehensive automobile liability endorsed for any automobile (owned and non-owned) with minimum limits for combined property damage and bodily injury of $1,000,000 per occurrence

    - Worker's compensation coverage in the statutory amounts required by New York State Law;

    - Employer's liability insurance required by New York State law covering all of the employees of the Contractor at Rockland Green 's facility;

    - Excess liability above the commercial general liability and automobile liability shall not be less than $10,000,000 per occurrence and $10,000,000 general aggregate, the Umbrella must be excess over the General Liability, Automobile Liability and Employers Liability; and

- The commercial general liability, excess liability, professional liability, and pollution liability shall be kept in force for a period of one (1) year following the end of the Contract period.

2. Additional Insureds - The Contractor will name Rockland Green, the County, and their officers, agents, employees, and consultants as additional named insureds on a primary, non-contributory basis (the "Additional Insureds") for Ongoing and Completed Operations on all insurance policies required herein, other than workers' compensation and employer liability coverage. Such coverage must be provided using the 04/13 versions of ISO Form CG 20 10 and CG 20 37 or equivalent. The Contractor will waive the subrogation rights of its various insurance carriers in favor of Rockland Green via CG 20 04 or equivalent.

3. Insurance Certificates and Policies - Insurance and any renewals thereof will be evidenced by certificates of insurance (the "Certificates") and copies of all insurance policies and endorsements issued or countersigned by a duly authorized representative of the issuer and delivered to Rockland Green for its approval thirty (30) days prior to the Contract commencement. The Certificates will require thirty (30) days written notice to Rockland Green, of cancellation, intent not to renew, or reduction in its coverage by the insurance company for all policies.

4. Non-Recourse Provision - All insurance policies will provide that the insurers will have no recourse against the Additional Insureds for payment of any premium or assessment and will contain a severability of interest provision in regard to mutual coverage liability policies. The coverages will be the primary source of any restitution or other recovery for any injuries to, or death of persons, or loss or damage to property incurred as a result of an action or inaction of the Contractor or its Subcontractors, of their respective suppliers, employees, agents, representatives, or invitees, that fall within these coverages and also within the coverages of any liability insurance or self-insurance program maintained by Rockland Green.

5. Deductibles - Deductibles shall not exceed $10,000.

6. Subcontractors - The Contractor will be responsible for ensuring that all Subcontractors which are working at the Site secure and maintain all insurance coverages hereunder and other financial sureties required by Applicable Law in connection with their presence and the performance of their duties at or concerning the Work. The Contractor will furnish Rockland Green with Subcontractors' Certificates and policies for review and approval prior to beginning.

7. Specific Provisions for Comprehensive General Liability Insurance - Comprehensive General Liability insurance, as required hereunder, will include premises-operations, blanket contractual, products and completed operations, personal injury, host liquor liability, explosion, collapse, underground hazards, and broad form property damage, including completed operations and independent contractor's coverages.

8. Specific Provisions for Worker's Compensation Coverage - Worker's Compensation insurance must be in accordance with the requirements of New York law, as amended from time to time. The required worker's compensation insurance will include other states' coverage, voluntary compensation coverage, and federal longshoreman and harbor worker's coverage.

9. Changes in Insurance Coverage - The insurance listed herein are the minimum coverages permitted, except that Rockland Green may decrease or omit the coverages specified at any time in its sole discretion. If Rockland Green decreases such coverage, any cost savings will be credited to the benefit of Rockland Green.

10. Qualifications of Insurers - The Contractor is required to obtain the insurance set forth in this Appendix with insurance companies that carry a Best's "A" or equivalent rating. In addition, insurance must be obtained and maintained with insurers authorized to do business in the State of New York.

11. Subcontractor Indemnification - The Contractor shall include the following language in all Subcontracts.

To the fullest extent permitted by law, the Subcontractor agrees to indemnify, defend and hold harmless the Contractor as well as all parties listed below as additional insureds, their officers, directors, agents, employees and partners (hereafter collectively "lndemnitees") from any and all claims, suits, damages, liabilities, professional fees, including attorneys' fees, costs, court costs, expenses and disbursements related to death, personal injuries or property damage (including loss of use thereof brought against any of the Indemnitees by any person or entity, arising out of or in connection with or as a result or consequence of the performance of the Work of the Subcontractor, as well as any additional work, extra work or add-on work, whether or not caused in whole or in part by the Subcontractor or any person or entity employed, either directly or indirectly by the Subcontractor including any subcontractors thereof and their employees. The parties expressly agree that this indemnification agreement and partial indemnity in the event of any actual negligence on the part of the Indemnitees either causing or contributing to the underlying claim which negligence is expressly excepted from the Subcontractor's obligation to indemnify. Attorneys' fees, court costs, expenses and disbursements shall be defined without limit to include those fees, costs, etc. incurred in defending the underlying claim and those fees, costs, etc. incurred in connection with the enforcement of this Subcontract Agreement. Indemnification under this Agreement shall operate whether or not Contractor has placed and maintained the insurance required under this agreement. The Subcontractor shall cause all subcontract agreements it enters into to include this indemnification clause so as to ensure that Contractor and all Indemnitees hereunder shall have the same protection from sub-subcontractors as is afforded by the Subcontractor.

APPENDIX C

PREVAILING WAGES

PRC#2026013123

APPENDIX D

TECHNICAL SPECIFICATIONS

Contract Documents
For
Rockland Green
RFP 2026-03: Furnish and Install New Oil/Water Separator, and Associated Work
Clarkstown Transfer Station
West Nyack, New York

PREPARED BY:

Environmental Design & Research, Landscape Architecture,
Engineering & Environmental Services, D.P.C.
217 Montgomery Street, Suite 1100
Syracuse, New York 13202

2026

TABLE OF CONTENTS

TECHNICAL PROVISIONS

Section	Title	Page
DIVISION 1 - GENERAL REQUIREMENTS		
011100	Summary of Work	1 thru 4
011190	Contract Considerations	1 thru 2
012210	Lump Sum Items (Bid Item Descriptions)	1 thru 4
013300	Submittals	1 thru 6
014000	Quality Control	1 thru 3
DIVISION 3 – CONCRETE		
033000	Cast-in-Place Concrete	1 thru 10
DIVISION 5 – METALS		
055050	Post Installed Concrete Anchors	1 thru 4
DIVISION 31 – EARTHWORK		
310519	Geotextiles for Earthwork	1 thru 4
312305	Subgrade Preparation	1 thru 4
312310	Excavation	1 thru 3
312315	Trenching	1 thru 4
312325	Backfill	1 thru 6
312330	Compaction	1 thru 5
312500	Erosion and Sediment Controls	1 thru 6
DIVISION 32 – EXTERIOR IMPROVEMENTS		
321216	Asphalt Paving	1 thru 9
DIVISION 33 – UTILITIES		
330506	Air and Vacuum Testing for Gravity Sewers and Manholes	1 thru 7
330561	Concrete Manholes	1 thru 8
333113	Sewer Piping	1 thru 4
334200	Stormwater Conveyance	1 thru 5

SECTION 011100

SUMMARY OF WORK

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Project - Work covered by Contract Documents

B. Limits of work area

C. Construction permits and easements

D. Work sequence

E. Quality assurance

F. Preconstruction conference

G. Progress meetings

H. Coordination with ongoing operations

1.02 WORK INCLUDED

A. The Proposer shall furnish and install materials, equipment, and labor for the following items, all in accordance with the drawings, specifications, and requirements of RFP-2026-03.

B. Furnish all equipment, materials, and labor to install a new spill containment pad at the existing vehicle fueling station, including an integrated caste-in-place concrete inlet basin with frame and grate.

C. Furnish and install a prefabricated concrete vertical plate oil/water separator sized according to the design flow rate as shown on the drawings.

D. Furnish and install new gravity sewer pipe from the spill containment pad to the oil/water separator, and then to the new Manhole #1 (dog house MH) on the existing gravity sewer, including associate fittings, connections, backfill material, testing of pipe and manholes, new pavement, and site restoration, all in accordance with the plans and specifications.

E. All work shall comply with federal, state, and local environmental regulations, as well as manufacturer installation requirements.

F. Furnish, install, and maintain all temporary traffic control devices (including coordination with Rockland Green).

G. Maintain and protect open trenches and excavations.

H. Implement Best Management Practices for temporary flow diversion, erosion minimization, and downstream sediment controls per New York State Guidelines.

I. Coordinate with Rockland Green (owner and operator of the facility) to establish daily work zones, vehicular patterns, temporary traffic barriers, removal of materials, delivery of

materials, temporary stockpile locations, and other coordination efforts to minimize disruption to ongoing transfer operations.

J. Rockland Green encourages the use of recyclable products to the greatest extent possible. In support of this goal, Recyclable Concrete Aggregate (RCA) will be made available to the Proposer at Rockland Green's Concrete and Asphalt Recycling Facility located at the Clarkstown Transfer Station (on site hauling from the Concrete and Asphalt Recycling Facility is the responsibility of the Proposer). The RCA product is approved for the following uses:

1. RCA

a. Granular fill below the reinforced concrete equipment pads.

b. Pipe bedding.

Cost of the RCA for this project will be waived by Rockland Green.

1.03 LIMITS OF WORK AREA

A. Confine construction operations within the Contract Limits shown on the Drawings. Storage of equipment and materials, or erection and use of sheds outside of the Contract Limits, if such areas are the property of Rockland Green, shall be used only with Rockland Green's approval. Such storage or temporary structures, even within the Contract Limits, shall be confined to Rockland Green's property and shall not be placed on properties designated as easements or rights-of-way. All roadways and access to the transfer station shall remain open and clear from obstruction while operations are active.

B. It is Rockland Green's intent to maintain ongoing operations at the transfer station during the active construction period and access to this area will be shared.

C. Proposer shall always maintain clear and free vehicular access unless specifically approved by Rockland Green with 48-hour notification.

1.04 CONSTRUCTION PERMITS AND EASEMENTS

A. The Proposer shall obtain and pay for necessary construction permits from those authorities or agencies having jurisdiction over land areas, utilities or structures which are located within the Contract Limits, and which will be occupied, encountered, used, or temporarily interrupted by Proposer's operations.

B. When construction permits are accompanied by regulations or requirements issued by a particular authority or agency, it shall be Proposer's responsibility to familiarize himself and comply with such regulations or requirements as they apply to his operations on this project.

1.05 WORK SEQUENCE

A. Time is of the essence for completion of construction activities.

B. Construction activities shall not begin until Proposer has completed or received the following:

1. A fully executed Purchase Order, including all required forms and proof of insurance.

2. Submittal of a written Schedule to indicate sequencing of work.

3. Written receipt of all shop drawing approvals from the Authority's Engineer.

4. Delivery of all equipment and other temporary facilities associated with mobilization of work crews.

5. Authorization to proceed with work from Rockland Green.

1.06 QUALITY ASSURANCE

A. The entire Contract work shall be completed in strict accordance with all applicable federal, state and local regulations and ordinances and the best standards of practice.

1.07 PRECONSTRUCTION CONFERENCE

A. Engineer will schedule a conference after the Effective Contract Date.

B. Attendance Required - Rockland Green, Engineer, Proposer, and each major subcontractor (if applicable).

C. Agenda

1. Distribution of extra sets of Contract Documents.

2. Submission of list of Subcontractors, list of products, Schedule of Values, and progress schedule.

3. Designation of personnel representing the parties in Contract and the Engineer.

4. Procedures and processing of field decisions, submittals, substitutions, applications for payments, proposal request, Change Orders and Contract closeout procedures.

5. Scheduling.

6. Scheduling activities of concrete testing laboratory (third-party testing by Rockland Green).

7. Requirements of regulatory agencies.

8. Use of premises by Rockland Green and Proposer.

9. Temporary facilities to be provided by Rockland Green and by Proposer.

10. Procedures for testing.

11. Procedures for maintaining record documents.

12. Periodic cleanup of site.

13. Notification of utilities' Owners, as applicable.

1.08 COORDINATION WITH ONGOING OPERATIONS

A. Rockland Green's facility must remain in continuous operation during the work under this Contract.

B. The Proposer is advised of the following work that may present interferences or require significant coordination and interfacing. This list is provided for information only and may not be complete.

1. Routine Transfer Station Operations

2. Asphalt and Concrete Recycling Operations.

C. The costs associated with the interferences, coordination, and interfacing with the current operations as well as with Rockland Green shall be included in the Contract Price.

PART 2 PRODUCTS

Not used.

PART 3 EXECUTION

2.01. EXECUTION

A. All procedures shall be in accordance with the manufacturer's recommendations for the specified product, federal and state regulations, and Best Management Practices.

B. Proposer shall provide a container for storage and transport of all **waste debris** removed from excavations. The waste debris shall be weighed at Rockland Green's exterior weigh scale on site (Clarkstown TS) prior to disposal. The cost for disposal of the waste debris will be covered by Rockland Green. The Proposer will be responsible for all costs associated with providing a container (or truck), hauling, operations to load and unload the container and any other costs associated with this work. The Authority's weigh scale is open between the hours of 7 am – 4 pm Monday through Friday, and 7 am through 12 pm on Saturdays.

1. Saw cut existing paved areas as required to avoid feather edging of repair material and to provide a neat, finished appearance.

C. All **surplus excavated soil** shall be removed from the site by the Proposer and disposed of at an approved location and in compliance with all state laws and regulations for transport and disposal. On site use of surplus soil is not allowed unless approved in writing by Rockland Green.

END OF SECTION

SECTION 011190

CONTRACT CONSIDERATIONS

PART 1 GENERAL

The contract considerations described under all Division 1 specifications are intended to serve as "Supplementary Conditions" to Rockland Green's Standard Terms and Conditions described in the Contract as executed between Rockland Green and Proposer. In all cases, Rockland Green's Standard Terms and Conditions shall have precedence over all other terms and conditions described in these Division 1 specifications.

1.01 DESCRIPTION OF WORK

A. Schedule of values

B. Applications for Payment

C. Change procedures

D. Alternates

1.02 DEFINITIONS

A. Mobilization - Mobilization includes, but is not limited to, performance of preparatory construction operations, including the movement of personnel and equipment to the project site; the cost of insurance and other securities (if required); application, fee payment, and acquisition of all required permits (i.e., erosion and sediment control plans, temporary and permanent building and trade permits, utility connections, etc.); and the establishment of Proposer's temporary facilities required at the site in order to begin work.

1.03 SCHEDULE OF VALUES

Proposer shall provide a Schedule of Values for Lump Sum Items only if requested by Rockland Green or if the duration of the Work exceeds one month.

A. Submit one electronic copy in Microsoft Excel of the Schedule of Valves prior to beginning construction activities.

B. Line items shall be subdivided into the Price Proposal Summary Items shown on the Price Proposal Form.

C. The sum of all line items in the Schedule of Values shall equal the Total Proposal Price included on the Price Proposal Form plus authorized Additive Alternatives (if any) as listed in the Agreement.

D. Each line item shall include a directly proportional amount of the Proposer's overhead and profit.

E. Schedule of Values shall serve as a breakdown of Work used to establish progress payments. Progress payments for lump sum items will be made based on the percentages of completion of the work items included in the Schedule of Values for each lump sum item. Progress payments for Unit Price Work will be based on actual quantities of work performed. Progress payments for Contingent Unit Price work will only be made if work is authorized by Rockland Green and Engineer.

F. For Lump Sum Proposal Items, the following format shall be followed when developing the Schedule of Values.

1. If Mobilization is not identified in the Price Proposal Form as a separate Proposed Price Item, Proposer shall include in the Schedule of Values a line item for Mobilization as part of a Lump Sum Proposal Price Item.

a. Lump sum line item shall include all work described in the definition of mobilization included herein.

b. Costs for bonds and insurance shall be included in the lump sum mobilization line item.

c. Mobilization cost shall not be greater than five percent of the Total Proposal Price.

2. Include separate line items for demobilization and contract closeout.

3. Format - Show cost breakdown for each lump sum item. Include, as a minimum, mobilization and demobilization and cost for materials.

G. Revise Schedule of Values to include executed Change Orders with each Application for Payment.

1.04 APPLICATIONS FOR PAYMENT

A. **Refer to Rockland Green's Terms and Conditions.**

1.05 CHANGE PROCEDURES

A. **Refer to Rockland Green's Terms and Conditions.**

1.06 ALTERNATES

A. Not used.

PART 2 PRODUCTS

Not used.

PART 3 EXECUTION

Not used.

END OF SECTION

SECTION 012210

LUMP SUM ITEMS (BID ITEM DESCRIPTIONS)

PART 1 GENERAL

1.01. SECTION INCLUDES

A. Price basis.

B. Elements of Bid Item Description page.

C. Lump sum item list.

D. Bid Item Descriptions.

1.02. PRICE BASIS

A. Lump sum prices bid by Contractor are deemed to be full compensation for all required labor, products, tools, equipment, plant, transportation, testing, inspection, services, incidentals, administrative, procedures, applicable taxes, permit fees, overhead, profit, and other miscellaneous expenses.

1.03. ELEMENTS OF BID ITEM DESCRIPTION PAGE

A. Identification of lump sum item, as set forth in the Bid Form.

B. Statement of work involved in the item.

C. Listing of components of work which make up the item including reference to the section(s) covering each component.

D. Cross-references to associated work not included in the item.

1.04. LUMP SUM ITEMS - CONTRACT 1

Bid Item No.	Bid Item Description
A-1	Mobilization and Demobilization, as more fully described in Specification Section 012210, Bid Item Description A-1,complete.
A-2	Furnish and Install the Spill Containment Pad, Oil/Water Separator, Gravity Sewer System, Concrete Pads, and Site Restoration as more fully described in Specification Section 012210, Bid Item Description A-2, complete

1.06 BID ITEM DESCRIPTIONS

A. Bid Item Description pages identified above are attached at the end of this section.

PART 2 PRODUCTS

Not used.

PART 3 EXECUTION

Not used.

(continued)

BID ITEM DESCRIPTION A-1

MOBILIZATION AND DEMOBILIZATION

A. DESCRIPTION

Under this item, Proposer shall provide all labor, materials, and equipment (rented and owned) necessary to mobilize and demobilize from the site to support the work specified under RFP 2026-03 including, pre-work submittals, site mobilization, project management, temporary storage facilities, traffic safety devices, temporary office facilities (if desired), temporary utility service (as desired), cost for bonds and insurance, daily field coordination, attendance at progress meetings, site restoration resulting from temporary storage area, submittal of marked-up drawings showing changes and final location of specified facilities, all warrantees and certifications, work sequencing and scheduling, and all related administrative responsibilities, complete. All work shall be performed in accordance with the Terms and Conditions of the Agreement with Rockland Green and as shown in the Contract Drawings.

B. WORK INCLUDED UNDER THIS ITEM

- Mobilization
- Demobilization
- All materials to be used as part of this RFP must be submitted and approved prior to installation.
- Division 1 technical specifications included as part of RFP 2026-03

C. ASSOCIATED WORK NOT INCLUDED UNDER THIS ITEM

Not applicable

D. METHOD OF PAYMENT

Measurement shall be based on the percent completion of all work under this RFP including labor, equipment, and materials necessary to complete specified construction work, or as approved by Rockland Green. Payment for stored materials shall include backup for proof of purchase and must have been delivered to the site, unless otherwise authorized by Rockland Green.

BID ITEM DESCRIPTION A-2

FURNISH AND INSTALL THE SPILL CONTAINMENT PAD, OIL/WATER SEPARATOR, GRAVITY SEWER SYSTEM, CONCRETE PADS, AND SITE RESTORATION

A.	DESCRIPTION	Under this bid item the PROPOSER shall provide all labor, materials, and equipment (rented and owned) necessary to furnish and install the new spill containment pad, oil/water separator, gravity sewer system extension, and concrete pads including, pavement cutting, excavation, temporary shoring and protection of adjacent facilities, disposal and recycling of surplus materials, structural backfill, common backfill, protection of open excavation, frame and grates for structures, concrete collar, pavement, site protection, site restoration, and acceptance testing, complete, to the limits shown on the Contract Drawings.
B.	WORK INCLUDED UNDER THIS ITEM	All technical specifications included as part of RFP 2026-03 All work as shown on the Drawings
C.	ASSOCIATED WORK NOT INCLUDED UNDER THIS ITEM	Concrete and Soil testing (by Rockland Green) All work associated with other lump sum item.
D.	METHOD OF PAYMENT	Payment for this item will be made on a lump sum basis.
E.	MEASUREMENT AND LIMITS	Measurement shall be based on the percent completion of all activities including labor, equipment, and materials necessary to complete specified construction work, or as approved by Rockland Green. Payment for stored materials shall include backup for proof of purchase and must have been delivered to the site, unless otherwise authorized by Rockland Green in writing.

END OF SECTION

SECTION 013300

SUBMITTALS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Submittal procedures

B. Construction progress schedule

C. Proposed products list

D. Shop drawings

E. Substitutions

F. Manufacturers' instructions

1.02 SUBMITTAL PROCEDURES

A. Transmit each required submittal using Rockland Green and Engineer accepted form.

B. Number the submittals as follows:

1. First: Specification Section number.

2. Submittal number within the Specification Section.

3. Review cycle number.

4. Title of submittal.

5. For example:

a. 330500-01-01 – Ductile Iron Pipe (first review cycle).

b. 330500-01-02 – Ductile Iron Pipe (second review cycle).

C. Identify project, Proposer, subcontractor, or supplier; pertinent Drawing sheet and detail number(s), and specification section number, as appropriate.

D. Apply Proposer's stamp, signed or initialed certifying that review, verification of products required, field dimensions, adjacent construction work, and coordination of information, is in accordance with the requirements of the work and Contract Documents. Stamp shall show the following information:

1. Shop Submittal Number: _____

2. Deviations: None_____; As Listed_____

3. Reference Specification Number: _____

4. Reference Drawing Number: _____

5. Space Requirement: As Designed _____ Different, As Listed _____

6. Representation is made to Rockland Green and Engineer that the Proposer has determined and verified all field measurements and quantities, field construction criteria, materials, catalog numbers and similar data, that he has reviewed and coordinated the information in each shop drawing with the requirements of the work and the Contract Documents, and hereby approves this submittal.

   Proposer_____
   Signature_____
   Date_____

E. All submittals shall be submitted through electronic submission system. All submittals shall be in PDF format. Email size is limited to 10 MB at any one time. For larger files, utilize a cloud drive service. It is Proposer's responsibility to confirm receipt. Proposer is not to assume e-mail has transmitted successfully.

F. Schedule submittals to expedite the Project and deliver to Engineer via email (jheath@edrdpc.com and cstevenson@edrdpc.com). Coordinate submission of related items. Proposer shall anticipate that submittals will be reviewed within 7 calendar days. Proposer shall take into account the submittal review time in their schedule and plan accordingly. **No work shall proceed under this RFP 2026-03 until all shop drawings have been approved and equipment and have been delivered to the site.**

G. Identify deviations from Contract Documents and Product or system limitations which may be detrimental to successful performance of the completed work.

H. Identify space requirements which differ from those designed or shown on the Contract Documents.

I. Revise and resubmit in accordance with review comments/corrections provided. Proposer to distribute appropriate number of revised copies to Rockland Green with appropriate new samples if required. Proposer shall direct specific attention in writing to revisions other than the corrections called for by Engineer on previous submittals. Identify all changes made since previous submittal in a cover letter or memorandum. **Rockland Green reserves the right to recover cost for engineering review time from the Proposer if there are more than one resubmittal for any given shop drawing.**

J. Distribute copies of reviewed submittals to concerned parties. Instruct parties to promptly report any inability to comply with provisions.

K. Submittals not requested will not be recognized or processed and will be returned as "Not Reviewed".

L. Items shall not be fabricated or delivered without fully approved Shop Drawings.

M. Ensure no associated work begins until associated Shop Drawings are fully approved.

N. Fabrication prior to receiving an "Approved" or "Approved as Corrected – No Resubmittal Required" is at Proposer's risk.

1.03 REVIEW OF SUBMITTALS

A. Review of submittals will be in accordance with the General Conditions.

B. Review Times - No less than 10 business days shall be allowed for Engineer's review of submittals and resubmittals unless otherwise specified in the Contract Documents.

C. Review Codes

1. Approved
2. Approved as Corrected – No Resubmittal Required
3. Approved as Corrected – Resubmit Required
4. Approved as Corrected - Provide Requested Information Only
5. Revise and Resubmit
6. Not Approved
7. Not Reviewed
8. For Informational Purposes Only

D. Payment will not be made for any items requiring submittals until no further submittals are required for the item.

1.04 SCHEDULE OF SUBMITTALS

A. Submit preliminary Schedule of Submittals in accordance with General Conditions. Provide within 30 days following the Notice to Proceed.
B. Revise and resubmit until acceptable to Engineer.

1.05 CONSTRUCTION PROGRESS SCHEDULE

A. Submit preliminary progress schedule in duplicate within 10 days after effective date of Rockland Green and Proposer Agreement for Engineer review.

B. Submit finalized progress schedule at least 10 days before submission of the first Application for Payment.

C. Submit revised schedules at each progress meeting, identifying changes since previous version.

D. Prepare horizontal bar chart with separate entry for each major section of work. Include work sequence requirements, if any. Identify first workday of each week.

E. Show complete sequence of construction by activity, identifying work of separate stages and other logically grouped activities. Indicate the early and late start, early and late finish, float dates, and duration.

F. Indicate estimated percentage of completion for each item of work at each progress meeting.

1.06 PROPOSED PRODUCTS LIST

A. Within 30 days after date indicated in the Notice to Proceed, submit complete list of major products proposed for use, with name of manufacturer, trade name, and model number of each product, and appropriate Specification Section number.

B. For products specified only by reference standards, give manufacturer, trade name, model or catalog designation, and reference standards.

1.07 SHOP DRAWINGS

A. Electronic copies of shop drawings are allowed but **must contain a complete submittal**. Multiple email submissions for the same submittal will be returned as “not reviewed”.

B. Provide information in accordance with General Conditions as supplemented herein and as required by individual Specification Sections.

C. Shop Drawing submittals shall include all descriptive data, performance characteristics, material specifications, drawings, diagrams and shall be complete and accurate to indicate item-by-item compliance with the Contract Documents.

D. Shop Drawings shall be drawn at scales matching those on the Drawings depicting the same items.

E. All catalog cuts, manufacturer’s specifications, drawings, and verbal descriptions shall be clearly marked to allow identification of the specific products used.

F. If the submittal deviates from the requirements of the Specifications in any way, it shall be clearly marked in the submittal with the justifying reason stated for evaluation by Engineer and Owner.

G. After review and approval by Engineer, distribute and preserve copies for record documents purposes.

1.08 SUBSTITUTIONS

A. Rockland Green and Engineer will consider requests for substitute or "or equal" items after the Effective Date of Rockland Green - Proposer Agreement.

B. Substitutions may be considered when a product becomes unavailable through no fault of the Proposer. Furnish evidence that product is unavailable.

C. Document each request with complete data substantiating compliance of proposed substitution with Contract Documents.

D. A request constitutes a representation that the Proposer:

1. Has investigated proposed product and determined that it meets or exceeds the quality level of the specified product.

2. Will provide the same warranty for the substitution as for the specified product.

3. Will coordinate installation and make changes to other work which may be required for the work to be complete with no additional cost to Rockland Green.

4. Waives claims for additional costs or time extension which may subsequently become apparent.

5. Will reimburse Rockland Green the costs incurred by Rockland Green for review and any subsequent redesign services by Engineer, including Engineer's revisions to the Contract Documents, and Engineer's assistance in connection with review by authorities when re-approval is required, if Engineer determines that the item of material or equipment proposed by Proposer is a substitute item.

E. Substitutions will not be considered when they are indicated or implied on shop drawing or product data submittals, without separate written request, or when acceptance will require revision to the Contract Documents.

F. Submittal Procedures

1. Submit to Engineer three copies of request for substitution for consideration, limiting each request to one proposed substitution.

2. Each request shall basically conform to the procedures outlined in Article 1.03 of this section.

3. Include shop drawings, product data, and certified test results attesting to the proposed product equivalence.

4. The Engineer will notify Proposer, in writing, of decision to accept or reject request.

1.09 MANUFACTURER'S INSTRUCTIONS

A. When specified in individual specification sections or on the drawings, submit manufacturers' printed instructions for delivery, storage, assembly, installation, startup, adjusting, and finishing, in quantities specified for product data. Installation instructions shall be available in the field prior to, and during, installation of any product.

B. Concrete Vertical Plate Separator (Oil/Water Separator) - Submit manufacturer's operation and maintenance instructions for equipment supplied for this project. Manuals shall be delivered after shop drawing approval and prior to equipment being started up.

C. Identify conflicts between manufacturers' instructions and Contract Documents.

D. All manufacturer required measurements, records and verifications shall be performed and documented. Contractor shall confirm no exceptions are being taken to manufacturer instructions.

1.09. MANUFACTURER’S CERTIFICATES

A. When specified in individual Specification Sections, submit manufacturer's certificate to Engineer for review, in quantities specified for product data.

B. Indicate that material or product conforms to or exceeds specified requirements. Submit supporting reference data, affidavits, and certifications as appropriate.

C. Certificates may be recent or previous test results on material or product, but must be acceptable to Engineer.

D. When specified in individual Specification Sections, submit manufacturer's performance affidavit for equipment to be furnished for this project. Affidavits shall be of format and content prescribed in Section 016400 - Equipment-General and shall be included with the shop drawing or product data submittal for the item of equipment to be furnished.

E. AIS Manufacturing Certificates are required with submittals for all AIS qualifying products.

PART 2 PRODUCTS

Not used.

PART 3 EXECUTION

Not used.

END OF SECTION

SECTION 014000

QUALITY CONTROL

PART 1 GENERAL

1.01. SECTION INCLUDES

A. Quality assurance and control of installation.

B. References and standards.

C. Tolerances.

D. Tests and inspections.

E. Manufacturers' field services.

1.02. QUALITY ASSURANCE AND CONTROL OF INSTALLATION

A. Monitor quality control over suppliers, manufacturers, products, services, site conditions, and workmanship, to produce work of specified quality.

B. Comply fully with manufacturers' instructions.

C. If manufacturers' instructions conflict with Contract Documents, request clarification from Engineer before proceeding.

D. Comply with specified standards as a minimum quality for the work except when code requirements or equipment manufacturer requires more stringent standards.

E. Perform work by persons qualified to produce workmanship of specified quality.

F. Secure products in place with positive anchorage devices designed and sized to withstand stresses, vibration, physical distortion and disfigurement.

G. Employ skilled and experienced installer to perform cutting and patching.

H. Submit written request in advance of cutting or altering elements which may affect:

1. Structural integrity of element.

2. Integrity of weather-exposed or moisture-resistant elements.

3. Efficiency, maintenance, or safety of element.

4. Visual qualities of sight-exposed elements.

5. Work of Rockland Green or separate contractor.

I. Execute cutting, fitting, and patching, including excavation and fill, to complete work and to:

1. Fit the several parts together, to integrate with other work.

2. Uncover work to install or correct ill-timed work.

3. Remove and replace defective and non-conforming work.

J. Execute work by methods which will avoid damage to other work and provide proper surfaces to receive patching and finishing.

K. Cut rigid materials using masonry saw or core drill.

L. Restore work with new products in accordance with requirements of Contract Documents.

M. Refinish surfaces to match adjacent finishes. For continuous surfaces, refinish to nearest intersection; for an assembly, refinish entire unit.

N. Identify any hazardous substance or condition exposed during the work to Rockland Green and Engineer in writing for decision or remedy. Refer to the Contract Drawings and specifications for work associated with potentially contaminated soil.

1.03. REFERENCES AND STANDARDS

A. For products and workmanship specified by association, trade, or other consensus standards, comply with requirements of the standard, except when more rigid requirements are specified and/or are required by applicable codes.

B. Obtain copies of standards where required by individual specification sections.

C. If specified reference standards conflict with Contract Documents, request clarification from Engineer before proceeding.

1.04. TOLERANCES

A. Monitor fabrication and installation tolerance control to produce acceptable work. Do not permit tolerances to accumulate.

B. Comply with manufacturers' tolerances. If manufacturers' tolerances conflict with Contract Documents, request clarification from Engineer before proceeding.

C. Adjust products to appropriate dimensions; position before securing products in place.

1.05. TESTS AND INSPECTIONS

A. Rockland Green shall employ and pay for the services of an independent testing laboratory to obtain concrete samples, granular materials samples, and perform soil compaction tests.

B. Independent testing laboratory will:

1. Perform inspections, soil compaction and concrete tests, and other services specified in the individual specification sections and as required by Engineer and Rockland Green.

2. Prepare and submit reports to the Engineer indicating observations and results of tests and indicating compliance or non-compliance with Contract Documents. Engineer will forward copy of report(s) to Contractor.

C. Contractor shall:

1. Cooperate with independent firm; furnish samples of materials; equipment, tools, storage, and assistance as requested.

2. Notify Engineer and Rockland Green 24 hours prior to expected time for operations requiring services.

3. Provide weekly look-ahead schedules for testing needs.

D. Retesting required because of non-conformance to specified requirements shall be performed by the same independent firm which performed the initial tests and inspections as instructed by the Engineer.

E. Costs for retesting and re-inspection will be deducted from Contractor’s progress payments.

1.06. MANUFACTURERS’ FIELD SERVICES

A. When specified in individual specification sections, material or product suppliers or manufacturers shall provide qualified staff personnel to observe site conditions, conditions of surfaces and installation, quality of workmanship, start-up of equipment, test, adjust and balance of equipment, equipment demonstration, and training as applicable, and to initiate instructions when necessary.

B. Staff person to report observations, site conditions, or instructions given to applicators or installers, which are supplemental or contrary to manufacturers' written instructions

C. Report observations and site decisions or instructions given to applicators or installers that are supplemental or contrary to manufacturers' written instructions.

PART 2 PRODUCTS

Not used.

PART 3 EXECUTION

Not used.

END OF SECTION

SECTION 033000

CAST-IN-PLACE CONCRETE

PART 1 GENERAL

1.01. SECTION INCLUDES

A. Concrete formwork.

B. Concrete pads.

C. Concrete reinforcement.

D. Joint devices associated with concrete work.

E. Miscellaneous concrete elements, including equipment pads and equipment pits.

F. Concrete curing.

1.02. REFERENCE STANDARDS

A. ACI 117 - Specifications for Tolerances for Concrete Construction and Materials; 2010 (Reapproved 2015).

B. ACI 211.1 - Standard Practice for Selecting Proportions for Normal, Heavyweight, and Mass Concrete; 1991 (Reapproved 2009).

C. ACI 301 - Specifications for Structural Concrete; 2016.

D. ACI 302.1R - Guide to Concrete Floor and Slab Construction; 2015.

E. ACI 304R - Guide for Measuring, Mixing, Transporting, and Placing Concrete; 2000 (Reapproved 2009).

F. ACI 305R - Guide to Hot Weather Concreting; 2010.

G. ACI 306R - Guide to Cold Weather Concreting; 2016.

H. ACI 308R - Guide to External Curing of Concrete; 2016.

I. ACI 318 - Building Code Requirements for Structural Concrete and Commentary; 2014 (Errata 2018).

J. ACI 347R - Guide to Formwork for Concrete; 2014, with Errata (2017).

K. ASTM A615/A615M - Standard Specification for Deformed and Plain Carbon-Steel Bars for Concrete Reinforcement; 2020.

L. ASTM A1064/A1064M - Standard Specification for Carbon-Steel Wire and Welded Wire Reinforcement, Plain and Deformed, for Concrete; 2018a.

M. ASTM C1602/C1602M - Standard Specification for Mixing Water Used in the Production of Hydraulic Cement Concrete; 2012.

N. ASTM C33/C33M - Standard Specification for Concrete Aggregates; 2018.

O. ASTM C39/C39M - Standard Test Method for Compressive Strength of Cylindrical Concrete Specimens; 2020.

P. ASTM C94/C94M - Standard Specification for Ready-Mixed Concrete; 2020.

Q. ASTM C150/C150M - Standard Specification for Portland Cement; 2020.

R. ASTM C171 - Standard Specification for Sheet Materials for Curing Concrete; 2016.

S. ASTM C173/C173M - Standard Test Method for Air Content of Freshly Mixed Concrete by the Volumetric Method; 2016.

T. ASTM C260/C260M - Standard Specification for Air-Entraining Admixtures for Concrete; 2010a (Reapproved 2016).

U. ASTM C330/C330M - Standard Specification for Lightweight Aggregates for Structural Concrete; 2017a.

V. ASTM C494/C494M - Standard Specification for Chemical Admixtures for Concrete; 2019.

W. ASTM C618 - Standard Specification for Coal Fly Ash and Raw or Calcined Natural Pozzolan for Use in Concrete; 2019.

X. ASTM D1751 - Standard Specification for Preformed Expansion Joint Filler for Concrete Paving and Structural Construction (Nonextruding and Resilient Bituminous Types); 2018.

Y. ASTM E1643 - Standard Practice for Selection, Design, Installation and Inspection of Water Vapor Retarders Used in Contact with Earth or Granular Fill Under Concrete Slabs; 2018a.

Z. ASTM E1745 - Standard Specification for Plastic Water Vapor Retarders Used in Contact with Soil or Granular Fill under Concrete Slabs; 2017.

1.03. SUBMITTALS

A. Product Data: Submit manufacturers' data on manufactured products showing compliance with specified requirements and installation instructions.

B. Mix Design: Submit proposed concrete mix design.

C. Test Reports: Submit a report for each test or series of tests specified.

1.04. QUALITY ASSURANCE

A. Perform work of this section in accordance with ACI 301 and ACI 318.

1. Maintain one copy of each document on site.

B. Follow recommendations of ACI 305R when concreting during hot weather.

C. Follow recommendations of ACI 306R when concreting during cold weather.

PART 2 PRODUCTS

2.01. FORMWORK

A. Formwork Design and Construction: Comply with guidelines of ACI 347R to provide formwork that will produce concrete complying with tolerances of ACI 117.

B. Form Materials: Proposer's choice of standard products with sufficient strength to withstand hydrostatic head without distortion in excess of permitted tolerances.

1. Form Coating: Release agent that will not adversely affect concrete or interfere with application of coatings.

2. Form Ties: Cone snap type that will leave no metal within 1-1/2 inches of concrete surface.

2.02. REINFORCEMENT MATERIALS

A. Reinforcing Steel: ASTM A615/A615M, Grade 60 (60,000 psi).

1. Type: Deformed billet-steel bars.

2. Finish: Unfinished, unless otherwise indicated.

B. Steel Welded Wire Reinforcement (WWR): Plain type, ASTM A1064/A1064M.

1. Form: Flat Sheets.

2. WWR Style: As indicated on drawings.

C. Reinforcement Accessories:

1. Tie Wire: Annealed, minimum 16 gage, 0.0508 inch.

2. Chairs, Bolsters, Bar Supports, Spacers: Sized and shaped for adequate support of reinforcement during concrete placement.

3. Provide galvanized, plastic, or plastic coated steel components for placement within 1-1/2 inches of weathering surfaces.

2.03. CONCRETE MATERIALS

A. Cement: ASTM C150/C150M, Type III – High Early Strength Cement.

1. Acquire cement for entire project from same source.

B. Fine and Coarse Aggregates: ASTM C33/C33M.

1. Acquire aggregates for entire project from same source.

2. Coarse aggregates shall be strong, clean crushed limestone complying with ASTM C33/C33M, size no. 67 provided from one source.

3. Sand: Clean sharp, natural sand, graded in accordance with ASTM C33.

C. Fly Ash: ASTM C618, Class C or F.

D. Water: ASTM C1602/C1602M; clean, potable, and not detrimental to concrete.

2.04. ADMIXTURES

A. Do not use chemicals that will result in soluble chloride ions in excess of 0.1 percent by weight of cement.

B. Air Entrainment Admixture: ASTM C260/C260M.

C. High Range Water Reducing and Retarding Admixture: ASTM C494/C494M Type G.

D. High Range Water Reducing Admixture: ASTM C494/C494M Type F.

1. Manufacturers:

a. Euclid Chemical Company; PLASTOL 6420: www.euclidchemical.com/#sle.

E. Water Reducing and Accelerating Admixture: ASTM C494/C494M Type E.

1. Manufacturers:

a. Euclid Chemical Company; ACCELGUARD 80: www.euclidchemical.com/#sle.

F. Accelerating Admixture: ASTM C494/C494M Type C.

1. Manufacturers:

a. W. R. Meadows, Inc; Hydraset: www.wrmeadows.com/#sle.

G. Retarding Admixture: ASTM C494/C494M Type B.

H. Water Reducing Admixture: ASTM C494/C494M Type A.

2.05. ACCESSORY MATERIALS

A. Under slab Vapor Retarder: Sheet material complying with ASTM E1745, Class A; stated by manufacturer as suitable for installation in contact with soil or granular fill under concrete slabs. The use of single ply polyethylene is prohibited.

1. Installation: Comply with ASTM E1643.

2. Accessory Products: Vapor retarder manufacturer's recommended tape, adhesive, mastic, prefabricated boots, etc., for sealing seams and penetrations.

B. Flexible PVC Waterstops: U.S. Army Corps of Engineers CRD-C 572, for embedding in concrete to prevent passage of fluids through joints, with factory fabricate corners, intersections, and directional changes.

1. Available Manufacturers

a. Greenstreak

b. Vinylex Corp.

2. Profile: Ribbed without center bulb.

3. Dimensions: 6 inches by 3/8 inch thick: nontapered.

C. Adhesive Waterstops: A preformed asphalt plastic waterstop specifically manufactured to provide a watertight barrier in concrete construction and cold joints in new pours or when joining existing concrete to a new pour. Available Products:

1. Available Manufacturers

a. “Ultrastop” by Vinylex Corporation.

b. Approved equal.

2.06. BONDING AND JOINTING PRODUCTS

A. Slab Isolation Joint Filler: 1/2 inch thick, height equal to slab thickness, with removable top section that will form 1/2 inch deep sealant pocket after removal.

1. Material: ASTM D1751, cellulose fiber.

2. Manufacturers:

a. W. R. Meadows, Inc; Fiber Expansion Joint Filler with Snap-Cap: www.wrmeadows.com/#sle.

b. or approved equal.

B. Epoxy Bonding Adhesive with integrated Anti-Corrosion Primer: ASTMC 881, three-component epoxy resin, capable of humid curing and bonding to damp surfaces, of class suitable for application temperature and of grade to suit requirements, and as follows:

1. Types IV and V, load bearing, for bonding hardened or freshly mixed concrete to hardened concrete.

2. Manufacturers:

a. Sika, Corp; Sika Armatec-110 EpoCem

b. or approved equal.

2.07. CURING MATERIALS

A. Curing Compound, Naturally Dissipating: Clear, water-based, liquid membrane-forming compound; complying with ASTM C309.

B. Moisture-Retaining Sheet: ASTM C171.

1. Polyethylene film, white opaque, minimum nominal thickness of 4 mil, 0.004 inch.

2. White-burlap-polyethylene sheet, weighing not less than 3.8 ounces per square yard.

C. Water: Potable, not detrimental to concrete.

2.08. CONCRETE MIX DESIGN

A. Proportioning Normal Weight Concrete: Comply with ACI 211.1 recommendations.

B. Admixtures: Add acceptable admixtures as recommended in ACI 211.1 and at rates recommended or required by manufacturer.

C. Normal Weight Concrete:

1. Compressive Strength, when tested in accordance with ASTM C39/C39M at 28 days as follows:

a. All general uses not otherwise specified: 5,000 psi at 28 days

2. Water-Cement Ratio:

a. General Use: 0.42 max

3. Total Air Content: as determined in accordance with ASTM C173/C173M.

a. General Use: 6.0% (+/- 1.5%)

4. Maximum Slump: 5 inches (+/-1") inches.

5. Maximum Aggregate Size: 3/4 inch.

2.09. MIXING

A. Transit Mixers: Comply with ASTM C94/C94M.

B. Adding Water: If concrete arrives on-site with slump less than suitable for placement, do not add water that exceeds the maximum water-cement ratio or exceeds the maximum permissible slump.

C. All concrete shall be mixed until there is uniform distribution of materials and shall be discharged completely before mixer is recharged.

D. If concrete is not placed within 90 minutes after batched or if the concrete has become partially set, the concrete will be rejected and shall be disposed of off-site.

PART 3 EXECUTION

3.01. EXAMINATION

A. Verify lines, levels, and dimensions before proceeding with work of this section.

3.02. PREPARATION

A. Formwork: Comply with requirements of ACI 301. Design and fabricate forms to support all applied loads until concrete is cured, and for easy removal without damage to concrete.

B. Verify that forms are clean and free of rust before applying release agent.

C. Coordinate placement of embedded items with erection of concrete formwork and placement of form accessories.

D. Where new concrete is to be bonded to previously placed concrete, prepare existing surface by cleaning and applying bonding agent according to bonding agent manufacturer's instructions.

E. In locations where new concrete is doweled into hardened concrete, drill holes in existing concrete, and utilize chemical adhesive system.

3.03. INSTALLING REINFORCEMENT AND OTHER EMBEDDED ITEMS

A. Comply with requirements of ACI 301. Clean reinforcement of loose rust and mill scale, and accurately position, support, and secure in place to achieve not less than minimum concrete coverage required for protection.

B. Install welded wire reinforcement in maximum possible lengths, and offset end laps in both directions. Splice laps with tie wire.

C. Verify that anchors, seats, plates, reinforcement and other items to be cast into concrete are accurately placed, positioned securely, and will not interfere with concrete placement.

3.04. PLACING CONCRETE

A. Place concrete in accordance with ACI 304R.

B. Place concrete for floor slabs in accordance with ACI 302.1R.

C. Maintain records of concrete placement. Record date, location, quantity, air temperature, and test samples taken.

D. Ensure reinforcement, inserts, embedded parts, and formed construction joint devices will not be disturbed during concrete placement.

E. Place concrete continuously without construction (cold) joints wherever possible; where construction joints are necessary, before next placement prepare joint surface by removing laitance and exposing the sand and sound surface mortar, by sandblasting or high-pressure water jetting.

F. Deposit concrete continuously in one layer or in horizontal layers of such thickness that no new concrete is placed on concrete that has hardened enough to cause seams or planes of weakness. If a section cannot be placed continuously, provide construction joints as indicated. Deposit concrete to avoid segregation.

1. Deposit concrete in horizontal layers of depth not to exceed formwork design pressures and in a manner to avoid inclined construction joints.

2. Consolidate placed concrete with mechanical vibrating equipment according to ACI 301.

3. Do not use vibrators to transport concrete inside forms. Insert and withdraw vibrators vertically at uniformly spaced locations to rapidly penetrate placed layer and at least 6 inches into preceding layer. Do not insert vibrators into lower layers of concrete that have begun to lose plasticity. At each insertion, limit duration of vibration to time necessary to consolidate concrete and complete embedment of reinforcement and other embedded items without causing mixture constituents to segregate.

G. Finish floors level and flat, unless otherwise indicated, within the tolerances specified below.

H. Deposit and consolidate concrete for slabs in a continuous operation until placement of a panel or section is complete.

1. Consolidate concrete during placement operations, so concrete is thoroughly worked around reinforcement and other embedded items and into corners.

2. Maintain reinforcement in position on chairs during concrete placement.

3. Screed slab surfaces with a straightedge and strike off to correct elevations.

4. Slope surfaces uniformly to drains where required.

5. Begin initial floating using bull floats or darbies to form a uniform and open-textured surface plane, before excess bleedwater appears on the surface. Do not further disturb slab surfaces before starting finishing operations.

I. Cold Weather Placement: Comply with ACI 306.1 and as follows. Protect concrete work from physical damage or reduced strength that could be caused by frost, freezing actions, or low temperatures.

1. When average high and low temperature is expected to fall below 40 deg F for three successive days, maintain delivered concrete mixture temperature within the temperature range required by ACI 301.

2. Do not use frozen materials or materials containing ice or snow. Do not place concrete on frozen subgrade or on subgrade containing frozen materials.

3. Do not use calcium chloride, salt, or other materials containing antifreeze agents or chemical accelerators unless otherwise specified and approved in mixture designs.

K. Hot-Weather Placement: Comply with ACI 301 and ACI 305.1, and as follows:

1. Maintain concrete temperature below 90 deg F at time of placement. Chilled mixing water or chopped ice may be used to control temperature, provided water equivalent of ice is calculated to total amount of mixing water. Using liquid nitrogen to cool concrete is Proposer's option.

2. Fog-spray forms, steel reinforcement, and subgrade just before placing concrete. Keep subgrade uniformly moist without standing water, soft spots, or dry areas.

3.05. SLAB JOINTING

A. Locate joints as indicated on drawings.

B. Anchor joint fillers and devices to prevent movement during concrete placement.

C. Isolation Joints: Use preformed joint filler with removable top section for joint sealant, total height equal to thickness of slab, set flush with top of slab.

1. Install wherever necessary to separate slab from other building members, including columns, walls, equipment foundations, footings, stairs, manholes, sumps, and drains.

3.06. FLATNESS AND LEVELNESS TOLERANCES

A. Maximum Variation of Surface Flatness:

1. Exposed Concrete Floors: 1/8 inch in 10 feet.

B. Correct the slab surface if tolerances are less than specified.

C. Correct defects by grinding or by removal and replacement of the defective work. Areas requiring corrective work will be identified. Re-measure corrected areas by the same process.

3.07. CONCRETE FINISHING

A. Repair surface defects, including tie holes, immediately after removing formwork.

B. Unexposed Form Finish: Rub down or chip off fins or other raised areas 1/4 inch or more in height.

C. Exposed Form Finish: Rub down or chip off and smooth fins or other raised areas 1/4 inch (6 mm) or more in height. Provide finish as follows:

1. Smooth Rubbed Finish: Wet concrete and rub with carborundum brick or other abrasive, not more than 24 hours after form removal.

D. Related Unformed Surfaces: At tops of walls, horizontal offsets, and similar unformed surfaces adjacent to formed surfaces, strike off smooth and finish with a texture matching adjacent formed surfaces. Continue final surface treatment of formed surfaces uniformly across adjacent unformed surfaces unless otherwise indicated.

E. Concrete Slabs: Finish to requirements of ACI 302.1R, and trowel as described in ACI 302.1R, minimizing burnish marks and other appearance defects.

3.08. CURING AND PROTECTION

A. Comply with requirements of ACI 308R. Immediately after placement, protect concrete from premature drying, excessively hot or cold temperatures, and mechanical injury.

B. Maintain concrete with minimal moisture loss at relatively constant temperature for period necessary for hydration of cement and hardening of concrete.

1. Normal concrete: Not less than seven days, or approved by Engineer.

C. Formed Surfaces: Cure by moist curing with forms in place for full curing period.

D. Surfaces Not in Contact with Forms:

1. Initial Curing: Start as soon as free water has disappeared and before surface is dry. Keep continuously moist for not less than three days, or approved by Engineer, by water ponding, water-saturated sand, water-fog spray, or saturated burlap.

a. Ponding: Maintain 100 percent coverage of water over floor slab areas, continuously for 4 days.

b. Spraying: Spray water over floor slab areas and maintain wet.

c. Saturated Burlap: Saturate burlap-polyethylene and place burlap-side down over floor slab areas, lapping ends and sides; maintain in place.

2. Final Curing: Begin after initial curing but before surface is dry.

a. Moisture-Retaining Sheet: Lap strips not less than 3 inches and seal with waterproof tape or adhesive; secure at edges.

b. Curing Compound: Apply in two coats at right angles, using application rate recommended by manufacturer.

3.09. FIELD QUALITY CONTROL

A. Submit proposed mix design of each class of concrete to inspection and testing firm for review prior to commencement of concrete operations.

B. Tests of concrete and concrete materials may be performed at any time to ensure compliance with specified requirements.

C. Compressive Strength Tests: ASTM C39/C39M, for each test, mold and cure (6) 6” diameter cylinders or (9) 4” diameter cylinders. Break, 1 set (2 cylinders if 6” or 3 cylinders if 4”) of cylinders at 7 days, 1 set at 28 days and remaining set for reserve. Obtain test samples for every 50 cubic yards or less of each class of concrete placed.

D. Take one additional test cylinder during cold weather concreting, cured on job site under same conditions as concrete it represents.

E. Perform one slump test for each set of test cylinders taken, following procedures of ASTM C143/C143M.

F. Perform one air content test for each set of test cylinders taken following procedures of ASTM C231 or ASTM C173.

3.10. DEFECTIVE CONCRETE

A. Test Results: The testing agency shall report test results in writing to Engineer and Rockland Green within 24 hours of test.

B. Defective Concrete: Concrete not complying with required lines, details, dimensions, tolerances or specified requirements.

C. Repair or replacement of defective concrete will be determined by the Engineer. The cost of additional testing shall be borne by Proposer when defective concrete is identified.

D. Do not patch, fill, touch-up, repair, or replace exposed concrete except upon express direction of Engineer for each individual area.

E. Patching: Repair defective areas and fill form-tie holes and similar defects in accordance with Chapter 9 of ACI 301. Where, in the opinion of the Engineer, surface defects such as honeycomb occur, repair the defective areas as directed by the Engineer.

3.11. PROTECTION

A. Do not permit traffic over unprotected concrete surfaces until fully cured and cylinders indicate design strength has been achieved.

END OF SECTION

SECTION 055050

POST INSTALLED CONCRETE ANCHORS

PART 1 GENERAL

1.01. SECTION INCLUDES

A. Post-installed chemical adhesive anchor system for installing threaded rods (bolts) and reinforcing bar dowels into concrete and masonry. Both threaded rods (bolts) and dowels are referred to as anchors herein.

B. Limited use of post-installed mechanical anchors in concrete and masonry.

1.02. REFERENCES

ACI 355.1R	State-of-the-Art Report on Anchorage to Concrete
ASTM A153	Zinc Coating (Hot-Dip) on Iron and Steel Hardware
ASTM A307	Carbon Steel Bolts and Studs, 60 ksi Tensile Strength
ASTM A325	Structural Bolts, Heat Treated, 120/105 ksi Tensile Strength
ASTM A449	Hex Cap Screws, Bolts and Studs, Steel, Heat Treated, 120/105/90 ksi Minimum Tensile Strength, General Use
ASTM A615	Deformed and Plain Carbon-Steel Bars for Concrete Reinforcement
ASTM E488	Strength of Anchors in Concrete and Masonry Elements
ASTM E1512	Testing Bond Performance of Bonded Anchors
ASTM F593	Stainless Steel Bolts, Hex Cap Screws, and Studs
ASTM F594	Stainless Steel Nuts
ASTM F1554	Anchor Bolts, Steel, 36, 55, and 105-ksi Yield Strength
ICC AC 308	Acceptance Criteria for Post-installed Adhesive Anchors in Concrete Elements

1.03. SUBMITTALS

A. Submit catalog cuts for chemical adhesive grout product to be used for anchoring threaded rods (bolts) and dowels into concrete and/or masonry. Catalog cuts (do not submit whole catalogs) shall be clearly marked to include:

1. Tension and shear strength design values for each anchor size used on this project.

2. Manufacturer’s installation instructions.

3. Allowable temperature range for proper anchor installation.

B. Submit the ICC-ES Evaluation Service Report (ESR) for proposed adhesive anchor system if not a named product below in Part 2.

C. Submit data on adhesive anchor threaded rods to be used, including materials, sizes, lengths, etc.

D. Submit catalog cuts on mechanical, expansion-type anchor bolts and drop-ins, and clarification on the requested use.

1.04. QUALITY ASSURANCE

A. If the Proposer is not experienced in installing chemical adhesive anchors, or as requested by the Engineer, a representative from the adhesive anchor manufacturer shall be present at start of project to instruct the Proposer on how to properly install the adhesive anchors.

B. Upon request, 5 percent of all adhesive anchors shall be proof-loaded by an independent testing laboratory. The location(s) shall be determined by Engineer. These tests shall be paid for by the Proposer and the results shall be submitted to the Engineer.

C. Adhesive anchor systems shall have a current ICC-ES Evaluation Service Report that states recommended design capacities. Reports shall be performed in accordance with ICC AC308 and ASTM E1512.

1.05. COORDINATION

A. Coordinate the placement of anchor bolts with approved items and fabrications.

PART 2 PRODUCTS

2.01. MATERIALS

A. Adhesive anchor system shall be a high-strength, premeasured, two-part, self-mixing, cartridge-type epoxy adhesive such as “HIT HY 200” by Hilti, Inc.; “Epcon S7” by ITW Red Head, “Set-XP” by Simpson Strong-Tie Company, Inc.; “AC 100+ Gold” by DeWalt.; or equal.

1. Provided adhesive anchor system shall meet or exceed the minimum loading capacities of these specified products.

2. Where anchors or dowels are to be drilled and embedded into hollow (ungrouted) masonry, provide adhesive and sleeve (screen tube) system for this specific application. Provide adhesive anchor system specifically designed for masonry applications.

B. Mechanical Anchors – Mechanical (expansion-type) anchors are not allowed unless specifically requested (for a special application) by the Proposer and approved by Engineer in writing. Refer to limitations of use stated in Part 3.

1. If approved, they shall be hot-dip galvanized or stainless steel expansion-type bolts or drop-in anchors.

2. Anchors shall be rated for a minimum of twice the required load capacity.

C. Threaded Anchors – Threaded anchors with integral threaded rod coupler for use in overhead applications.

1. Anchors shall be rated for a minimum of twice the required load capacity.

D. Stainless Steel Threaded Rods – ASTM A593, Type 316.

E. Stainless Steel Nuts – ASTM A594, Type 316.

F. Reinforcing Steel Dowels – ASTM A615, Grade 60 deformed bar.

G. All threaded rods and anchor bolt accessories, including nuts, washers, etc. shall be of the same material as the rods/bolts.

PART 3 EXECUTION

3.01. INSTALLATION OF ADHESIVE ANCHOR SYSTEMS

A. All bolted connections to concrete and masonry shall utilize an adhesive anchor system as specified above.

B. Threaded stainless steel rods shall be used for all anchor bolt applications, unless noted otherwise in the Contract Documents.

C. Provide templates or other means to accurately locate anchors.

D. Drilled holes shall be cleaned out and shall be free of dust and trapped water.

E. Masonry wall (cores) shall be filled with grout where anchors are to be installed. In existing construction where masonry cores are not (and cannot be) grout filled, manufacturer's masonry screen tube shall be used with anchor installation.

F. Install adhesive anchors in accordance with manufacturer's recommendations.

G. Anchor bolts installed into concrete and/or masonry shall not be closer than 6 inches o.c. unless indicated otherwise.

H. All structural members bolted to concrete and/or masonry shall be made with a minimum of two 5/8-inch diameter anchors at each connection.

I. Anchor bolts and dowels shall be clean and free of coatings or other contaminants that would impair bonding to the chemical adhesive.

J. Threaded rods shall be long enough to project through the entire depth of nut and shall be approximately ½ inch beyond the top of nut.

K. Anchor bolts and dowels shall not be installed in concrete less than seven days old, or approved by Engineer, or older if recommended by the manufacturer.

L. Adhesive anchors shall be fully cured prior to applying load on anchor.

3.02. INSTALLATION OF CAST-IN AND EMBEDDED ANCHORS

A. All cast-in and embedded anchors shall be hot-dip galvanized unless noted otherwise in the Contract Documents.

B. Provide templates or other means to accurately place anchors.

C. Anchors shall be secured in place to not allow displacement during placement of concrete or masonry grout.

D. Concrete or masonry grout shall be thoroughly vibrated around the anchors for proper bonding of the anchors.

E. Anchor rods shall be long enough to project through the entire depth of nut and shall be cut off at 1/2 inch beyond the top of nut.

F. Concrete or masonry shall be at full 28-day compressive strength prior to applying load on anchor, or approved by Engineer.

3.03. INSTALLATION OF MECHANICAL ANCHORS

A. Mechanical (expansion-type) anchors are only allowed for overhead (ceiling) applications where thru-bolting cannot be performed. Mechanical anchors are not allowed for any other use unless specifically requested (for a special application) by the Proposer and approved by Engineer in writing.

B. Mechanical anchors shall support static tension loads not exceeding 200 lbs. per anchor.

C. Drilled holes shall be cleaned out and free of dust.

D. Anchors shall be fully seated prior to pretension. Pretension in accordance with manufacturer’s instructions.

E. Engineer may request any/all these mechanical anchors to be proof-loaded.

END OF SECTION

SECTION 310519

GEOTEXTILES FOR EARTHWORK

PART 1 GENERAL

1.01. SUMMARY

A. Section Includes:

1. Cushion geotextile

2. Reinforcement geotextile

1.02. REFERENCES

A. Quality Control Testing Standards

1. ASTM D4491 - Standard Test Methods for Water Permeability of Geotextiles by Permittivity.

2. ASTM D4533 - Standard Test Method for Trapezoid Tearing Strength of Geotextiles

3. ASTM D4595 - Standard Test Method for Tensile Properties of Geotextiles by the Wide-Width Strip Method

4. ASTM D4632 - Standard Test Method for Grab Breaking Load and Elongation of Geotextiles.

5. ASTM D4751 - Standard Test Method for Determining Apparent Opening Size of a Geotextile.

6. ASTM D6241 - Standard Test Method for Index Puncture Resistance of Geotextiles, Geomembranes, and Related Products.

7. ASTM D4873 - Standard Guide for Identification, Storage, and Handling of Geosynthetic Rolls and Samples.

8. ASTM D-5261 - Standard Test Method for Measuring Mass Per Unit Area of Geotextiles.

1.03. PREINSTALLATION MEETINGS

A. Preinstallation Conference: Conduct conference at Project site.

1.04. SUBMITTALS

A. Product Data:

1. Submit product data sheet for each geotextile proposed for use on this project.

1.05. DELIVERY, STORAGE, AND HANDLING

A. Geotextiles labeling, shipment, and storage shall follow ASTM D4873. Product labels shall clearly show the manufacturer or supplier name, style name, and roll number.

B. Each geotextile roll shall be wrapped with a material that will protect the geotextile from damage due to shipment, water, sunlight, and contaminants.

C. During storage, geotextile rolls shall be elevated off the ground and adequately covered to protect them from the following: site construction damage, precipitation, extended ultraviolet radiation including sunlight, chemicals that are strong acids or strong bases, flames including welding sparks, excess temperatures, and any other environmental conditions that may damage the physical property values of the geotextile.

PART 2 PRODUCTS

2.01. MANUFACTURERS

A. Cushion Geotextile

1. Shall be needle-punched, nonwoven geotextile specifically designed for cushion applications.

2. Shall be composed of polyester and/or polypropylene polymers.

3. Documentation shall be provided by the manufacturer indicating that each roll was inspected at the point of manufacturing for the presence of broken needles using an in-line metal detector

4. Shall meet the criteria listed in Table 310519-1.

B. Reinforcement Geotextile

1. Shall be a woven geotextile specifically designed for reinforcement applications.

2. Shall be composed of polyester and/or polypropylene polymers.

3. Shall meet the criteria listed in Table 310519-1.

C. Separation Geotextile

1. Shall be a nonwoven geotextile specifically designed for soil separation applications.

2. Shall be composed of polyester or polypropylene polymers.

3. Shall meet the criteria listed in Table 310519-1.

TABLE 310519-1
MINIMUM ACCEPTANCE CRITERIA GEOTEXTILE

Test Description	Test Method	Criteria
Separation		
Mass per unit area	ASTM D5261	≥8 oz/SY
Apparent opening size	ASTM D4751	≤No. 70 sieve
Puncture resistance	ASTM D6241	≥110 lb.*
Tensile strength	ASTM D4632	≥160 lb.*
Trapezoid tearing strength	ASTM D4533	≥80 lb*
Permittivity	ASTM D4491	≥1.1 cm/sec
Reinforcement		
Mass per unit area	ASTM D5261	≥8 oz/SY
Puncture resistance	ASTM D4833	≥150 lb.
Tensile strength	ASTM D4595	≥160 lb.*
Trapezoid tearing strength	ASTM D4533	≥120 lb.*
Apparent opening size	ASTM D4751	≤40 sieve
Cushion		
Mass per unit area	ASTM D5261	24 oz/SY
Puncture Resistance	ASTM D4833	225 lb.

*Minimum acceptance criteria shall apply to both the machine direction (MD) and the cross machine direction (XMD).

2.02. PRODUCTS

A. Separation Geotextile - The following is a list of materials that meet the specifications in this section:

1. Carthage Mills FX-80 HS.
2. Propex Geotex 861.
3. Skaps GE 180.
4. Or equal.

B. Reinforcement Geotextile - The following is a list of materials that meet the specifications in this section:

1. TenCate Mirafi FW 403.
2. Propex Geotex 4x4.
3. Carthage Mills FX-400MF.
4. Or equal.

C. Cushion Geotextile - The following is a list of materials that meet the specifications in this section:

1. TenCate Mirafi S2400
2. Or equal.

PART 3 EXECUTION

3.01. INSPECTION

A. The Contractor shall inspect all geotextile upon delivery and verify that the proper materials and quantities have been supplied.

B. The Contractor shall inspect the subgrade for protrusions or other unacceptable conditions prior to installation of geotextiles.

C. The Contractor shall continuously inspect needle-punched geotextiles during deployment for broken needles remaining from needle-punching operations.

3.02. PREPARATION

A. Subgrade shall be prepared as indicated in the specifications.

3.03. PROTECTION

A. Protect all geotextile materials from damage due to exposure to sunlight, dirt, dust and other hazards.

B. Maintain the protective wrapping on geotextile rolls at all times.

C. The geotextiles shall be covered after installation within a 10-day period.

D. During spreading operations of backfill, a minimum depth of 12 inches of aggregate shall be maintained over the geotextiles when possible. Construction equipment shall not operate directly on the geotextile.

3.04. INSTALLATION

A. Geotextile rolls shall be positioned as required and unrolled.

B. When placed on prepared subgrades, geotextile shall be overlapped a minimum of 1.0 feet on all edges.

C. When geotextile is placed in trenches, the material shall be overlapped a minimum of 1 foot over the top of the trench. Longitudinal seams between adjacent rolls of material shall be overlapped a minimum of 2 feet.

D. Geotextile rolls shall be cut and laid flat such that buckling of the roll does not occur.

E. If geotextiles are damaged during any phase of construction or installation, a new piece of the same type shall be cut and placed over the damaged area with a 2-foot minimum overlap and sewn.

F. Aggregate shall be spread in the direction of overlap wherever possible.

3.05. MAINTENANCE

A. Maintain geotextile rolls until backfilling operations have completed one lift.

END OF SECTION

SECTION 312305

SUBGRADE PREPARATION

PART 1 GENERAL

1.01. SUMMARY

A. Section Includes:

1. Subgrade preparation, below either pavement system or gravel access roads.

2. Furnishing natural soils.

3. Furnishing select borrow material.

4. Temporary drainage.

5. Compaction.

6. Proof rolling.

7. Removal and replacement of unacceptable materials.

8. Grading.

9. Install geotextile fabric.

1.02. REFERENCES

A. ASTM D698 - Moisture/Density Relations of Soil/Aggregate Mixtures Using 5.5-Lb. Rammer and 12-Inch Drop

B. ASTM D1557 - Moisture/Density Relations of Soils and Soil/Aggregate Mixtures Using 10-Lb. Rammer and 18-Inch Drop

C. NYSDOT - Manual of Uniform Traffic Control Devices

1.03. DEFINITIONS

A. “Subgrade” shall be defined as the foundation layer of natural soils or select material that supports the pavement or gravel access road layers.

1.04. PERFORMANCE AND TESTING REQUIREMENTS

A. Compaction of subgrade shall meet the requirements for compaction as stated in Section 312330 - Compaction.

1. Compaction curves shall be developed for each type of subgrade material when “in-place density” tests are required by the Engineer.

2. The cost of failed compaction tests will be reimbursed by the Proposer to Rockland Green.

1.05. SUBMITTALS

A. Submit under Provisions of Section 013300 – Submittal Procedures.

B. Granular Materials - Refer to Section 312325 - Backfilling.

1.06. REGULATORY REQUIREMENTS

A. Conform to regulatory agencies having jurisdiction over the work.

B. Occupational Safety and Health Administration Act (OSHA) of 1970 and its amendments and regulations or to the New York State Industrial Code Rule 23 entitled, “Protection in Construction, Demolition and Excavation Operations” as issued by New York State Department of Labor, Board of Standards and Appeals.

1.07. ENVIRONMENTAL REQUIREMENTS

A. Provide erosion and sediment controls in accordance with NY State Guidance and the Erosion and Sediment Control Drawing to prevent debris, stones, and silt from entering drainage systems.

1.08. FIELD MEASUREMENTS

A. Prior to start of construction, verify by field measurements that existing conditions are as shown on Drawings, notify Engineer of specific differences.

B. Prior to start of construction, where required, verify by exploratory excavations that existing underground utility locations and elevations are as shown on the Drawings or to confirm marked location and elevation of underground utilities by the Underground Utility Protection Organization applicable to the project location and protect utilities in accordance with requirements of RFP 2026-03.

1.09. COORDINATION

A. Coordinate field work under provisions of Section 011100 – Summary of Work and the terms and conditions of RFP-2026.03.

B. Coordinate work with local utility companies (private and municipal), as applicable.

PART 2 PRODUCTS

2.01. MATERIALS

A. Natural on-site soil, if suitable, shall be utilized if approved by the Engineer.

B. Granular materials, if required, shall be as specified in Section 312325 – Backfill or shown on the drawings. The type, size and quantity of granular material shall be that required to prepare a compacted subgrade approved by the Engineer.

PART 3 EXECUTION

3.01. EXAMINATION

A. Examine spaces to be filled beforehand and remove all unsuitable materials and debris including sheeting, forms, trash, stumps, plant life, etc.

B. Inspect backfill and fill materials beforehand and remove all roots, vegetation, organic matter, or other foreign debris.

C. No backfill or fill material shall be placed on frozen ground nor shall the material itself be frozen or contain frozen soil fragments.

D. Spaces to be filled shall be free from standing water so that placement and compaction of the fill materials can be accomplished in “dry” conditions.

E. All underground utility installations, including pipes, shall be completed, backfilled and compacted prior to completion of subgrade.

F. Verify that traffic controls and erosion and sediment controls are in place.

3.02. PREPARATION

A. Temporary erosion and sediment controls shall be installed prior to start of construction.

B. Temporary surface diversion and ditches shall be constructed as necessary to remove water from the subgrade area.

1. Proposer to prevent the entrance of debris, stones, and silt from entering existing drainage systems, including the use of filter socks, screens, and other desilting methods in accordance with NY State Guidelines.

C. Backfilled areas shall be retested at the discretion of the Engineer.

3.03. INSTALLATION

A. Construct the subgrade by cutting or filling with material as required.

1. The final subgrade surface below the roadway surface shall be fine graded, rolled and compacted to form a smooth, even surface.

B. The subgrade in fill section shall be placed in maximum 12-inch layers before compaction and compacted before the next layer is spread.

C. The subgrade surface shall drain to the road edges, be free from holes, bumps, wheel ruts and of standing water, snow, frozen material and organic materials prior to the placement of the next course.

1. Soft or otherwise unacceptable subgrade materials shall be removed and replaced with select on-site material acceptable to the Engineer.

2. Where no suitable on-site material is available, granular materials shall be installed and compacted at no cost to the Rockland Green.

3.04. FIELD QUALITY CONTROL

A. For compaction requirements, refer to Section 312330, Table 1.

B. Tolerances - The final subgrade surface shall not vary more than +1/2 inch from the design grade elevation at any location, parallel to the final road surface as defined by the total roadway thickness.

C. Proof Rolled - Prior to the placement of the next pavement course, the subgrade surface shall be proof rolled to locate areas of inadequate compaction or defections or soft or rutting areas requiring undercutting, with 8- to 10-ton pneumatic tire compactors.

1. Areas of inadequate compaction to be re-compacted.

2. If additional rolling does not correct an area of unstable condition, then this area and soft or rutted areas shall be removed and replaced with select material and compacted.

3. Where no suitable on-site material is available, granular materials shall be installed and compacted; areas inaccessible to rollers to be compacted by mechanical methods.

3.05. DUST CONTROL

A. Dust control shall be accomplished by using water, brooming, and cleaning methods.

1. Dust control shall be carried out daily.

END OF SECTION

SECTION 312310

EXCAVATION

PART 1 GENERAL

1.01. SUMMARY

A. Section Includes:

1. Excavation for site structures.

2. Excavating trenches for utilities.

3. Pipe foundations and bedding.

1.02. FIELD MEASUREMENTS

A. Verify that survey benchmark and intended elevations for the work are as indicated.

PART 2 PRODUCTS

Not used.

PART 3 EXECUTION

3.01. EXECUTION

A. Identify required lines, levels, contours, and datum.

B. Identify known underground, above ground, and aerial utilities. Stake and flag locations.

C. Notify utility companies.

D. Protect above- and below-grade utilities which are to remain.

E. Protect plant life, lawns, rock outcropping and other features remaining as a portion of final landscaping.

F. Protect benchmarks, existing structures, fences, sidewalks, paving, and curbs from excavation equipment and vehicular traffic.

G. Excavations shall be in completed in accordance with all details of applicable codes, rules, and regulations including all local, state, and federal regulations including the Occupational Safety and Health Administration (OSHA) Title 29 Code of Federal Regulations Part 1926, Subpart P - Excavations and Trenching Standards.

3.02. CLASSIFICATION OF EXCAVATED MATERIALS

A. Classifications of excavated materials are as follows:

1. Unclassified Excavation - “Unclassified excavation” shall include all material excavated within the authorized lines and grades prescribed in the Drawings. Unclassified excavation shall include “rock excavation” as well as “common excavation” as defined herein.

2. Common Excavation - “Common excavation” shall include all excavation except “rock excavation.” All unconsolidated and non-indurated material, rippable rock, loose rock, soft mineral matter, weathered rock or saprolite, and soft or friable shale which is removable with normal earth excavation equipment shall be considered “common excavation.” All boulders and detached pieces of solid rock or concrete or masonry less than 1 cubic yard in volume shall be classified as “common excavation.”

3. Rock Excavation - “Rock excavation” shall include all sound solid masses, layers and ledges of consolidated and indurated rock or mineral matter of such hardness, durability and/or texture that it is not rippable or cannot be excavated with normal earth excavation equipment.

3.03. EXCAVATING

A. Underpin adjacent structures which may be damaged by excavation work, including utilities and pipe chases.

B. Excavate subsoil required to accommodate building foundations, slabs-on-grade, paving, and site structures.

C. Machine-slope banks to angle of repose or less, until shored.

D. Excavation cut not to interfere with normal 45-degree bearing splay of foundation. Undercutting of excavation faces will not be permitted.

E. Grade top perimeter of excavation to prevent surface water from draining into excavation.

F. Hand trim excavation to required undisturbed subgrade. Remove loose matter.

G. Remove lumped subsoil, boulders, and rock under 1 cubic yard, measured by volume. Refill voids with Mix “C” concrete or compacted gravel/crushed stone.

H. Notify Engineer of unexpected subsurface conditions, or of questionable soils encountered at required subgrade elevations, and discontinue work in area until notified to resume operations.

I. Should the Proposer, through negligence or otherwise carry his excavation below the designated subgrade, granular material used for backfilling shall be spread and compacted in conformance with the requirements of Sections 312325 - Backfilling and 312330 - Compaction. The cost of this refilling operation, including any tests associated therewith, shall be borne by Proposer.

J. Stockpile excavated material to be re-used in area designated by Rockland Green on site and remove excess material not being reused from site.

3.04. DISPOSAL OF MATERIAL

A. All excavated material except reusable topsoil or reusable fill shall be classified as surplus material and disposed of off-site unless Rockland Green designates an on-site location.

B. Reuse of excavated material as on-site fill shall conform with Section 31 2325 - Backfilling.

3.05. FIELD QUALITY CONTROL

A. Field inspection will be performed under provisions of Section 014000 - Quality Requirements.

B. Provide for visual inspection of bearing surfaces.

3.06. PROTECTION

A. Protect excavations by methods required to prevent cave-in or loose soil from falling into excavation.

B. Protect bottom of excavations and soil adjacent to and beneath foundation from freezing.

C. Exposed subgrade surfaces shall remain undisturbed, drained, and maintained as uniform, plane areas, shaped to receive the foundation components of the building, structure or new underground pipe.

END OF SECTION

SECTION 312315

TRENCHING

PART 1 GENERAL

1.01. SUMMARY

A. Section includes:

1. Excavating trenches for utilities
2. Pipe foundations and bedding
3. Backfilling and compaction
4. Materials

1.02. REFERENCES

A. Standard Material Specifications for gravel, sand, crushed stone and gravel-cement mixtures published by the New York State Department of Transportation (DOT).

B. Occupational Safety and Health Administration (OSHA).

1.03. SUBMITTALS

A. Submittals for granular material shall be in accordance with Section 312325 – Backfilling.

1.04. FIELD MEASUREMENTS

A. Verify that survey benchmark and intended elevations for the work are as indicated.

PART 2 PRODUCTS

2.01. ON-SITE MATERIALS

A. On-site material shall be in accordance with Section 312325 - Backfilling.

2.02. OFF-SITE MATERIALS

A. Off-site material shall be in accordance with Section 312325 - Backfilling.

PART 3 EXECUTION

3.01. EXAMINATION

A. Verify fill materials to be used are approved.

B. Verify that all subsurface excavations for the project have been compacted, approved, and are ready for backfilling (including installation of geotextiles where required).

3.02. PREPARATION

A. Identify required lines, levels, contours, and datum.

B. Prior to start of construction, notify utility and have staked or marked all underground utilities. Utilities include water, gas, electrical, telephone, cable, storm sewer, sanitary sewers, laterals, and services. In the event such locations indicate a possible interference, or when needed to locate points of connection to existing facilities, perform exploratory excavations to determine the utilities' location and elevation. Provide the Engineer with the results of the exploratory excavations for his review. Allow the Engineer sufficient time to determine any changes required as a result of such exploratory excavations prior to start of construction.

C. Abandoned pipes and laterals shall be plugged per Contract Documents.

D. Conduct the operations such that no interruptions to the existing utility system shall occur.

E. Protect plant life, lawns, rock outcropping, and other features remaining as a portion of final landscaping.

F. Protect control points, bench marks, existing structures, fences, sidewalks, paving, and curbs from excavation equipment and vehicular traffic. Preserve the control points as provided throughout the life of the project, and accurately replace any such point, which is damaged or moved, at Proposer's expense.

G. Cut out soft areas of subgrade not capable of in-situ compaction. Backfill with specified pipe foundation and compact to density equal to or greater than requirements for subsequent backfill material.

H. Brace walls and slabs of structures to support surcharge loads and construction loads imposed by backfilling operations.

I. Maintain a stable, dry backfill area.

J. Remove all water, snow, ice and debris from surfaces to accept fill materials and from the backfill material. No calcium chloride or other chemicals shall be used to prevent freezing.

K. Areas to receive compacted fill shall be graded to prevent ponding and to provide surface runoff.

L. Only approved backfill material shall be used.

M. Only approved geotextile fabrics shall be used.

N. Backfill operations shall be started at the lowest elevation in the area to be backfilled, and continue, in horizontal layers, upward to the limits specified.

O. Any crushed gravel stockpiles which have undergone excessive particle segregation shall be remixed.

3.03. TRENCH EXCAVATION

A. Trench widths shall be held to minimize restoration. If a prefabricated, mobile shield is utilized in lieu of conventional sheeting and bracing in trenches, the bottom of the shield shall be positioned so as to prevent disturbance of the pipe foundation material and to avoid forces which would tend to pull pipe joints apart when the shield is dragged forward.

B. Gouged openings or troughs left by the shield shall be filled with additional pipe foundation material and compacted. Installation of sheeting and bracing and use of mobile shields shall be in accordance with details of applicable safety codes, rules and regulations including applicable local, state, federal, and OSHA.

C. Excavation shall be such that a flat bottom trench of allowable width is established at the required subgrade elevation for subsequent installation of pipe foundation material.

D. If indicated on the Drawings or when required as a result of unsuitable soil conditions, trench excavation shall be carried below the required subgrade and a special backfill installed in conformance with the Contract Documents. In any event, operations shall result in stable trench walls and a stable base free from standing water, consistent with trench width requirements.

E. Bedrock, boulders and cobbles greater than 6 inches shall be trimmed back or removed on each side of the trench so that no rock protrudes within 6 inches of the installed pipe. Rock shall also be trimmed back across the bottom of the trench so that no rock, boulder or cobble protrudes within 4 inches of the installed pipe.

F. In general, trenches shall not be opened for more than 50 feet in advance of installed pipe. Excavation of the trench shall be fully completed at least 5 feet in advance of pipe laying operations. Trenches left open overnight shall be protected as specified within this section and to the satisfaction of Rockland Green. Trenches shall not be left open overnight unless prior approval is granted from Rockland Green.

3.04. EXCAVATION CLASSIFICATION

A. All material excavation shall be classified in accordance with Section 312310 - Excavation.

3.05. UNAUTHORIZED EXCAVATION

A. The Proposer shall not be entitled to additional compensation for unauthorized excavations carried beyond or below the lines and subgrades prescribed in the Contract Documents. The Proposer shall refill such unauthorized excavations at his own expense, and in conformance with the following provisions:

B. Should the Proposer, through negligence or for reasons of his own, carry excavations below the designated subgrade, backfill in accordance with Section 312325 - Backfilling, in sufficient quantities to reestablish the designated subgrade surface. Granular material used for backfilling shall be spread and compacted. The cost of tests associated with this refilling operation shall be borne by the Proposer.

C. If the maximum widths of pipe trenches are exceeded, the installed pipes shall be fully cradled using the specified bedding material at the Proposer’s expense.

D. Excavation below subgrade which is ordered by the Engineer because the normal subgrade has been disturbed by the Proposer’s operations shall be considered as unauthorized excavation.

3.06. MAINTENANCE OF EXCAVATIONS

A. All excavations shall be properly and legally maintained while they are open and exposed. Sufficient and suitable barricades, warning lights, flood lights, signs, etc., to protect life and property shall be installed and maintained at all times until the excavation has been backfilled and graded to a safe and satisfactory condition. All signs, markers, barricades shall conform to the requirements of the Manual of Uniform Traffic Control Devices. All barricades, signs and markers shall be reflectorized.

B. To maintain traffic and safety, temporary plating over trenches consisting of steel plates shall be used to temporarily bridge trench excavations. Plates shall be of size and positioned to provide adequate bearing at plate edges, shall be securely anchored, and shall be fitted in place in a manner to minimize noise when crossed by traffic. Plates shall be of sufficient thickness to safely carry heavy traffic without detrimental deflection; however, unless otherwise specified, the minimum thickness of plates shall be 1-inch.

C. Plate edges exposed to traffic shall be feathered with asphalt mix as part of trench excavation work. Work includes surveillance and adjustment of plating over trenches which shall be provided by the Proposer during non-working hours, weekends, and holidays.

3.07. FIELD QUALITY CONTROL

A. Field inspection and testing will be performed under provisions of Section 014000 - Quality Requirements.

B. Tests and analysis of fill material will be performed in accordance with Section 312325 - Backfilling.

C. Compaction testing will be performed in accordance with Section 312330 - Compaction.

3.08. PROTECTION OF FINISHED WORK

A. Protect finished work.

B. Re-grade and re-compact disturbed fill areas subjected to vehicular traffic.

END OF SECTION

SECTION 312325

BACKFILL

PART 1 GENERAL

1.01. SUMMARY

A. Section Includes:

1. Granular materials for backfilling.
2. Classification of materials.
3. Backfilling trenches for utilities.
4. Consolidation and compaction.

1.02. REFERENCES

A. ASTM C136 - Method for Sieve Analysis of Fine and Coarse Aggregates

B. ASTM D1556 - Density of Soil in Place by Sand-Cone Method

C. ASTM D1557 - Laboratory Compaction of Soil Using Modified Effort

D. ASTM D2922 - Density of Soil in Place by Nuclear Methods

E. ASTM D3017 - Water Content of Soil in Place by Nuclear Methods

1.03. SUBMITTALS

A. Granular Materials

1. Granular materials required for filling, backfilling, subbase, and other purposes shall be as shown on the Drawings. Prior to bidding, prospective Proposers shall familiarize themselves with the available quantities of approved on-site and off-site materials.
2. For each on-site and off-site material proposed, notify the Engineer of the source of the material and furnish to the Engineer for approval a certified gradation analysis (ASTM C136) and a Modified Compaction Test (ASTM D1557) at least 15 days prior to date of anticipated use of such material that has been tested within the last 6 months.
3. The Engineer reserves the right to inspect proposed source of off-site granular material and to order such tests of the materials as he deems necessary to ascertain its quality and graduation of particle size. The Proposer shall, at his own expense, engage an approved testing laboratory to perform such test, and submit certified test results to the Engineer. If similar tests of the material from a particular source were performed previously (within 6 months), submit results of these tests to the Engineer for consideration.
4. No granular materials shall be used on this project for fill, backfill, subbase, or other purpose until approval is obtained from the Engineer, and only material from approved sources shall be used.

PART 2 PRODUCTS

2.01. GENERAL

A. Approvals- All materials to be utilized on the project shall be subject to testing, examination, and the approval of the Engineer. The Engineer and Rockland Green shall determine whether a material is suitable or unsuitable for the use intended. It is the intent of these Specifications that use shall be made of existing material excavated during the construction work, provided it meets the requirements for backfill included in this section, or unless otherwise specified or indicated on the Contract Drawings. Rockland Green makes no guarantee that the existing material will meet the requirements of the specifications for use as backfill. Only when sufficient on-site suitable material does not exist, shall the Proposer import suitable material from off-site. Costs of importing off-site material for normal backfilling purposes shall be the responsibility of the Proposer.

B. Suitable Material- In general, mineral (inorganic) soil, blasted or broken rock (if it meets backfill specifications) and similar materials of natural or manmade origin, including mixtures thereof, are considered as suitable materials, as determined by the Engineer to be suitable for filling, backfilling, as a base for placement of pipe, structures, or fill, or other uses.

C. Unsuitable Material- Any material containing chunks of cinders, earth or clay, vegetable or organic matter, such as muck, peat, organic silt, roots, stumps, topsoil or sod, shale or other soft, poor durability particles that is not satisfactory for the use intended, as determined by the Engineer, is designated as an unsuitable material.

2.02. ON-SITE MATERIALS

A. Type A, Excavated Material - Material under this classification shall be derived solely from excavations necessary to construct the project to the lines and grades specified. If the excavated material on-site is approved for reuse and is suitable, it shall be used for filling or backfilling purposes. If the Proposer so elects, the Proposer may, at their own expense, substitute other types of material in place of Type A material, provided such substitution is approved in advance by the Engineer. All replaced or surplus material shall be disposed of per Specification Section 31 2310.

B. Type A material shall not have any larger aggregate larger than 4-inches in any dimension and shall meet the specified compaction requirement per Specification 31 2330. The material shall be screened to meet these requirements and any remaining material which does not shall be removed and disposed of off-site at the Proposer's expense. In no case the top 12-inches nearest the final subgrade below the topsoil layer or pavement in local roads shall contain any aggregate larger than 2-inches.

2.03. OFF-SITE MATERIALS

A. Within the following specifications where grain size distribution requires a maximum of 10 percent or less material capable of passing the #200 mesh sieve, the percentage of material finer (than the #200 sieve) by weight shall be determined by wet screening in accordance with ASTM D1140. It is the intent of the specifications to allow the use of granular materials from local suppliers. Material specifications shall conform to the requirements of the New York State Department of Transportation, (NYSDOT) and shall conform to the latest NYSDOT Standard Specification.

B. No crushed stone or run-of-crusher material shall be used for this project until approval is obtained from the Engineer, and only material from approved sources shall be used. A certified sieve analysis from the supplier shall be submitted for the Engineer's approval prior to the use of any materials specified in this specification section.

C. Required Materials

1. Trench backfill (Green Areas Only) Above Pipe Backfill Material– Type A

2. Pavement subbase - NYSDOT subbase course 733-0402, Type 2.

3. Trench special bedding - NYSDOT 733-0201, Type 3A stone.

4. Pipe Bedding - NYSDOT subbase course 733-0402, Type 2. Rockland Green

5. Backfill adjacent to, and under, structures - NYSDOT subbase course 733-0402, Type 2.

6. Impervious Fill: Naturally occurring or manufactured mixture of clayey gravel and sand capable of compacting to a dense state.

a. Maximum Particle Size: 1 inch

Sieve Size	Percent Passing by Weight
¾ inch	50-100
No. 4	40-90
No. 40	30-85
No. 200	25-75

b. Plasticity index of portion finer than #200 sieve greater than 15 and less than 20.

PART 3 EXECUTION

3.01. PIPE FOUNDATIONS

A. All pipes, fittings, or specials which are to be installed in the open trench excavation shall be properly bedded in, and uniformly supported on pipe foundations of the various types as specified and shown on the Drawings. Flat-bottom trenches of required width shall be excavated to the necessary depth shown on the Drawings and maintained in accordance with this section prior to installing the foundation. Trenches shall be dewatered and all work performed in a dry trench and free of rocks.

B. Bedding material shall be spread in maximum of 8-inch layers to the midpoint (spring line) of the pipe and each layer shall be compacted until the required total depth of the bedding has been built up. The Proposer shall perform his bedding operations with care to maintain line and grade. Compaction shall achieve a modified proctor value of 95%.

C. The pipe foundation above the midpoint of the pipe shall be spread and then compacted after foundation is 24-inches above the top of the pipe.

D. Type I - Normal Soil Conditions - Unless shown otherwise in the Drawings, all pipe shall be supported on Type I foundation. The trench shall be excavated 4 inches deeper than the bottom of the pipe. Acceptable bedding as described in the Contract Specifications shall be furnished, placed and compacted in the trench for its full width such that, after the pipe has been uniformly bedded in this material, the required minimum depth of material remains between pipe and undisturbed trench bottom. Suitable depressions shall be provided in the trench bottom to permit adequate bedding of bells, couplings, or similar projections. The bedding shall extend upward to be 24-inches over the top of the pipe. Minimum width of pipe foundation shall be outside diameter of pipe plus 2 feet 0 inches. The pipe centerline shall be longitudinally centered within the pipe bedding per the detail.

E. Type II - Moderately Unstable Soil Conditions - When specifically called for on the Drawings, or when ordered by the Engineer as existing conditions dictate, and as approved by the Engineer, the pipe shall be supported on Type II foundation. The foundation shall be installed where a suitable supporting soil or rock stratum occurs within 2 feet, more or less of the bottom of the pipe. The trench shall be excavated to the depth necessary to reach the suitable supporting stratum. Install a reinforcing geotextile in accordance with Section 02420 - Backfilling, followed by trench special bedding which is then furnished and placed in the trench for its full width. The material shall be spread in 12-inch layers and each layer shall be compacted to achieve a modified proctor value of 95%. Trench special bedding shall extend from the supporting stratum up to the bottom of the Type I pipe foundation.

F. Type III – Unstable Soil Conditions – As conditions dictate, and as determined by the Engineer, the pipe bedding shall be supported on a Type III foundation. The trench shall be excavated to the depth necessary to reach the suitable supporting stratum. Backfilling with a loosely compacted NYSDOT 703-0201 Type 3A stone bedding material shall be provided. This shall be followed by the bedding material as shown in the Type II and Type I pipe foundations.

3.02. GENERAL BACKFILLING REQUIREMENTS

A. Follow requirements of 312330 - Compaction.

B. Backfilling shall be started as soon as practicable and after structures or pipe installations have been completed and inspected, and concrete has acquired a suitable degree of strength. Backfilling shall be carried on expeditiously thereafter. Backfill shall be started at the lowest section of the area to be backfilled. Natural drainage shall not be obstructed at any time.

C. Backfill spaces shall be inspected prior to backfilling operations and all unsuitable materials, including sheeting, bracing forms and debris, shall be removed. No backfill shall be placed against foundation walls on structural members unless they are properly shored and braced or of sufficient strengths to withstand lateral soil pressures.

D. No backfill material shall be placed on frozen ground nor shall the material itself be frozen or contain frozen soil fragments when placed. No calcium chloride or other chemicals shall be added to prevent freezing. Material incorporated in the backfilling operation which is not in satisfactory condition shall be subject to rejection and removal at the Proposer’s expense.

E. If the Proposer fails to stockpile and protect on-site excavated material acceptable for backfill, then the Proposer shall provide an equal quantity of acceptable off-site material at no expense to Rockland Green.

F. Remove surplus backfill material from site.

G. Backfill areas to contours, grades, and elevations shown on the drawings, using unfrozen materials.

H. Systematically backfill to allow maximum time for natural settlement. Do not backfill over porous, wet, frozen, or spongy subgrade surfaces.

I. Backfill material shall be inspected prior to placement and all roots, vegetation, organic matter, or other foreign debris shall be removed.

J. Backfill material shall not be placed when moisture content is more than two percent above optimum or is otherwise too high to allow proper compaction. When material is too dry for adequate compaction, water shall be added to the extent necessary.

K. Hydraulic compaction by ponding or jetting is not permitted.

L. Employ a placement and compaction method consistent with Section 312330 - Compaction, that does not disturb or damage adjacent walls, drainage systems, damp proofing, waterproofing, protective coverings, utilities in trenches, underground conduits, or tanks.

M. Maintain optimum moisture content of backfill materials to attain required compaction density.

N. Rough grade all backfilled and filled areas to meet subsequent topsoiling or paving requirements. Make grade changes gradually. Blend slopes into level areas.

O. Remove surplus backfill materials from site.

3.03. PERIODIC CLEAN-UP AND BASIC RESTORATION

A. Perform clean-up work on a regular basis and as frequently as required. Basic site restoration in a particular area shall be accomplished immediately following the installation or completion of the required facilities in that area. Furthermore, such work shall also be accomplished if partially completed facilities must remain incomplete for some time due to unforeseen circumstances.

B. Upon failure of the Proposer to perform periodic clean-up and basic restoration of the site, Rockland Green may, upon five days prior written notice to the Proposer, without prejudice to any other rights to remedies of the Rockland Green, cause such work for which the Proposer is responsible to be accomplished to the extent deemed necessary by the Contract Documents, and all costs resulting therefrom shall be charged to the Proposer and deducted from the amounts of money that may be due him.

3.04. EXAMINATION

A. Verify fill materials to be used are acceptable.

B. Verify that all subsurface installations for the project have been inspected and are ready for backfilling.

3.05. PREPARATION

A. Generally, compact subgrade to density requirements for subsequent backfill materials.

B. Cut out soft areas of subgrade not capable of in situ compaction. Compact soil to a density equal to or greater than the requirements for subsequent backfill material.

3.06. TOLERANCES

A. Top Surface of Backfilling Under Pavement Subgrade - ±1 inch from required elevations.

B. Top Surface of Backfilling Under Paved Areas- ±1/2 inch from required elevations.

C. Top Surface of General Backfilling - ±1 inch from required elevations.

3.07. FIELD QUALITY CONTROL

A. Field inspection and testing will be performed under provisions of Section 014000 - Quality Requirements.

B. Tests and analysis of fill material will be performed in accordance with ASTM D1557 and with Section 312330 - Compaction.

C. Compaction testing will be performed in accordance with ASTM D1556, ASTM D2922, and with Section 014000 - Quality Requirements.

D. If tests indicate work does not meet specified requirements, remove work, replace, and retest at no cost to Rockland Green.

3.08. PROTECTION OF FINISHED WORK

A. Protect finished work.

B. Regrade and re-compact fills subjected to vehicular traffic.

END OF SECTION

SECTION 312230

COMPACTION

PART 1 GENERAL

1.01. SUMMARY

A. Section Includes:

1. Compaction requirements and test methods.

2. Compact all subgrades, foundations, embankments, trench backfills, filled and backfilled material as specified.

1.02. REFERENCES

A. ASTM D698 - Laboratory Compaction of Soil Using Standard Effort

B. ASTM D1556 - Density of Soil in Place by the Sand-Cone Method

C. ASTM D1557 - Laboratory Compaction of Soil Using Modified Effort

D. ASTM D2922 - Density of Soil in Place by Nuclear Methods

E. ASTM D3017 - Water Content of Soil in Place by Nuclear Methods

1.03. SUBMITTAL

A. Submit compaction plan including the specific equipment and detailed methods proposed to be used for compaction in accordance with Section 013300- Submittals.

B. Rockland Green will use an independent testing firm for compaction tests.

1.04. QUALITY ASSURANCE

A. The Proposer shall adopt compaction methods which will produce the degree of compaction specified herein, prevent subsequent settlement, and provide adequate support for the surface treatment, pavement, structure, and piping to be placed thereon, or therein, without damage to the new or existing facilities.

B. The natural subgrade for all footing, mats, slabs-on-grade for structures or pipes shall consist of firm undisturbed natural soil, at the grades shown on the Drawings.

C. After excavation to subgrade is completed, the subgrade shall be compacted if it consists of loose granular soil or if its surface is disturbed by the teeth of excavating equipment.

D. This compaction shall be limited to that required to compact loose surface material and shall be terminated if it causes disturbance to underlying fine-grained soils, as revealed by weaving or deflection of the subgrade under the compaction equipment.

E. If the subgrade soils consist of saturated fine or silty sands, silts, or clay or varved clays, no compaction shall be applied.

PART 2 PRODUCTS

2.01. MATERIALS

A. Materials to be compacted shall be as specified in Section 312325 - Backfilling.

PART 3 EXECUTION

3.01. EXAMINATION

A. Examine spaces to be filled beforehand and remove all unsuitable materials and debris including sheeting, forms, trash, stumps, plant life, etc.

B. Inspect backfill and fill materials beforehand and remove all roots, vegetation, organic matter, or other foreign debris.

C. No backfill or fill material shall be placed on frozen ground nor shall the material itself be frozen or contain frozen soil fragments.

D. Spaces to be filled shall be free from standing water so that placement and compaction of the fill materials can be accomplished in “dry” conditions.

3.02. PREPARATION

A. Brace walls and slabs of structures to support surcharge loads and construction loads imposed by compaction operations.

B. Proof-roll all subgrade surfaces to accept fill material.

C. Each layer of fill shall be compacted to the specified density the same day it is placed.

1. The moisture content of backfill or fill material shall be adjusted, if necessary, to achieve the required degree of compaction.

D. Compact each lift in accordance with Table 1.

E. Match compaction equipment and methods to the material and location being compacted to obtain specified compaction, with consideration of the following guidelines:

1. Rubber-tired rollers are preferred for most areas to prevent bridging of softer materials.

2. Double smooth drum rollers may be used provided that careful inspection can prevent bridging.

3. Compaction roller should be lighter in weight than proof-rolling equipment, with a minimum compaction force of 350 lbs. per linear inch (PLI).

4. Vibratory compaction is preferred for dry, granular materials.

5. Hand compaction equipment such as impact rammers, plate or small drum vibrators, or pneumatic buttonhead compactors should be used in confined areas.

6. Hydraulic compaction by ponding or jetting will not be permitted.

7. Backhoe-mounted hydraulic or vibratory tampers are preferred for compaction of backfill in trenches under pavements over 4 feet in depth. The upper 4 feet shall be compacted as detailed above or with hand-guided or self-propelled vibratory compactors or static roller.

TABLE 1
COMPACTION REQUIREMENTS

Construction Element	Maximum Compaction Layer Thickness (Inches)	ASTM	Minimum Compaction
I. STRUCTURES*			
a. Fill beneath foundation elements and under slabs-on-grade - hand-guided compaction	6	D1557	95%
b. Fill beneath foundation elements and under slabs-on-grade - self-propelled or tractor-drawn compaction	8	D1557	95%
c. Fill around structures and above footings	12	D1557	95%
II. TRENCHES**			
a. Fill under pipelines and pipe bedding	8	D1557	95%
b. Pipe sidefills and top 4 feet of pipe backfill under pavements	12	D1557	95%
c. Backfill below 4 feet under pavement	12	D1557	90%
d. Backfill under lawns, gardens and cultivated fields	12	D1557	90%
III. EMBANKMENTS AND FILLS			
a. Fill under streets, parking lots, and other paved areas	12	D1557	95%
b. Embankments not supporting pavement or structures	12	D1557	90%
c. Rough site grading	12	D698	85%
IV. TRENCH PLUGS	6	D1557	93% or 95%

*Where structural loads are carried by piles, caissons or other deep foundations, minimum compaction may be reduced to 92 percent.
**The first foot above non-plastic pipelines shall have a compacted thickness of 12 inches.
*** Compact impervious soil to at least 95% of standard Proctor maximum density. If more than 50% passes the 200 sieve, compact to at least 93% of the modified Proctor density if less than 50% passes the #200 sieve.

3.03. FIELD QUALITY CONTROL

A. Material Testing

1. Testing will be done by a qualified, independent testing laboratory in accordance with this section and Section 01 4000 - Quality Requirements.

2. The Proposer shall aid the third-party testing company in obtaining representative material samples to be used in testing.

3. For each material which does not meet specifications, the Proposer shall reimburse Rockland Green for the cost of the test and shall supply an equal quantity of acceptable material, at no additional compensation.

4. The Proposer shall anticipate these tests and incorporate the time and effort into procedure.

B. Compaction Testing

1. Rockland Green reserves the right to order the qualified independent testing laboratory to conduct in-place density tests of compacted lifts at any time and at any location to confirm that specified compaction is being met..

2. Testing shall be conducted for every 200 cubic yards of fill or backfill, or every 100 linear feet of trench backfill is placed, whichever is less. Tests are required for each lift of fill or backfill placed.

3. The Proposer shall dig test holes and provide access to all backfill areas at no additional compensation when requested by the Engineer.

4. For each test which does not meet specifications, the Proposer shall retest at his cost. If the retest does not meet specifications, the Proposer shall replace and recompact material to the specifications at no additional cost to Rockland Green.

5. The Proposer shall anticipate these tests and incorporate the time and effort into procedures.

6. Nuclear moisture density testing by “probe” methods will be acceptable for compacted layers not exceeding 12 inches in thickness.

   a. Nuclear “backscatter” methods will be acceptable only for testing asphalt paving layers not less than 3 inches in thickness.

   b. Only certified personnel will conduct nuclear testing.

   c. If the nuclear method is utilized, the results shall be checked by at least one in-place density test method described above.

C. Unacceptable Stockpiled Material - Stockpiled material may be tested according to material testing materials.

D. Alternate Methods of Compaction - The Proposer may employ alternate methods of compaction if the desired degree of compaction can be successfully demonstrated to the Engineer’s satisfaction.

E. Select Material - On-Site

1. Any on-site material may be used for select fill material provided it meets all the requirements of the equivalent off-site material.

2. No on-site material shall be used without prior review and approval of Rockland Green.

F. Systematic Compaction - Compaction shall be done systematically, and no consideration shall be given to incidental coverage due to construction vehicle traffic.

3.04. PROTECTION

A. Prior to terminating work for the day, the final layer of compacted fill, after compaction, shall be rolled with a smooth-wheel roller if necessary to eliminate ridges of soil left by tractors or equipment used for compaction or installing the material.

B. As backfill progresses, the surface shall be graded to drain off during incidence of rain such that no ponding of water shall occur on the surface of the fill.

C. The Proposer shall not place a layer of fill on snow, ice or soil that was permitted to freeze prior to compaction. These unsatisfactory materials shall be removed prior to fill placement.

END OF SECTION

SECTION 312500

EROSION AND SEDIMENT CONTROLS

PART 1 GENERAL

1.01 SUMMARY

A. Section includes:

1. Temporary compost filter sock
2. Temporary drainage inlet protection
3. Temporary dust control
4. Submittals as required
5. Cleanup and repair

1.02 DEFINITIONS

A. Temporary erosion and sediment control practices shall be understood to mean temporary structures and practices designed to minimize the changes in the quality and quantity of water discharged from a location during construction activities.

1.03 PRE-INSTALLATION MEETINGS

A. Preconstruction Conference: Conduct conference at Project site.

1.04 SUBMITTALS

A. Product Data: For each type of product.

1. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes for all items listed.
2. Compliance with project Stormwater Pollution Prevention Plan (if applicable) and New York Standards and Specifications for Erosion and Sediment Control (most current edition).

1.05 QUALITY ASSURANCE

A. All construction materials specified with NYSDOT Item numbers shall appear on the current NYSDOT approved List.

B. Comply with all applicable local, state, and federal requirements regarding materials, methods of work, and disposal of excess and waste materials.

C. Obtain and pay for all required inspections, permits, and fees. Provide timely notices required by governing authorities.

D. Codes and standards: This work shall conform to all rules, regulations, specifications, and requirements that pertain to soil and water conservation practices of all agencies of government having jurisdiction.

E. Perform excavation work in compliance with applicable requirements of authorities having jurisdiction, and in accordance with the current Occupational Safety and Health Administration (OSHA) Standards of Excavation.

F. Erosion and sediment control practices as may be required must meet the requirements of the New York State Standards and Specifications for Erosion and Sediment Control and the New York State Stormwater Management Design Manual, and the Contract Documents.

G. The Proposer shall be required to maintain public and private roadways adjacent to the project site in a clean condition.

1.06 DELIVERY, STORAGE AND HANDLING

A. Store materials properly to prevent damage, deterioration, and contamination.

B. Aggregates shall be stockpiled in well-drained locations.

C. Packaged materials shall be delivered in their original unopened containers that identify the material name and type and stored in a weatherproof enclosure.

D. Aggregates, earth fill, and topsoil that are muddy or frozen shall not be handled, delivered to the site, stockpiled, or spread.

1.07 FIELD CONDITIONS

A. Utility Locator Service: Notify Dig Safely New York at **1-800-962-7962** for area where Project is located before site clearing.

B. Prior to performing any topsoil stripping or other earthwork activities on the site, the Proposer shall mark out with surveyor's flagging the limits of all areas to be disturbed and install all required temporary erosion and sediment control measures.

1. The Proposer shall adhere to all erosion and sediment control policies of the agencies of government having jurisdiction.

C. Discrepancies: Prior to the start of any construction work, immediately report to Rockland Green's Representative any discrepancies found on the site between actual conditions and those indicated on the Contract Drawings and confirm in writing. Where applicable, provide field information specific to the discrepancy to expedite resolution.

PART 2 PRODUCTS

1.01. MATERIALS

A. Temporary Compost Filter Sock

1. Fabric

a. Multi-filament polypropylene

b. Photodegradable

c. 12" Diameter

d. Mesh opening = 3/8"

e. Tensile strength = 44 psi

f. Ultraviolet stability% original strength (ASTM G-155)= 100% at 1,000 Hr.

g. Minimum functional longevity= 1 year

2. Compost filter media

a. Organic matter content = 25%-100% Dry weight

b. Organic portion= Fibrous and elongated

c. PH=6.0-8.0

d. Moisture content= 30%-60%

e. Particle size= 100% passing a 1” screen and 10-15% passing a 3/8” screen.

f. Soluble salt concentration= 5.0 ds/m (mmhos/cm) Maximum

3. Compost infill.

a. The compost infill shall be well decomposed (matured at least 3 months), weed-free, organic matter. it shall be aerobically composted, possess no objectionable odors, and contain less than 1%, by dry weight, of man-made foreign matter. The physical parameters of the compost shall meet the standards listed above. Note all biosolids compost produced in New York State (or approved for importation) must meet NYSDEC's 6 NYCRR Part 360 (Solids Waste Management Facilities) requirements. The Part 360 requirements are equal to or more stringent than 40 CFR Part 503 which ensure safe standards for pathogen reduction and heavy metals content. When using compost filter socks adjacent to surface water, the compost should have a low nutrient level.

B. Temporary drainage inlet protection:

1. Paved areas

a. Snake Bag manufactured by Sacramento Bag Manufacturing Company of Sacramento, California, or equal.

b. Fiber roll – field constructed rolled tube of erosion control blanket, or BioD-Watl™ coir wattle as manufactured by RoLanka International, Inc. 55 Andrew Drive, Stockbridge, GA 30281, (800) 760-3215, or equal.

c. Ultra DrainGuard™ oil and sediment model – Part No. 9217, as manufactured by P.E.P. Products, Branchburg, NJ, 1 (800) 407-3726, or equal.

2. Non-paved areas

a. Silt fence as indicated in “Temporary Silt Fence” above.

b. Stake material shall be standard 2 x 4 pressure treated wood or equivalent metal with a minimum length of 3 feet.

C. Dust control

1. Non-driving areas

a. Vegetative cover see section 32 9200 TURF AND GRASSES

b. Mulch

1) Wood mulch, see section 32 9300 PLANTS

2) Gravel mulch, Clean 2” crushed stone, meeting NYSDOT 703-0201, #2 stone

c. Spray adhesives

1) Earthbind™ 100, manufactured by Enviroad http://www.enviroad.com/index.shtml or equal.

2. Driving areas

a. Water

b. Polymer additives.

1) Earthbind™, Stabilizer, manufactured by Enviroad http://www.enviroad.com/index.shtml or equal.

c. Barriers

1) Woven geotextiles - see Temporary stabilized construction area in this section

2) Stone - see Temporary stabilized construction area in this section

d. Wind breaks - see temporary silt fence in this section.

PART 3 EXECUTION

3.01. EXAMINATION

A. Examine areas and conditions, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of the Work.

B. Prepare written report, endorsed by Installer, listing conditions detrimental to performance.

C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.02. PREPARATION

A. The Proposer shall contact Rockland Green’s Representative immediately if clarification or interpretation of the Contract Documents, or any other aspect of the project, is required.

B. Before commencing with other site operations including demolition, site clearing and earthwork –related activities, the Proposer shall erect site perimeter erosion control measures as required.

3.03. GENERAL INSTALLATION

A. In the event of conflict between these specification requirements and regulations by governmental agencies having jurisdiction, the more restrictive laws, rules, or regulations apply.

B. The Proposer's schedules and methods shall be consistent with the project erosion and sediment control plan as shown in the Contract Documents or as reviewed by Rockland Green's Representative.

C. To control erosion and sedimentation on the project site and to protect adjoining sites and watercourses, the Proposer shall take all necessary precautions including, but not limited to, the following:

1. The Proposer shall erect the site perimeter erosion control measures before commencing the demolition operation, site clearing or earthwork.

2. The Proposer shall limit the area of clearing and grubbing, excavation, borrow and embankment operations commensurate with their capability and progress in keeping the finish grading, mulching, seeding and other temporary and/or permanent control measures installed and maintained to the satisfaction of the Rockland Green's Representative.

3. In areas where soil disturbance has been temporarily or permanently ceased, temporary and/or permanent soil stabilization measures shall be installed and/or implemented within 7 days from the date the soil disturbance ceased.

4. Control dust by standard water spray methods. Road dust shall be controlled using water or other allowed materials.

5. Keep paved roads adjacent to the project site clean. Sweep frequently and do not allow soil and debris to accumulate.

6. Refer to the Erosion and Sediment Control Plan(s).

7. All mulch placed atop permanent seeding on slopes steeper than 3:1 (run:rise) shall be anchored with a biodegradable rolled erosion control product installed according to manufacturer's directions.

3.04. INSTALLATION

A. Install all temporary sediment control practices per the current edition of the New York State Department of Environmental Conservation, New York State Standards and Specifications for Erosion and Sediment Control.

3.05. FIELD QUALITY CONTROL

A. Refer to section 014000 – QUALITY CONTROL

3.06. MAINTENANCE SERVICE

A. Maintenance Service: Beginning at start of construction, maintenance service shall include full maintenance by skilled employees of erosion and sediment controls Installer. Include weekly preventive maintenance, repair or replacement of worn or defective components, as required for proper operation.

B. Always maintain all temporary erosion control measures in proper working order during the construction period. They shall remain in place until the permanent surface treatments have been sufficiently established to prevent soil erosion and Rockland Green's Representative has authorized removal.

1. Check all erosion and sediment control practices for stability and operation following every ½ inch rainfall but in all cases at least once every week. Immediately make repairs as needed.

2. The Proposer shall be responsible for maintenance and inspection of erosion and sediment control and stormwater quality facilities for the duration of the project, including winter or other shutdowns.

3. Remove sediment from behind silt fences when the capacity has been reduced by 50%. Repair silt fences as necessary to maintain an effective barrier.

4. Clean out sediment traps when the capacity has been reduced by 50%.

5. Inspect check dams for stability and operation following every ½ inch rainfall, but in all cases at least once every week, remove accumulated sediment when capacity has been reduced by 50%.

    a. If erosion has occurred between structures, install a temporary layer of a rolled erosion control product, stone or other suitable material to stabilize that portion of the channel until permanent surface treatments are established and the stormwater collection system is in place.

6. Remove sediment from inlet protection devices when the storage capacity is reduced to 50% of the inlet protection device capacity.

3.07. CLEANUP AND RESTORATION

A. Promptly remove soil and debris created by work described in this Section.

B. At the completion of the site work described in this Section, the site shall be left in a neat and orderly condition. Remove all resultant miscellaneous materials and debris from the site.

C. Turf areas, pavements and all other site amenities that were damaged during the work described in this Section shall be restored to their original condition prior to this construction at the Proposer's expense, and to Rockland Green's satisfaction.

D. When temporary erosion and sediment control practices are no longer needed as determined by Rockland Green's Representative and the agency of government having jurisdiction, the Proposer shall remove and return the area to a condition similar to that which existed before construction. Areas where temporary erosion and sediment control practices were located shall be graded with no obstruction to natural surface water flows or the proper functioning and access to the works of improvement installed. The Proposer shall exercise extreme care during the removal stages to minimize the loss of soil sediment and debris that was trapped during construction.

END OF SECTION

SECTION 321216

ASPHALT PAVING

PART 1 GENERAL

1.01. RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including Division 01 Specification Sections, apply to this Section.

1.02. SUMMARY

A. Section Includes:

1. Asphalt paving; top course, binder, and base course.

2. Driveways and parking areas.

3. Compaction.

4. Tolerances.

5. Field quality control.

B. REFERENCES

1. New York State Department of Transportation (NYSDOT) Standard Specifications, dated May 1, 2018.

2. NYSDOT - Manual of Uniform Traffic Control Devices.

1.03. PREINSTALLATION MEETINGS

A. Preinstallation Conference: Conduct conference at Project site.

1. Review methods and procedures related to hot-mix asphalt paving including, but not limited to, the following:

a. Review proposed sources of paving materials, including capabilities and location of plant that will manufacture hot-mix asphalt.

b. Review requirements for protecting paving work, including restriction of traffic during installation period and for remainder of construction period.

1.04. PERFORMANCE REQUIREMENTS

A. Where pavement replacement is being accomplished, match the sectional profiles of the existing pavement unless otherwise stated herein or shown on the Drawings.

B. All thicknesses of pavement courses described herein or shown on the Drawings are after completion of compaction.

1.05. SUBMITTALS

A. Submit under provisions of Section 013300 – Submittals, including asphalt materials, equipment and paving methods.

B. Submit certification of plant job mix formulas that have been approved by the NYSDOT.

1.06. QUALITY ASSURANCE

A. Perform work in accordance with the NYSDOT Standard Specifications, dated January 2, 1990, as amended to date and as they apply to the following:

1. Materials and batch plant requirements.

2. Construction procedures except as modified herein.

3. Weather and seasonal limitations except as modified herein.

B. Paving work shall be performed by a qualified paving contractor or subcontractor with minimum 10 years of documented experience acceptable to Rockland Green and Engineer. Supporting documentation for the paving contractor or subcontractor stating years in service with three references shall be submitted to the Engineer for review and approval prior to start of work.

1.07. ENVIRONMENTAL LIMITATIONS

A. Weather and Seasonal Limitations - Asphalt concrete and bituminous surface treatments shall not be placed on wet surfaces or when it is raining or when conditions prevent the proper handling, compacting or finishing of the asphalt concrete or when the surface temperature is less than specified in the following table:

Nominal Compacted Lift Thickness	Surface Temperature Minimum (Note 1)	Seasonal Limits
3" or Greater	40°F	None
Greater than 1" but less than 3"	45°F	Notes 2 and 3
0.1" or less	50°F	Notes 2 and 3
Bituminous Surface Treatments (Note 3)	70°F or greater	Note 4

Notes:

1. All temperatures shall be measured on the surfaces (lay glass thermometer on surface and read after temperature has stabilized) where the paving is to be placed and the controlling temperature shall be the average of three temperature readings taken at locations +25 feet apart.

2. Top course shall be placed only during the period of May 1 to October 15 in all counties except Dutchess, Orange, Rockland, Putnam, Westchester, Nassau, Suffolk, and the City of New York in which top course shall be placed only during the period of April 1 to November 15. In addition, when top course is placed between September 15 and November 15, not less than two rollers shall be furnished and operated by the Contractor.

3. Surface treatments shall be placed during the period of May 1 up to and including the first Saturday after Labor Day.

4. The ambient temperature shall be not less than 50 degrees F in the shade and not more than 95 degrees F.

5. Bituminous paving mixtures for curbs, driveways, sidewalks, gutters and other incidental construction shall be placed on surfaces having a temperature of 45 degrees F or greater. Installation of these items is not subject to seasonal limitations.

6. When work is halted because of weather conditions, limited tonnage enroute to the project may be placed, if permitted, and the mixture is within the temperature requirements.

1.08. COORDINATION

A. Coordinate field work including maintenance of traffic, access to private driveways, and emergency vehicle access.

1.09. SCHEDULING

A. Schedule the paving operations such that all paving necessary to provide safe and adequate maintenance and protection of traffic or for protection of previously laid courses is completed within the weather and seasonal limitations.

1. Such scheduling shall include expediting construction operations to permit paving before the seasonal limitations or by limiting the length of work to that which can be completed before the seasonal shutdown.

2. The cost of scheduling and sequencing of work to conform with the seasonal limitations shall be reflected in the bid prices for the related contract items.

1.10. MAINTENANCE

A. The Proposer shall maintain driving surfaces, free of ruts and potholes, for maintenance of traffic until temporary paving or permanent paving is installed.

1. All temporary paving and pavement replacement shall be maintained in a safe, drivable condition until the pavement wearing course is installed.

2. All subgrade, subbase and base courses shall also be maintained in their specific finish condition prior to placement of the next course.

B. If the Proposer fails to complete the necessary paving operations prior to weather and seasonal limitations, all temporary materials and work which become necessary as a result of such failure, such as the lowering or shimming of castings and protrusions, drainage of the roadway, providing acceptable rideability, and other work needed for the adequate maintenance and protection of traffic until paving operations can be completed the following paving season, shall be at the Proposer’s expense.

C. For a period of one year after issuance of the Certificate of Substantial Completion, the Proposer shall promptly patch, maintain, repair, and/or replace any pavement that settles or becomes damaged due to settlement or defective materials or workmanship.

1. Areas to be repaired shall be cut out in a square or rectangular shape to the depth matching the top course.

2. The vertical face of asphalt to be painted with asphalt emulsion prior to placing the asphalt concrete.

3. If more than top course depth of 1-1/2-inch settlement has occurred, the pavement shall be removed to the subbase and subbase and/or binder and base course restored to proper grade before restoration of the wearing course.

4. The finished grade, in any case, shall be as shown on the Contract Drawings.

PART 2 PRODUCTS

2.01. ASPHALT

A. All asphalt pavement courses shall be hot mix asphalt pavement conforming to material requirements of the following:

1. Top Course – NYSDOT 9.5 F1, Top Course HMA 80 series compaction.

2. Binder Course – NYSDOT 19 F9, Binder Course HMA 80 series compaction.

3. Pavement Subbase - NYSDOT Type 1 F9, Asphalt-Treated Permeable Base Course.

4. Tack Coat - New York State Item No. 407.0103, tack coat, emulsified asphalt.

PART 3 EXECUTION

3.01. EXAMINATION

A. Permanent restoration of pavements shall not begin until 30 days after trench or structure backfill has been completed in accordance with the applicable specifications or until testing of the installed utility has been completed in accordance with the specifications (whichever is the longest period after completion of trench or structural backfill).

1. Completion of backfill shall include compaction tests to ascertain compliance with degree of compaction required as described in Section 312330 - Compaction.

a. Verify base conditions

b. Verify that compacted subgrade is dry and ready to support paving.

c. Verify gradients and elevations of base are correct.

B. If painted traffic markings on the pavement are to be interrupted by the new pavement replacement, they are to be restored using an approved traffic paint.

C. Driveway and Parking Areas

1. Driveways and parking areas that are disturbed or damaged by the Proposer’s operations shall be restored equal to a new condition.

2. Driveway or parking area aprons which do not meet the elevation of the edge of new road pavement installed under this project shall be adjusted to meet the new pavement at a slope not to exceed 1 inch per foot with top course material of the new pavement, so that the apron conforms to the elevation of the road pavement at each location.

3. New driveways or parking areas shall be constructed as described herein and as shown on the Drawings.

3.02. PREPARATION

A. Where project consists of reconstructing existing streets, lower valve boxes and existing manholes to subgrade level by removing frame and cover and brick masonry.

1. Cover valve boxes and manholes with steel plates and locate with measured ties.

2. After constructing the subbases and pavement courses, and prior to placing the final top course, recover valve boxes and manholes and raise to finished grade.

B. All existing and new manholes, frames and covers, valve boxes, curb boxes, etc., shall be raised or lowered to be 1/2 inch below the new pavement grade.

1. No manhole covers or valve box covers shall be covered with paving material or be exposed in a depression in the pavement greater than 1/2 inch.

C. Catch basin frames and grates shall be raised or lowered to be 1 inch below the new pavement finished grade.

D. Pavement Cuts

1. Pavement cuts for final pavement replacement shall be made as described herein.

2. Pavement cuts shall be made parallel to the centerline of the trench, shall be located a minimum of 12 inches outside the backfilled trench on undisturbed subgrade in a straight line between those stations where changes in direction of the installed piping were made.

3. Loose, torn, cut, marked up or damaged pavement outside the cutback areas shall be removed and replaced at the Proposer’s expense and match the proposed permanent paving.

4. Pavement cuts in driveways shall be cut back 12 inches and made in a straight alignment perpendicular or parallel to the driveway and for its full width.

5. Pavement cuts in parking areas shall be cut back 12 inches and made in a straight alignment parallel to the centerline of trench.

E. Preparation of Existing Surfaces

1. Prior to placing of asphalt concrete, the existing pavement surfaces shall be cleaned including brooming, mechanical sweeping, and flushing with water such that no dust or foreign material remains on the existing surface and in accordance with NYSDOT Specification Section 633 “Conditioning Existing Pavement Prior to Hot Mix Asphalt (HMA) Overlay”.

2. After cleaning of surface, all unsealed or inadequately sealed cracks and joints shall be cleaned with compressed air and then sealed as required under NYSDOT Specification “633-3.02 Cleaning, Sealing and Filling Joints and Cracks.”

3. Prior to placing of asphalt concrete, vertical faces of existing pavement, structures, curbs and gutters shall receive a tack coat as described in NYSDOT Specification “407 Tack Coat.” Curbs and gutter faces to be sprayed only to the extent to be covered by the asphalt concrete.

F. All new pavement where meeting existing pavement shall be butted up against a vertical face in the existing pavement.

1. This vertical face to be cut to the depth of the new pavement.

2. Where the new pavement is an overlay, the beginning and end of the top course shall be similarly butted against a vertical face.

3. The existing pavement shall be removed for a minimum length of 2 feet, as measured parallel to the direction of paving, or greater if required to eliminate any noticeable bump or to provide adequate drainage away from structures, and to the width of new pavement.

G. Removal of Existing Pavement

1. Where shown on the Contract Drawings, the Proposer shall remove a portion of an existing pavement to the limits and profile specified.

2. Excavated asphalt shall be loaded, hauled, and weighed at Rockland Green's MSW truck scale and delivered to the on-site Concrete and Asphalt Crushing (recycling) Facility.

3.03. PREPARATION - TACK COAT

A. Apply tack coat in accordance with manufacturer's instructions

1. Tack coat temperature to be not less than 120 degrees F.

2. The tack coat shall be applied no more than four hours prior to paving of the asphalt concrete course.

a. No traffic will be allowed on the freshly applied tack coat.

B. Apply tack coat to contact surfaces of curbs, gutters, and existing vertical surfaces.

3.04. PREPARATION - RESET MANHOLE FRAMES

A. Prior to placing wearing (top) course, make final adjustments of manhole frames, catch basin frames, valve boxes and any other utility structures located in the pavement in relation to finished grade.

1. Manhole frames, valve boxes, etc. to set 1/2 inch below finished grade and parallel to finished crown.

2. Catch basin frames to set 1 inch below finished grade and parallel to finished crown.

a. Bevel slope of wearing course (for 6-inch width) around catch basin frame.

3.05. INSTALLATION

A. Install work in accordance with NYSDOT standards.

B. Place asphalt within four hours of applying tack coat.

C. Compact pavement by rolling. Do not displace or extrude pavement from position. Hand compact with vibratory pans and hand tamps in area inaccessible to rolling equipment.

D. Develop rolling with consecutive passes to achieve even and smooth finish, without roller marks.

3.06. PLACING AND COMPACTING

A. Placing mix in an appropriate ambient temperature and on a surface sufficiently warm to minimize the risk of excessive cooling before completion of rolling is of paramount importance. Holding the aggregate particles in place is solely the function of the film of asphalt. The asphalt cannot perform this function properly if the mix is too cool when rolled.

1. A thin course compresses very little under the roller and, as it cools quickly, it must be rolled as soon as possible.

2. The Proposer shall supply sufficient number of rollers to perform the required compaction while asphalt concrete is still hot and in a workable condition and coordinate speed of paver with rollers such that the degree of compaction required is obtained.

3. A high degree of densification is not the goal with this type of mix -- the aim is firm seating and contact of the aggregate particles.

4. One or two coverages (see Table 1) with a steel-wheeled roller weighing 8 to 10 tons is sufficient. Additional rolling may be excessive, causing a break in the bond of asphalt between aggregate particles, particularly after the mix has cooled.

5. When overtaken by sudden storms, the Engineer may permit work to continue up to the amount which may be in transit from the plant at the time, provided the mixture is within temperature limits specified.

B. Paving - All asphalt concrete shall be installed using self-powered units in accordance with the NYSDOT Specification “402-3.02 HMA Pavers and 402-3.06 Spreading and Finishing".

1. A self-powered paving unit shall be provided except where hand methods are permitted by the Engineer in small areas or areas inaccessible to a paving unit. For such areas, the mixture shall be dumped, spread, screened and compacted to give the required section and compaction thickness.

C. Compaction - Asphalt concrete shall be compacted in accordance with NYSDOT Specification “402-3.07 Compaction and 402-3.09 Joints” using either option as follows:

1. Option A - Tandem roller (static or vibratory) 8 to 10 ton size.

2. Option B - Vibratory compaction.

D. The required number of passes for either vibratory or static rollers, listed in Table 1, are minimum and may be increased by the Engineer. One pass shall be defined as one movement of the roller over any point of the pavement in either direction. Static roller passes shall continue until all ruts, ridges, roller marks or other irregularities are removed from the surface. The Engineer may alter the compaction procedures for small areas where the specified procedures are not practical.

TABLE 1
REQUIRED NUMBER OF PASSES (MINIMUM)

Pavement Courses	Vibratory Roller		Steel-Wheel Tandem Finish Roller
	Vibrating Passes*	Static Passes**	Static Passes
Base (open graded each lift)	4	2	5
Base (dense graded)	4	2	5
Binder (dense graded)	4	Not required	5
Top (dense graded all types)	2	Not required	2

*The required number of vibrating passes shall be reduced by one-half for dual vibrating drum rollers when the drums are tandem and are both in the vibrating mode.
**The required number of static passes may be completed by the vibratory roller operating in the static mode.

E. Unless otherwise directed by the Engineer, vibratory rollers having pneumatic drive wheels shall compact the longitudinal joint by using one of the pneumatic drive wheels to overlap the joint in two passes with the drum operating static. Unless otherwise directed by the Engineer, dual vibrating drum rollers shall compact the joint by overlapping the joints in two passes with both drums operating static.

F. To prevent adhesion of the mixture to the drum(s), the drum(s) shall be kept properly moistened with water, or water mixed with small quantities of detergent. If required to prevent pneumatic tire pickup, the pneumatic drive wheels may be coated with a fine mist spray of fuel oil or other similar material. In all instances, the surface of the pavement shall be protected from drippings of fuel oil or any other solvents used in paving, compaction or cleaning operations.

G. If the Engineer determines that unsatisfactory compaction is being obtained or damage to highway components and/or adjacent property is occurring using vibratory compaction equipment, the Proposer shall immediately cease using this equipment and proceed with the work in accordance with the conventional static compaction procedures at no additional cost.

H. The Proposer should note that if he elects to use vibratory compaction equipment, he assumes full responsibility for the cost of repairing all damage that may occur to highway components and adjacent property or underground utilities.

3.07. DRIVEWAYS AND PARKING REAS

A. Paving materials, type of paving, depth of various courses, etc., shall be as shown on the Drawings.

1. The driveways and parking areas shall be cut back 12 inches from outside disturbed or damaged areas as described above.

2. The work shall include proper compaction of any necessary subbase, base course and paving courses, in accordance with Section 312330 - Compaction.

3.08. TOLERANCES

A. Surface Tolerance - The pavement surface shall be constructed to a 1/4-inch tolerance. If, in the opinion of the Engineer, the pavement surface is not being constructed or has not been constructed to this tolerance based upon visual observation or upon riding quality, he may test the surface with a 16-foot straight edge (furnished by the Proposer) or string line placed parallel to the centerline of the pavement and with a 10-foot straight edge or string line placed transversely to the centerline of the pavement on any portion of the pavement.

1. Variations exceeding 1/4-inch shall be satisfactorily corrected or the pavement relayed at no additional cost as ordered by the Engineer.

B. Thickness Tolerance - The thickness indicated for each of the various courses of bituminous pavement is the nominal thickness. The pavement shall be so constructed that the final compacted thickness is as near to the nominal thickness as is practical, and within the tolerances specified below.

1. Material which is part of a trueing or leveling course or shim course will not be considered in pavement thickness determinations.

2. A tolerance not to exceed 1/4-inch from the nominal thickness required for the course specified under one pay item will be acceptable where the required nominal thickness is 4 inches or less. A tolerance not to exceed 1/2-inch from the nominal thickness required for the course or courses specified under one pay item will be acceptable where the required nominal thickness is over 4 inches. In addition, the sum total thickness of all bituminous mixture courses shall not vary from the total of the nominal thickness indicated on the plans by more than 1/4 inch where the total nominal thickness is 4 inches or less; or more than 1/2-inch where the total nominal thickness is over 4 inches but not more than 8 inches; and by not more than 5/8-inch where the total nominal thickness is more than 8 inches.

3.09. FIELD QUALITY CONTROL

A. The required degree of compaction for wearing or top courses and shim course is a finished product having not more than 7 percent air voids.

B. Rockland Green reserves the right to order testing of materials at any time during the work. The Proposer shall provide testing at no additional cost to Rockland Green.

3.10. PROTECTION

A. Any pavement, constructed or reconstructed, which is subsequently damaged due to activity of work under this contract, shall be removed and replaced by the Proposer at no additional cost to Rockland Green.

B. Protect pavement from vehicular traffic until compaction is completed.

END OF SECTION

SECTION 330506

AIR AND VACUUM TESTING FOR GRAVITY SEWERS AND MANHOLES

PART 1 GENERAL

1.01. DESCRIPTION OF WORK

A. Leakage testing of gravity sewers.

B. Leakage testing by air pressure methods.

C. Manhole Vacuum Testing.

1.02. REFERENCES

A. Uni-Bell Plastic Pipe Association - UNI-B-6-98 Recommended Practice for Low Pressure Air Testing of Installed Sewer Pipe. Refer to example calculation at end of this section.

1.03. TEST REQUIREMENTS

A. Backfilling of the sewer trench to ground or road surface shall be in place and completed, except for final paving, for 30 calendar days, or as approved by Engineer, prior to start of testing of each section of sewer.

B. Testing shall be completed prior to final paving and final restoration.

C. Low pressure air test shall not exceed drop of 1.0 psig for time period listed in attached Table 330506-1. Test procedure shall conform to ASTM C828 except as modified by the UNI- Bell Plastic Pipe Association Publication UNI-B-6-98, for Low Pressure Air Testing Of Installed Sewer Pipe. Refer to Table 02735-1 for maximum allowable time for a 1.0 psig drop.

D. Maximum test length shall not exceed 1,000 feet.

1. In the case of sewers laid on steep grades, the length of line to be tested at any one time may be limited by the maximum allowable internal pressure on the pipe and joints at the lower end of the line. The recommendations of the pipe manufacturer shall be followed in this regard.

E. Rockland Green or their authorized representative shall witness all tests.

F. Leakage Tests - Replacement of Existing Sewer Systems - Leakage tests shall be performed on new or replacement sewers and manholes.

1.04. PROJECT RECORD DOCUMENTS

A. The following copies of forms for testing are attached to the end of this section.

1. Table 330506-1, Low Pressure Air Testing of Sewers

2. Table 330506-2, Low Pressure Air Testing of New Sewers Form

3. Table 330506-3, Manhole Vacuum Test Form

1.05. FIELD MEASUREMENTS

A. Low Pressure Air Testing

1. Measure length of section to be tested.

2. Measure time interval and pressure drop.

3. Record measurements on Low Pressure Air Testing of New Sewers Form.

1.06. COORDINATION

A. Coordinate maintenance of traffic with local authorities.

PART 2 PRODUCTS

Not used.

PART 3 EXECUTION

3.01. EXAMINATION

A. Backfill has been in place the required time before start of test.

B. No connections to live sewers or live laterals have been made unless directly replacing existing sewer.

3.02. PREPARATION

A. Pipelines and manholes have been flushed and cleaned of all debris, stones, silt, etc. such that all surfaces of pipe and manholes are visible.

B. The Proposer shall have on the job all the proper tools, pipe plugs, air bags, gauges, pumps, wires, water trucks, compressors, etc. necessary to properly test the pipe and manholes.

3.03. TESTING

A. Low Pressure Air Testing

1. Prior to start of test permanently repair all visible leaks.

2. Isolate each section to be tested with air tight plugs.

3. Low pressure air testing procedures shall conform to ASTM C828 as modified by UNI-B-6-98.

4. On ductile iron pipe sewer sections, no pressure drop is permitted.

5. On PVC sewers, the maximum allowable drop in pressure from the test pressure shall be 1.0 psig during the minimum holding time.

a. Test pressure shall be calculated using the following equation:

TP = STP + (H/2.31)

where:
TP = Test pressure, maximum of 10.0 psi.
STP = Starting Test Pressure = 3.5 psi
H = Height of groundwater above invert. (ft.)

6. All pressurizing equipment used for low-pressure air testing shall include a regulator or relief valve set no higher than 10 psig to avoid over-pressurizing and displacing temporary or permanent plugs. In no case should the starting pressure exceed 10.0 psig.

7. Either mechanical or pneumatic plugs may be used. All plugs shall be designed to resist internal testing pressures without the aid of external bracing or blocking. If pneumatic plugs are utilized, a separate hose shall also be required to inflate the pneumatic plugs from the above ground control panel. Plug the upstream end of the line first to prevent any upstream water from collecting in the test line. This is particularly important in high groundwater situations. When plugs are being placed, the pipe adjacent to the manhole shall be visually inspected to detect any evidence of shear in the pipe due to differential settlement between the pipe and the manhole. A probable point of leakage is at the junction of the manhole and the pipe, and this fault may be covered by the pipe plug, and thus not revealed by the air test.

8. To facilitate test verification by the Engineer, all air used shall pass through a single, above ground control panel. The above ground air control equipment shall include a shutoff valve, pressure regulating valve, pressure relief valve, input pressure gauge, and a continuous monitoring pressure gauge having a pressure range from 0 to at least 10 psi. The continuous monitoring gauge shall have minimum divisions of 0.10 psi and an accuracy of $\pm$0.04 psi. The equipment to include a separate certified test gauge for periodic checking of the accuracy of the basic equipment gauges.

9. Two separate hoses shall be used to: (1) connect the control panel to the sealed line for introducing low-pressure air, and (2) a separate hose connection for constant monitoring of air pressure build-up in the line. Low pressure air shall be slowly introduced into the sealed line until the internal air pressure reaches 4.0 psig greater than the average back pressure of any groundwater above pipe, but not greater than 10.0 psig. After a constant pressure of 4.0 psig is reached, the air supply shall be throttled to maintain that internal pressure for at least 2 minutes or until the temperature of the entering air to equalize with the temperature of the pipe wall. When temperatures have been equalized and the pressure stabilized at 4.0 psig, the air hose from the control panel to the air supply shall be disconnected.

10. The continuous monitoring pressure gauge shall then be observed while the pressure is decreased to no less than 3.5 psig (greater than the average back pressure of any groundwater over the pipe). At a reading of 3.5 psig, timing shall commence with a stop watch or other timing device that is at least 90 percent accurate.

11. If the time shown in Table 330506-1 (at the end of this section) for the designated pipe size and length elapses before the air pressure drops 1.0 psig, the section undergoing test shall have passed the leakage test. The test may be discontinued once the prescribed time has elapsed even though the 1.0 psig drop has not occurred.

12. If the pressure drops 1.0 psig before the appropriate time shown in Table 330506-1 has elapsed, the air loss rate shall be considered excessive and the section of pipe has failed the test.

13. If the section fails to meet the requirements, the Proposer shall determine at his own expense the source, or sources of leakage, and he shall repair or replace all defective materials and/or workmanship to the satisfaction of the Engineer. The extent and type of repair as well as results, shall be subject to the approval of the Engineer. The completed pipe installation shall then be retested and required to meet the requirements of this test.

14. The times shown in Table 330506-1 are for the length of main sewer tested. For lengths other than those shown, the time to be interpolated.

B. Manhole Vacuum Testing

1. General

a. After the manhole has been completely constructed, the frame installed thereon, and the trench backfilled, a vacuum test shall be performed.

b. Any damage caused to properties due to sewage handling and/or sewage backup while vacuum testing shall be the responsibility of the Proposer.

2. Vacuum Testing Equipment - Furnish testing equipment as specified in the manufacturer's written instructions. For this procedure, pressure gauge MUST read in inches of mercury, not in psi.

3. Vacuum Test Procedures

a. Perform vacuum testing in accordance with the testing equipment manufacturer's written instructions.

b. Draw a vacuum of 10 inches of mercury and close the valves.

c. Manhole will be acceptable when vacuum does not drop below 9 inches of mercury for the following manhole sizes and times:

1) 4-Foot Diameter - 60 seconds
2) 5-Foot Diameter - 75 seconds
3) 6-Foot Diameter - 90 seconds

d. Repair or replace defective manholes and retest.

4. If the manhole fails to meet the above testing requirements, the Proposer shall determine, at his own expense, the source(s) of the leakage, and he shall repair or replace all defective materials and/or workmanship to the satisfaction of the Engineer. The extent and type of repair, as well as results, shall be subject to the approval of the Engineer. The completed repairs shall then be retested and required to meet the leakage requirements of this test.

(continued)

TABLE 330506-1
LOW PRESSURE AIR TESTING OF SEWERS

Pipe Diameter (inches)	*Shortest Time (min:sec)	Length for Shortest Time (ft.)	Time for Longer Length (sec.)	Time (min:sec) for Length (L) Shown					
				100 ft.	150 ft.	200 ft.	250 ft.	300 ft.	350 ft.
4	3:46	597	0.380 L	3:46	3:46	3:46	3:46	3:46	3:46
6	5:40	398	0.855 L	5:40	5:40	5:40	5:40	5:40	5:40
8	7:34	298	1.520 L	7:34	7:34	7:34	7:34	7:36	8:52
10	9:26	239	2.374 L	9:26	9:26	9:26	9:53	11:52	13:51
12	11:20	199	3.418 L	11:20	11:20	11:24	14:15	17:05	19:56
15	14:10	159	5.342 L	14:10	14:10	17:48	22:15	26:42	31:09
18	17:00	133	7.692 L	17:00	19:13	25:38	32:03	38:27	44:52
21	19:50	114	10.470 L	19:50	26:10	34:54	43:37	52:21	61:00
24	22:40	99	13.674 L	22:47	34:11	45:34	56:58	68:22	79:46
27	25:30	88	17.306 L	28:51	43:16	57:41	72:07	86:32	100:57
30	28:20	80	21.366 L	35:37	53:25	71:13	89:02	106:50	124:38
33	31:10	72	25.852 L	43:05	64:38	86:10	107:43	129:16	150:43
36	34:00	66	30.768 L	51:17	76:55	102:34	128:12	153:50	179:29

*Time allowed for 1.0 psig drop in pressure.

TABLE 330506-2
LOW PRESSURE AIR TESTING OF NEW SEWERS

Date: _____ Job No.: _____

Project: _____ Contract No.: _____

Contractor: _____ Weather: _____

Section Tested (List Manholes)	Length (ft)	Diameter (inches)	Material	Time Start/ Time Finish	Time Interval (mins)	Air Pressure Initial/Final (psig)	Total Pressure Loss (psig)	Pass/Fail
to								
to								
to								
to								
to								
to								
to								

Comments:

Witness: Owner/Engineer _____ Name _____ Title _____ Signature _____	Witness: Contractor _____ Name _____ Title _____ Signature _____

TABLE 330506-3
MANHOLE VACUUM TEST

Date: _____ Job No.: _____

Project: _____ Contract No.: _____

Contractor: _____ Weather: _____

Manhole No.	Inside Diameter (ft)	Required Test Time (seconds)	Initial Vacuum (10 inches)	Final Vacuum	Pass/Fail

Comments:

WITNESS: Owner/Engineer _____ Name _____ Title _____ Signature _____	WITNESS: Contractor _____ Name _____ Title _____ Signature _____

END OF SECTION

SECTION 330561

CONCRETE MANHOLES

PART 1 GENERAL

1.01. DESCRIPTION OF WORK

A. Factory design and manufacture of manhole sections and accessories.

B. Quality assurance and control.

C. Field installation of manholes.

D. Connection of sewer pipe.

E. Construction of bench walls and flow channels.

F. Installation of frames and covers.

1.02. REFERENCES

ASTM A48	Gray Iron Castings
ASTM A536	Ductile Iron Castings
ASTM C62	Building Brick
ASTM C90	Hollow Load Bearing Concrete Masonry Units
ASTM C144	Aggregate for Masonry Mortar
ASTM C150	Portland Cement
ASTM C207	Hydrated Lime for Masonry Purposes
ASTM C443	Joints for Circular Concrete Sewer and Culvert Pipe Using Rubber Gaskets
ASTM C478	Precast Reinforced Concrete Manhole Sections
ASTM C923	Resilient Connectors Between Reinforced Concrete Manhole Structures, Pipes and Laterals

1.03. SUBMITTALS

A. Submit shop drawings of typical manufactured wall sections and bases proposed for this project, including joint design and related details for field assembly. Include certification of conformance with Contract Documents and the appropriate ASTM Specification.

B. Submit shop drawings of typical cast iron frames and covers proposed for this project.

C. Anti-Flotation Design - Structure shall be designed by a registered Professional Engineer.

1. Design shall include anti-flotation collar to withstand flotation under full hydrostatic head with a 1.25 factor of safety for all manholes.

a. 4-Foot Inner Diameter - Flotation collar shall be minimum of 4-inch.

b. 5-Foot Inner Diameter - Flotation collar shall be minimum of 6-inch.

c. Greater than 5-Foot Inner Diameter - Flotation collar reviewed on a case-by-case basis.

D. Submit certifications for iron and steel products in accordance with AIS requirements and Section 013300, Submittals.

1.04. QUALITY ASSURANCE

A. Completed manholes shall be watertight and shall be tested in accordance with Section 33 0506, Air and Vacuum Testing.

1.05. QUALITY CONTROL INSPECTION

A. The quality of all materials, the process of manufacture and the finished sections shall be subject to inspection by the Engineer. Such inspection may be made at the place of manufacturer, and/or at the work site after delivery. Manhole sections shall be subject to rejection if they fail to meet the specification requirements, even though sample sections may have been accepted as satisfactory at the place of manufacture. Sections rejected after delivery to the site shall be tagged and removed from the job site immediately. All sections which have been damaged after delivery will be rejected, or if already installed, shall be removed and replaced at the Proposer's expense.

B. All sections shall be inspected for general appearance, dimensions, soundness, etc. The surface shall be dense, close-textured, and free of blisters, cracks, roughness, exposure of reinforcement, damaged joints, and dimensional distortions or other irregularities.

C. Frames and covers shall be manufactured true to pattern and shall be of uniform quality, free from blowholes, porosity, hard spots, shrinkage distortion or other defects. Covers shall seat uniformly in any position in the frame without rocking.

PART 2 PRODUCTS

2.01. PRECAST CONCRETE BASES

A. Design and manufacture of precast concrete bases for manholes shall conform to the requirements of this section and ASTM C478. Bases shall conform to the dimensions indicated on the Drawings, and the horizontal joint at the top of the base shall be compatible with that of the precast wall section.

B. Precast bases shall be manufactured to contain openings in the wall, of minimum size, to receive the ends of the installed sewer pipe. Openings shall be accurately positioned to conform with line and grade of the connecting sewer.

C. The top of the manhole base shall extend at least 10 inches above any pipe openings in the base.

2.02. PRECAST CONCRETE WALLS AND MANHOLES TOPS

A. Design and manufacture of precast concrete walls shall conform to the requirements of this section and ASTM C478.

B. Precast concrete walls shall be made with straight, circular pipe sections and eccentric cone sections if manhole steps are required and concentric cone sections where no steps are required. The total height of precast wall required for each manhole shall be determined in the field and shall be such that the vertical distance between the top of the assembled precast units and the bottom of the installed cast iron manhole frame is a minimum of 4 inches and a maximum of 12 inches, to allow for grade adjustment rings.

C. If required, manhole steps shall be cast integrally with or grouted solid into the precast wall units. Lifting holes that extend completely through the manhole are not permitted in the precast units.

D. All joints in the precast wall, including the joint at the top of the base, shall be made up using either one of the following:

1. "Snap-on"-type O-ring gasket and shall conform to ASTM C443; except that joint taper shall not exceed 3-1/2 degrees. The precast sections shall be provided with a special groove (cast into the male end) to receive and hold the gasket in position during joint assembly.

2. Two beads of butyl-type rope joint sealant material. Install to manufacturer's specifications. Barrel mating surfaces shall be clean, dry, and free from grease, oil, dirt, or organic matter to assure a proper watertight seal between seating and butyl rope material.

E. When using O-ring gaskets, the gap between sections shall be packed on the inside and outside with grout after joint assembly. The grout shall be A-H Axpandcrete by Anti-Hydro, Masterflow 713 Plus by Degussa, or Five Star® Grout by Five Star Products, Inc., or equal, and shall be troweled smooth so that no projections remain on the inside. There shall be concrete to concrete bearing between the various sections, and the gasket shall not support the weight of the section.

F. If required, precast reinforced concrete slab tops for manholes shall be manufactured in accordance with ASTM C478, except that thickness and reinforcing shall be as shown on the Drawings. Openings shall be of the proper diameter to receive the frame specified.

G. Manhole tops shall be cast with four threaded inserts to accommodate frame hold-down bolts.

2.03. MONOLITHIC CAST-IN-PLACE CONCRETE BASES

A. Cast-in-place concrete bases are not permitted, except when constructing a new manhole on existing concrete sewers.

2.04. FRAMES AND COVERS

A. Frames and covers shall be of the make, style, opening, height, weight, and other designation as specified herein and as shown on the Drawings.

B. Material shall be gray cast iron conforming to ASTM A48, Class 30; or shall be ductile cast iron conforming to ASTM A536, Grade 60-40-18.

C. Manhole frame and covers shall be H-20 load rated.

D. Unless otherwise scheduled, frames and covers shall be heavy duty, non-penetrating pickhole type of non-rocking design, and shall have machined bearing surfaces to prevent rocking and rattling under traffic loads. Covers shall have cast in, 1-1/2-inch wide, raised letters, the words "Sanitary Sewer", or as indicated on the drawings.

E. Unless otherwise noted, all manhole covers shall be self-sealing and shall be furnished with O-ring rubber gaskets.

F. Surface finish shall be smooth and well-cleaned by shot blasting or by some other approved method.

G. Frames and covers shall have clear opening of 30-inch diameter.

H. Rubber gasketed lids shall be installed on all manholes into which pressure sewer discharges and all meter pit manholes.

I. Acceptable manufacturers are:

1. East Jordan Iron Works; Pattern 1230A1 (cover); 1234Z (frame).

2. Neenah Foundry Company.

3. Or approved equal.

2.05. MANHOLE STEPS

A. Manhole steps are to be provided in manholes. Steps are to be cast in or grouted solid into the precast units at intervals of 12 inches. Steps shall be in conformance with OSHA requirements having drop front or equivalent. Bolted-on type are not acceptable. Manhole steps to be Neenah Casting Company R-1982F, M.A. Industries, Inc. copolymer polypropylene reinforced with 1/2-inch steel rod or equal.

2.06. GRADE RINGS

A. General - Grade adjustment for a manhole shall not exceed 12 inches.

B. Precast Concrete Grade Rings - Precast concrete grade rings for leveling units shall be manufactured in compliance with the requirements of the Specifications for Precast Reinforced Concrete Manhole Sections, ASTM C478; and shall be as thick as necessary to provide the required grade adjustment but not less than 3 inches in height. Split grade rings are unacceptable. Broken or cracked concrete grade rings will not be acceptable.

C. Rubber Grade Rings

1. Rubber grade rings (rubber adjustment riser) for leveling units shall comply with the following:

Physical Properties	Test Results	Test Method
Density	$\pm$1.098 g/cm^3	ASTM C642-90
Durometer Hardness • Molded Surface • Interior Surface	75A $\pm$ 10 points 73A $\pm$ 10 points	Based on ASTM D2240
Tensile strength	1.6 MPa (232 psi) (not less than 1 MPa)	ASTM D412-87

Physical Properties	Test Results	Test Method
Compression Deformation • Initial Deformation • Final Deformation	Under 1 MPa (145 psi) 6 ±4 percent 6 ±4 percent	Based on ASTM D575
Compression Set	0.4 percent (no more than 4 percent) under 1 MPa (145 psi)	Based on ASTM D395
Freeze and Thaw when Exposed to De-Icing Chemicals	No loss after 50 cycles	ASTM C672-91
Coefficient of Thermal Expansion	1.08 x 10^{-4} mm/mm/C (6 x 10^{-5} in/in/F)	ASTM C531-85
Weathering (70 hours at 70° C) • Hardness Retained • Compressive Strength Retained • Tensile Strength Retained • Elongation Retained	 100 ± 5 percent 100 ± 5 percent 100 ± 5 percent 100 ± 5 percent	ASTM D573-88

2. Rubber grade rings shall only be used in paved areas.

3. Tapered rubber grade rings shall be used to accommodate sloped paved surfaces.

2.07. CEMENT GROUT

A. Cement grout shall be non-shrink, non-metallic.

B. Use Type I cement where grout is not in contact with sewage.

C. Use Type II (sulfate resistant) where grout is in contact with sewage.

2.08. EPOXY BONDING COMPOUND

A. Provide a high modulus, low viscosity, moisture insensitive epoxy adhesive having the following characteristics:

1. Mix Ratio - 200 percent solids, two-component, mixed one part by volume component B to two parts by volume component A.

2. Ultimate Compressive Strength - 13,000 psi after cure at 73 degrees F and 50 percent relative humidity determined in accordance with ASTM D695.

3. Acceptable Manufacturers

a. Sika Corporation, Sikadur Hi-Mod.
b. A.C. Horn, Inc., Epoxtite Binder.
c. Euclid Chemical Company, 452 Epoxy System.

2.09. PIPE SEALS

A. Sanitary sewer connections between manholes and pipes shall be constructed using flexible rubber pipe to manhole connectors in accordance with ASTM C923.

B. Acceptable flexible pipe connectors include the Z-Lok gasket and the X-Cell gasket as manufactured by A-Lok Products, Inc., Kor-N-Seal connectors as manufactured by Trelleborg Pipe Seals Milford, Inc., or an approved equal.

C. All associated hardware shall be stainless steel.

D. Elastomeric waterstop gaskets are not permitted.

E. The ends of the pipe shall be accurately positioned in the openings, properly secured against movement, and the remaining annular space between the pipe wall and the base completely packed with A-H Axpandcrete by Anti-Hydro, Masterflow 713 Plus by Degussa, or Five Star® Grout by Five Star Products, Inc., or equal. Before the grout has set, the Proposer shall recheck invert elevations of the ends of the pipe and perform any adjustments which are necessary to establish the required line and grade of the sewer.

2.10. CAST-IN-PLACE CONCRETE

A. Cast-in-place concrete used in constructing manhole bench walls shall conform to requirements of Mix "C" concrete specified in Section 03 3000, Cast-In-Place Concrete.

2.11. WATERPROOFING

A. The Proposer shall furnish manholes waterproofed over the entire exterior surface that will be below finished grade. The waterproofing shall not mar or interfere with the specified exterior finish for these structures. Waterproofing shall be accomplished prior to structure installation for precast sections and shall be applied to dry surfaces under proper weather conditions.

B. Waterproofing shall consist of a two-coat application of coal tar compound as manufactured by Koppers Bitumastic Super Service Black; Tnemec Heavy Duty Black 46-449; Preco Nitoproof 600; or equal, and shall be applied according to manufacturer's specification. Total thickness of the two-coat application shall not be less than 16 mils.

C. The interior surfaces of manholes and structures shall be painted with Haze Gray Sherwin Williams Cor-Cote SC Sewer-Cote; Tnemec Series 218 MortarClad surface primer with Gray Series 446-Color Perma-Shield MCU finish coat; or equal in accordance with manufacturer’s recommendations.

PART 3 EXECUTION

3.01. EXAMINATION

A. Verify that subgrade elevations for manhole bases are correct and excavation is dewatered.

B. Verify that rejected (tagged) units have been removed from the site.

3.02. PREPARATION

A. Provide foundation mat of structural fill in accordance with Section 31 2325, Backfilling, to support manhole base. Mat shall be 12 inches minimum depth and shall bear on sound undisturbed earth; excavate and remove subgrade material as necessary to reach sound stratum.

B. Mat diameter shall be a minimum of 2 feet greater than outside diameter of manhole base, and shall be compacted to a uniform, level surface.

3.03. INSTALLATION

A. Manholes

1. Precast base shall be accurately located and uniformly supported on the foundation mat in a level position.

2. Install subsequent wall sections, as required, in their properly oriented position. Each section shall be joined in conformance with manufacturer's instructions, using prescribed joint gaskets or joint materials. There shall be concrete-to-concrete bearing between the various sections, and gasket material shall not support the weight of the section.

3. All precast units shall be laid-up plumb and level to form a vertical manhole structure at each location.

4. When grade adjustment exceeds 12 inches, barrel sections corresponding to the manhole diameter shall be used.

B. Pipe Seals - Connect ends of sewer pipe to manholes with flexible rubber sleeves, straps and bolts.

C. Channels and Benches

1. Construct flow channels and bench walls in bottom of manholes, shaped to follow details on the Drawings. Flow channels shall match inverts and size of pipes, creating a channel of gradual slope and curvature such that smooth, uninterrupted flow through the manhole is assured. Extend channel wall vertically up to top of highest (flowing) pipe so as to form the bench wall. Bench surface shall extend horizontally to manhole walls, with slight pitch toward flow channel.

2. Flow channels and bench walls shall be constructed of cast-in-place concrete, although half-sewer pipe sections may also be utilized to form portions of the flow channel. All exposed concrete surfaces shall receive a steel troweled finish except horizontal surface of bench walls which shall be broom finished.

D. Grade Rings

1. Furnish and install grade rings at manhole top so as to adjust and support cast iron frame to finished grade.

2. When grade adjustment of less than 3 inches is required, rubber grade rings shall be used.

3. Joints between precast concrete grade rings for leveling units shall be made with two-bead preformed plastic sealing compound and shall be 1/2 inch thick and troweled or trimmed smooth on the inside of the manhole. In addition, the leveling units shall be sealed on the outside surface using non-shrink grout.

4. Joints between rubber grade rings and rubber precast concrete grade rings or frame shall be made with polyurethane marine sealant compound.

5. The joint between the bottom of the frame and the top of precast concrete grade rings, or the top manhole section as applicable, shall be made with preformed plastic sealing compound and shall be sealed on the outside surface using non-shrink grout.

E. Frames and Covers

1. Frames shall be firmly seated in full bed of mortar and be positioned to conform to the adjacent finished grade, or to the specific elevation shown on the Drawings.

2. Frames to be set parallel to surface slopes.

3. Covers shall seat uniformly in any position in the frame without rocking.

4. In pavements and shoulder areas, set frame 1/2 inch below finished grade.

3.04. BACKFILLING

A. Carry out backfilling operations in conformance with Division 31 specifications, being careful to provide full support under connecting pipes using compacted bedding material specified for sewer piping.

3.05. ACCEPTANCE TESTING

A. Manholes shall be watertight. All visible leaks shall be permanently sealed in an approved manner. Repair of manhole sections using grout, either cementitious or polyurethane, is not permitted. Leakage tests of manholes can be performed in conjunction with leakage tests of connecting sewers under Section 330506, Air and Vacuum Testing.

END OF SECTION

SECTION 333113

SEWER PIPING

PART 1 GENERAL

1.01. SUMMARY

A. Section includes:

1. Sanitary sewer pipe and fittings.

1.02. REFERENCES

A. Abbreviations and Acronyms

1. ACI – American Concrete Institute
2. ASTM – American Society for Testing and Materials
3. PSM – Plastic Sewer Main
4. PSI – Pounds Per Square Inch
5. PSIG – Pounds Per Square Inch Gauge
6. PVC – Polyvinyl Chloride

1.03. ACTION SUBMITTALS

A. Product Data: For each type of product.

1.04. DELIVERY, STORAGE, AND HANDLING

A. Plastic pipe shall be protected from exposure to direct sunlight prior to laying, if necessary, to maintain adequate pipe stiffness and meet installation deflection requirements.

B. Store pipes, fittings, and accessories out of the way of active work areas.

C. Protect pipe from construction traffic and machinery.

PART 2 PRODUCTS

2.01. SANITARY SEWER PIPE AND FITTINGS

A. Carrier Pipe: ASTM D 2241, SDR 21 PVC gravity sewer pipe, including fittings

B. Joints: Gasketed push on (bell end) type.

2.02. NON-PRESSURE-TYPE TRANSITION COUPLINGS

A. Comply with ASTM C 1173, elastomeric, sleeve-type, reducing or transition coupling, for joining underground non-pressure piping. Include ends of same sizes as piping to be joined and corrosion-resistant-metal tension band and tightening mechanism on each end.

B. Sleeve Materials:

1. For Plastic Pipes: ASTM F 477, elastomeric seal or ASTM D 5926, PVC.

2. For Dissimilar Pipes: ASTM D 5926, PVC or other material compatible with pipe materials being joined.

C. Unshielded, Flexible Couplings:

1. Elastomeric sleeve with stainless-steel shear ring and corrosion-resistant-metal tension band and tightening mechanism on each end.

D. Shielded, Flexible Couplings:

1. ASTM C 1460, elastomeric or rubber sleeve with full-length, corrosion-resistant outer shield and corrosion-resistant-metal tension band and tightening mechanism on each end.

PART 3 EXECUTION

3.01. EXAMINATION

A. Examine areas and conditions for compliance with requirements for installation tolerances and other conditions affecting performance of the Work.

B. Examine delivered materials, pipes and fittings for damage. Remove defective products from site.

C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.02. PREPARATION

A. Perform trenching and backfilling in accordance with Division 31 of these specifications

B. Interruption of Existing Sanitary Drainage Service: Do not interrupt service to facilities occupied by Owner or others unless permitted under the following conditions and then only after arranging to provide temporary service according to requirements indicated:

1. Notify Owner no fewer than five days in advance of proposed interruption of service.

2. Do not proceed with interruption of service without Owner's written permission.

3.03. PIPE INSTALLATION

A. General

1. Follow all applicable safety regulations when handling pipes.

2. Each pipe shall be thoroughly examined before being laid; defective or damaged pipe shall not be used.

B. Pipelines shall be laid to the grades and alignment indicated on construction drawings.

C. Install pipe from downstream end to upstream end.

D. Install sanitary sewer piping according to the following:

1. Install piping with 48-inch minimum cover, unless otherwise shown on the drawings.

2. Per manufacturer's recommendations for HDPE pipe.

E. Clear interior of piping of dirt and superfluous material as work progresses. Maintain swab or drag in piping and pull past each joint as it is completed. Place plug in end of incomplete piping at end of day and when work stops.

3.04. PIPE JOINT CONSTRUCTION

A. Join sanitary sewer piping according to the following:

1. ASTM F2620 for Heat Fusion Joints.

2. Join PVC gravity sewer piping according to ASTM D 2321 and ASTM D 3034 for elastomeric-seal joints or ASTM D 3034 for elastomeric-gasket joints.

3. Join dissimilar pipe materials with non-pressure-type, flexible couplings.

3.05. FIELD QUALITY CONTROL

A. General:

1. Clean interior of pipe and structures; remove all sediment, debris and superfluous material.

B. Deflection Testing:

1. Inspect interior of piping to determine whether line displacement or other damage has occurred. Inspect after approximately 24 inches of backfill is in place.

C. Leakage Testing

1. Uni-Bell Plastic Pipe Association - UNI-B-6-98 Recommended Practice for Low Pressure Air Testing of Installed Sewer Pipe. Leakage Tests - Replacement of Existing Sewer Systems - Leakage tests shall be performed on new or replacement sewers and manholes.

2. Test Requirements

a. Backfilling of the sewer trench to ground or road surface shall be in place and completed, except for final paving, for 30 calendar days, or as approved by Engineer, prior to start of testing of each section of sewer.

b. Testing shall be completed prior to final paving and final restoration.

1) Refer to Specification Section 330506.

3.06. FIELD MEASUREMENTS

A. Low Pressure Air Testing

B. Measure length of section to be tested.

C. Measure time interval and pressure drop.

D. Record measurements on Low Pressure Air Testing of New Sewers Form.

3.07. COORDINATION

A. Coordinate maintenance of traffic with local authorities.

3.08. EXAMINATION

A. Backfill has been in place the required time before start of test.

B. No connections to live sewers or live laterals have been made unless directly replacing existing sewer.

3.09. PREPARATION

A. Pipelines and manholes have been flushed and cleaned of all debris, stones, silt, etc. such that all surfaces of pipe and manholes are visible.

B. The Contractor shall have on the job all the proper tools, pipe plugs, air bags, gauges, pumps, wires, water trucks, compressors, etc. necessary to properly test the pipe and manholes.

3.10. TESTING

A. All Low Pressure Air Testing shall be completed in accordance with Specification Section 330506, Air and Vacuum Testing for Gravity Sewers and Manholes

END OF SECTION

SECTION 334200

STORMWATER CONVEYANCE

PART 1 GENERAL

1.01. SUMMARY

A. Section includes:

1. Catch basins
2. Frames and Grates
3. Storm Sewer Pipe

1.02. REFERENCES

A. Abbreviations and Acronyms

1. AASHTO - American Association of State Highway and Transportation Officials
2. ACI – American Concrete Institute
3. ASTM – American Society for Testing and Materials
4. HDPE – High Density Polyethylene
5. NYSDOT – New York State Department of Transportation
6. PVC – Polyvinyl Chloride

1.03. ACTION SUBMITTALS

A. Product Data: For each type of product.

B. Shop Drawings:

1. Catch basins:
    a. Include plans, elevations, sections, and details.
2. Frames and Grates:
    a. Include plans, dimensions, grate opening size and pattern, load rating, and details as required on drawings.

1.04. DELIVERY, STORAGE, AND HANDLING

A. Store materials and accessories out of the way of active work areas.

B. Protect catch basins, frames, and covers from construction traffic and machinery.

PART 2 PRODUCTS

2.01. CATCH BASINS AND STORM MANHOLES

A. Refer to Drawings and Specification Section 033000 for cast-in-place catch basins, including pipe connection details.

B. Precast Concrete Catch Basins: ASTM C913, precast, reinforced concrete; designed in accordance with ASTM C890 for A-16 (ASSHTO HS20-44), heavy-traffic, structural loading; of depth, shape, and dimensions indicated, with provision for joint sealants. Minimum wall thickness – 5 inches.

1. Joint Sealants: ASTM C990, bitumen or butyl rubber.

2. Adjusting Rings: Interlocking rings with level or sloped edge in thickness and shape matching catch basin frame and grate. Include sealant recommended by ring manufacturer.

3. Grade Rings: Include two or three reinforced-concrete rings, of 6- to 9-inch total thickness, that match frame and grate.

4. Pipe Connectors: ASTM C923, resilient, of size required, for each pipe connecting to base section and suited for the type of pipe being installed.

5. Structures shall be manufactured by an approved NYSDOT facility.

C. Precast Storm Manholes: Refer to Specification Section 330561 (Concrete Manholes).

D. Frames and Grates: ASTM A536, Grade 60-40-18, ductile iron designed for A-16 (AASHTO HS20-44), structural loading. Include flat grate with small square or short-slotted drainage openings.

1. Size: For Square Frame and Grates - 24 by 24 inches minimum; for round frames and grates 22-inch diameter min grate size, unless otherwise indicated on drawings.

2. Grate Free Area: Approximately 50 percent unless otherwise indicated.

3. MH No. 1 Grate: EJ Company, V3610-4 Ductile Iron Grate, Extra Heavy Duty, or equal.

2.02. MORTAR

A. General: Portland cement mortar for use in frame adjustment, ASTM C270

1. Type M, Mortar for unit masonry

2.03. BRICK

A. General: first quality, sound, hard-burned common brick, culled of all irregular, unsound or damaged brick, ASTM C32

1. Grade MS, for frame adjustment

2. Grade SS, for pipe connections

PART 3 EXECUTION

3.01. EXAMINATION

A. Examine areas and conditions for compliance with requirements for installation tolerances and other conditions affecting performance of the Work.

B. Examine delivered materials, structures, pipes and castings for damage. Remove defective products from site.

C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.02. PREPARATION

A. Perform trenching and backfilling in accordance with Specification Section 312325.

B. Interruption of Existing Storm Drainage Service: Do not interrupt service to facilities occupied by Rockland Green or others unless permitted under the following conditions and then only after arranging to provide temporary service according to requirements indicated:

1. Notify Rockland Green no fewer than two days in advance of proposed interruption of service.

2. Do not proceed with interruption of service without the Rockland Green’s written permission.

3.03. PIPE HANDLING

A. Follow all applicable safety regulations when handling pipe.

B. During cold weather, extra care should be used in handling to avoid any type of impact to the pipe to prevent damage.

C. Each pipe shall be thoroughly examined before being laid; defective or damaged pipe shall not be used.

D. Care should be taken when moving pipes

1. Avoid dragging or striking the pipe against another pipe or object.

2. Avoid dragging the pipe across the ground.

3. Do not drive over the pipe prior to installation.

E. In staging pipe along a trench, place pipe as near to the trench as possible to avoid excessive handling. Where practicable, stage pipe on opposite side of trench spoils pile, so that the pipe can be moved easily to the edge of the trench for lowering into position.

3.04. PIPE INSTALLATION

A. General

B. General Locations and Arrangements: Drawing plans and details indicate general location and arrangement of underground storm drainage piping. Location and arrangement of piping layout take into account design considerations. Install piping as indicated, to extent practical. Where specific installation is not indicated, follow piping manufacturer's written instructions.

C. Install piping beginning at low point, true to grades and alignment indicated with unbroken continuity of invert. Place bell ends of piping facing upstream. Install gaskets, seals, sleeves, and couplings in accordance with manufacturer's written instructions for use of lubricants, cements, and other installation requirements.

D. Install manholes/catch basins for changes in direction unless fittings are indicated. Use fittings for branch connections unless direct tap into existing sewer is indicated.

E. Install proper size increasers, reducers, and couplings where different sizes or materials of pipes and fittings are connected. Reducing size of piping in direction of flow is prohibited.

F. Install gravity-flow, non-pressure drainage piping in accordance with the following:

1. Install piping pitched down in direction of flow.

2. Install in accordance with manufacturer's recommendations.

3.05. PIPE JOINT CONSTRUCTION

A. Join gravity-flow, non-pressure drainage piping in accordance with the following:

1. Join dissimilar pipe materials with non-pressure type flexible couplings.

3.06. CONNECTIONS

A. Make connections to existing piping and underground manholes.

3.07. IDENTIFICATION

A. Arrange for installation of green warning tape directly over piping and at outside edge of underground structures.

1. Use detectable warning tape over nonferrous piping and over edges of underground structures.

3.08. FIELD QUALITY CONTROL

A. Inspect interior of piping to determine whether line displacement or other damage has occurred. Inspect after approximately 24 inches of backfill is in place, and again at completion of Project.

1. Submit separate reports for each system inspection.

2. Defects requiring correction include the following:

a. Alignment: Less than full diameter of inside of pipe is visible between structures.

b. Deflection: Flexible piping with deflection that prevents passage of ball or cylinder of size not less than 95 percent of piping diameter.

c. Damage: Crushed, broken, cracked, or otherwise damaged piping.

d. Infiltration: Water leakage into piping.

e. Exfiltration: Water leakage from or around piping.

3. Replace defective piping using new materials, and repeat inspections until defects are within allowances specified.

4. Reinspect and repeat procedure until results are satisfactory.

3.09. CLEANING

A. Clean interior of piping of dirt and superfluous materials.

END OF SECTION

APPENDIX E

DRAWINGS

ABBREVIATIONS

ADJ	ADJUSTABLE
AFF	ABOVE FINISH FLOOR
AFF	ABOVE FINISHED FLOOR
ALT	ALTERNATE
ALUM	ALUMINUM
ARCH	ARCHITECT OR ARCHITECTURAL
ASB	ASBESTOS
ASPH	ASPHALT
ASSY	ASSEMBLY
B/	BOTTOM OF
B/F	BOTTOM OF FOOTING
BTW	BETWEEN
BF	BLIND FLANGE
BIT	BITUMINOUS
BLDG	BUILDING
BM	BENCH MARK/ BEAM
BMK	BENCH MARK
BV	BUTTERFLY VALVE
C_L	CENTER LINE
CB	CATCH BASIN
CC	CENTER TO CENTER
CF OR CUFF	CUBIC FEET
CFM	CUBIC FEET PER MINUTE
CFS	CUBIC FEET PER SECOND
CI	CAST IRON
CIP	CAST IRON PIPE
CIRC	CIRCLE/CIRCULAR
CJ	CONSTRUCTION JOINT
CL	CENTER LINE
CL JT	CONTROL JOINT
CLR	CLEAR/COLOR
CL2	CHLORINE
CLF	CHAIN LINK FENCE
CLG	CEILING
CMP	CORRUGATED METAL PIPE
CMU	CONCRETE MASONRY UNIT
CO	CLEANOUT
COL	COLUMN
COMB	COMBINATION
CONC	CONCRETE
COND	CONDUIT
CONN	CONNECTION
CONST	CONSTRUCTION
CONT	CONTINUOUS
COORD	COORDINATE
CORR	CORRIDOR
CPLG	COUPLING
CPVC	CHLORINATED POLYVINYL CHLORIDE
CRF	CHEMICAL RESISTANT FINISH
CS JT	CONSTRUCTION JOINT
CTR	CONTRACT
CU IN	CUBIC INCH
CU	COPPER
CV	CHECK VALVE
CY OR CU YD	CUBIC YARD
D	DISCHARGE
DET	DETAIL
DH	DECK HYDRANT
DIA, OR Ø	DIAMETER
DIAG	DIAGONAL
DIM	DIMENSION
DN	DOWN
DO	DISSOLVED OXYGEN
DWG	DRAWING
E	EAST/ELECTRICAL CONDUITS
EA	EACH
ECC	ECCENTRIC
EF	EACH FACE
EFF	EFFLUENT
EFW	EFFLUENT WATER
EJ	EXPANSION JOINT
EL	ELBOW
ELEC	ELECTRIC
EQ	EQUAL
F&C	FRAME AND COVER
F&G	FRAME AND GRATING
FC	FLUSHING CONNECTION
FD	FLOOR DRAIN
FF	FINISHED FLOOR
FG	FIBERGLASS/FINIHSED GRADE
FH	FIRE HYDRANT
FIN	FINISH
FIX	FIXTURE
FL	FLANGE
FL	FLOOR
FM	FORCE MAIN / FLOW METER
FND	FOUNDATION
FPS	FEET PER SECOND
FRP	FIBERGLASS REINFORCED PLASTIC
FST	FINAL SETTLING TANK
FT	FEET
FTG	FOOTING
G	GAS
GAL	GALLON
GALV	GALVANIZED
GC	GENERAL CONTRACTOR
GEN	GENERATOR
GI	GALVANIZED IRON
GL	GLASS
GPM	GALLONS PER MINUTE
GR	GRADE / GUARDRAIL
GS	GALVANIZED STEEL
GV	GATE VALVE
H&V	HEATING AND VENTILATING
HB	HOSE BIB
HD	HEAVY DUTY
HDPE	HIGH DENSITY POLYETHYLENE
HOR OR H	HORIZONTAL
HP	HORSEPOWER
HPT	HIGH POINT
HT	HEIGHT
HTR	HEATER
HWL	HIGH WATER LEVEL
HYD	HYDRANT
ID	INSIDE DIAMETER
IF	INSIDE FENCE
INF	INFLUENT
INSUL	INSULATION
INT	INTERIOR
INF	INFLUENT
IPS	INTERNAL PIPE SIZE
JCT	JUNCTION
JT	JOINT
K	1000 POUNDS (1 KIP)
LPT	LOW POINT
LF	LINEAR FEET
LAV	LAVATORY
LG	LENGTH/LONG
LP	LIGHT POLE
LV	LOUVER

GENERAL NOTES:

1. OBTAIN ALL NECESSARY PERMITS AND FURNISH COPIES TO THE OWNER PRIOR TO COMMENCING WORK.
2. WORK AREA SHALL BE CONFINED TO THE LIMITS OF THE RIGHT-OF-WAYS AND EASEMENTS. THE CONTRACTOR SHALL OBTAIN ANY ADDITIONAL EASEMENTS OR WORK RELEASES SHOULD THE CONTRACTOR REQUIRE ADDITIONAL AREA TO ACCOMMODATE HIS OPERATIONS.
3. THE LOCATIONS AND DEPTHS OF EXISTING UTILITIES AS SHOWN ON THE PLANS AND PROFILES ARE APPROXIMATE. OTHER UNDERGROUND UTILITIES NOT SHOWN MAY BE ENCOUNTERED. PRIOR TO THE START OF WORK, THE CONTRACTOR SHALL PERFORM TEST PITS TO VERIFY THE LOCATION AND ELEVATION OF UTILITIES AT INTERCONNECTIONS AND CROSSINGS AS SHOWN, DIRECTED OR REQUIRED. THE CONTRACTOR SHALL EXCAVATE IN ADVANCE OF THE PIPE LAYING OPERATIONS AND EXPOSE ALL EXISTING UNDERGROUND UTILITIES TO PREVENT DAMAGE DURING DURING CONSTRUCTION AND TO DETERMINE REQUIRED CHANGES DURING GRADE NECESSARY TO INSTALL THE NEW UTILITY TO AVOID CONFLICT.
4. NOTIFY THE OWNER OF ANY UTILITY POLE IN ADVANCE OF ANY EXCAVATION WORK THAT WILL TAKE PLACE WITHIN 5' OF THE UTILITY POLE. THE CONTRACTOR SHALL INCLUDE THE COST OF TEMPORARY POLE SUPPORT IN THE APPROPRIATE BID ITEM. WHERE UTILITY POLES ARE REQUIRED TO BE SUPPORTED DURING CONSTRUCTION, THE CONTRACTOR SHALL MAKE ALL NECESSARY ARRANGEMENTS WITH THE UTILITY COMPANY.
5. EXISTING PIPING AND FACILITIES SHOWN LIGHT. NEW PIPING AND FACILITIES SHOWN DARK. SOME ITEMS TO BE DEMOLISHED ARE SPECIFICALLY LABELED ON THESE DRAWINGS.
6. VERIFY ALL EXISTING STRUCTURE AND PIPING ELEVATION, LOCATION, SIZE AND TYPE OF MATERIAL WITH NEW PIPING PRIOR TO CONSTRUCTION. IF DISCREPANCIES ARISE BETWEEN THESE CONTRACT DRAWINGS AND ACTUAL FIELD CONDITIONS, THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY IN WRITING.
7. PROVIDE APPROVED ADAPTERS FOR TRANSITIONS BETWEEN DIFFERENT PIPE MATERIALS.
8. ALL AREAS DISTURBED DURING CONSTRUCTION SHALL BE RESTORED TO A CONDITION EQUAL TO THAT WHICH EXISTED PRIOR TO CONSTRUCTION IN ACCORDANCE WITH SPECIFICATIONS.
9. SUPPLY ALL BENDS REQUIRED TO MAINTAIN SMOOTH FLOW LINES, CHANGES IN ELEVATION AND TO MEET ALL TRANSITIONS. USE 45 DEGREE BENDS OR LESS UNLESS OTHERWISE APPROVED BY THE ENGINEER.
10. PROVIDE POSITIVE SITE DRAINAGE DURING CONSTRUCTION OPERATIONS. ALL FINAL LINES AND GRADES SHALL BE CONSTRUCTED TO MAINTAIN POSITIVE SITE DRAINAGE TO EXISTING DRAINAGE STRUCTURES.
11. ALL PAVEMENT SHALL BE SAW CUT PRIOR TO RESTORATION.
12. LEGEND REPRESENTS STANDARD LINE TYPES AND HATCHING UNLESS INDICATED ON SPECIFIC DRAWINGS.
13. COORDINATE STAGING AREAS WITH OWNER.
14. IT IS CONTRACTOR'S RESPONSIBILITY TO REVIEW THE SCOPE OF WORK IN THE FIELD, REVIEW THESE CONTRACT DRAWINGS, ALL PREVIOUS CONSTRUCTION DRAWINGS & DOCUMENTS AND THE DEVELOPMENT SPECIFICATIONS, THE EXISTING FACILITY PLANS, AND DEMOLISH ALL ITEMS NECESSARY TO ACCOMMODATE THE PROPOSED WORK. ALSO THE CONTRACTOR SHALL REPAIR ALL SURFACES AND PLUG ABANDONED PENETRATIONS UPON REMOVAL OF THE DEMOLISHED ITEMS PER THE SPECIFICATIONS.
15. ELEVATIONS ARE ASSUMED TO REFER TO NGVD 1929 DATUM.
16. THE ABBREVIATIONS HEREIN ARE STANDARD OF THIS OFFICE AND APPLY TO A VARIETY OF PROJECTS. ONLY A PORTION OF THEM WILL NECESSARILY APPLY TO ANY GIVEN PROJECT. SEE THE LISTINGS IN OTHER SECTIONS OF THIS PROJECT FOR ADDITIONAL SYMBOLS AND ABBREVIATIONS.
17. VISIT AND EXAMINE THE SITE TO FULLY UNDERSTAND ALL THE CONDITIONS PERTAINING TO THE SCOPE OF WORK, UNDERSTAND DIFFICULTIES TO BE ENCOUNTERED AND MATERIALS REQUIRED FOR THE COMPLETE INSTALLATION OF THE WORK SHOWN ON THE DRAWINGS AND OR SPECIFIED AT NO ADDITIONAL COST TO THE OWNER. THE EXACT LOCATION OF THE EXISTING PIPING, SHALL BE FIELD VERIFIED.
18. TAKE ALL NECESSARY PRECAUTIONS AND MAKE ALL NECESSARY PROVISIONS FOR PROTECTION OF THE PUBLIC, THE WORKMEN AND THE WORK, AND FOR MAINTENANCE AND PROTECTION OF PEDESTRIAN AND VEHICULAR TRAFFIC AS REQUIRED BY THE AGENCIES OF GOVERNMENT HAVING JURISDICTION.
19. ADHERE TO ALL OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA), STATE AND LOCAL SAFETY REGULATIONS.
20. PROMPTLY REPORT TO THE OWNER'S REPRESENTATIVE ANY DISCREPANCIES FOUND ON THE SITE OR IN THE CONTRACT DOCUMENTS FOR REVIEW AND RESOLUTION BEFORE PROCEEDING WITH THE WORK IN THE AREA IN QUESTION. PROVIDE FIELD INFORMATION SPECIFIC TO THE DISCREPANCY TO EXPEDITE RESOLUTION.
21. LOCATE, PROTECT, AND MAINTAIN BENCHMARKS, MONUMENTS, CONTROL POINTS AND PROJECT ENGINEERING REFERENCE POINTS.
22. TAKE ALL PRECAUTIONS NECESSARY TO PREVENT EROSION AND CONTROL SEDIMENTATION AS REQUIRED BY THE AGENCIES OF GOVERNMENT HAVING JURISDICTION.
23. PROVIDE DEWATERING AND MAINTENANCE OF SURFACE WATER AND/OR GROUNDWATER ENCOUNTERED DURING THE COURSE OF WORK.
24. COMPLY WITH ALL LOCAL, STATE AND FEDERAL REQUIREMENTS REGARDING MATERIALS, METHODS OF WORK AND DISPOSAL OF EXCESS AND WASTE MATERIALS.
25. BURNING OF MATERIALS OF ANY DESCRIPTION IS PROHIBITED.
26. PRIOR TO PERFORMING ANY EXCAVATION WITHIN THE CONSTRUCTION AREA, CONFIRM WITH DIG SAFELY NEW YORK THAT ALL EXISTING UNDERGROUND UTILITY LOCATIONS ARE CURRENTLY VERIFIED, OR ARRANGE FOR VERIFICATION.
27. PRIOR TO START OF WORK , THE CONTRACTOR SHALL PROVIDE EXPLORATORY EXCAVATIONS AND COORDINATE ALL PIPING LAYOUTS WITH THE OWNER'S REPRESENTATIVE TO ELIMINATE ALL CONFLICTS WITH EXISTING UTILITIES.
28. THE USE OF EXPLOSIVES OF ANY DESCRIPTION IS PROHIBITED.
29. CONSTRUCTION DEBRIS AND DEMOLISHED MATERIALS SHALL BE REMOVED FROM THE SITE AT REGULAR INTERVALS AND SHALL NOT BE ALLOWED TO ACCUMULATE. EMPLOY APPROPRIATE MEASURES TO PREVENT LOOSE DEBRIS FROM LEAVING THE CONSTRUCTION AREA.
30. THE CONTRACTOR IS RESPONSIBLE FOR ALL DAMAGE CAUSED BY CONSTRUCTION TO EXISTING UTILITIES AND FACILITIES WHICH ARE NOT INCLUDED AS PART OF THE INTENDED WORK. THE CONTRACTOR SHALL REPAIR, RESTORE AND/OR REPLACE ALL DAMAGE TO THE SATISFACTION OF UTILITY'S REPRESENTATIVE AT NO ADDITIONAL COST TO THE OWNER.
31. RESTORE ALL DISTURBED SURFACES TO ORIGINAL OR BETTER CONDITION INCLUDING 6 INCHES OF TOPSOIL, SEED, FERTILIZER, AND MULCH. OTHER SURFACES SHALL BE RESTORED AS SHOWN ON THE DETAILS.
32. PERFORM WORK AND PROVIDE ALL MATERIALS NECESSARY TO DISCONNECT OR RELOCATE EXISTING UTILITIES. COORDINATE WITH THE RESPECTIVE UTILITY COMPANIES FOR SHUTOFF AND RECONNECTION OF ACTIVE SERVICES. RECORD EXISTING UTILITY TERMINATION POINTS BEFORE DISCONNECTION.
33. ADJUST THE RIM ELEVATIONS OF EXISTING UTILITY STRUCTURES SCHEDULED TO REMAIN WITH THE FINISHED GRADE ELEVATIONS.
34. MAINTAIN EXISTING SANITARY SEWER AND WATER SERVICES AT ALL TIMES, EXCEPT DURING OWNER APPROVED AND SCHEDULED INTERRUPTIONS. THE CONTRACTOR SHALL SUBMIT A PROPOSED WORK SCHEDULE AND A DETAILED SANITARY SEWER BY-PASS PROCEDURE TO THE OWNER AND ENGINEER FOR APPROVAL. THE CONTRACTOR SHALL RESTORE GRAVITY SANITARY SEWER SERVICE AT THE END OF EACH WORK DAY. SHOULD THIS NOT BE POSSIBLE, PROVIDE AND MAINTAIN TEMPORARY BY-PASS PUMPING OPERATIONS UNTIL NORMAL GRAVITY FLOWS CAN BE RE-ESTABLISHED AT NO ADDITIONAL COST TO THE OWNER.
35. ALL STRUCTURES SHALL MEET AASHTO H20 MIN. LOADING REQUIREMENTS OR AS INDICATED ON THE DRAWINGS.
36. ALL NEW LATERALS SHALL BE INSTALLED WITH A MINIMUM 1/4" PER FOOT SLOPE.
37. ALL EXISTING DRAINAGE FACILITIES SHALL BE MAINTAINED FREE OF DEBRIS AND FOREIGN MATTER AND BE IN OPERATION THROUGHOUT CONSTRUCTION.
38. ALL WORK SHALL BE CONDUCTED WITHIN THE CURRENT EASEMENT.
39. FIELD VERIFY ALL INVERTS, PIPE LOCATIONS, ETC. PRIOR TO CONSTRUCTION.
40. CONTRACTOR SHALL COMPLY WITH ALL LOCAL NOISE ORDINANCES.
41. SITES SHALL BE REHABILITATED TO A CONDITION EQUAL TO OR BETTER THAN EXISTING.

EXISTING CONDITIONS LEGEND:

589.00'	MEASURED DIMENSION
S54°54'39"E	TRUE NORTH BEARING
	BASELINE POINT
	BENCH MARK
OU	OVERHEAD UTILITIES
SAN	SANITARY SEWER LINE
ST	STORM DRAINAGE LINE
UU	UNDERGROUND UTILITY LINE (RED PAINT)
	CONIFEROUS TREE ROW
	PLANTINGS
	HAND RAIL
	W-BEAM GUIDERAIL
	DITCH LINE
	FENCE LINE (AS NOTED)
	RETAINING WALL (AS NOTED)
	GRAVEL OUTLINE
	BUILDING OVERHANG
	TRENCH DRAIN
	BASELINE TIE
	BUSH DECIDUOUS
	UTILITY POLE W/LIGHT
	UTILITY POLE
	GUY WIRE
	GUY WIRE (ANCHOR ONLY)
E	ELECTRIC (AS NOTED)
	GAS PUMP
	WATER HOSE HOOK-UP
	FIRE HYDRANT
	WATER SPICKET
	SIGN (AS NOTED)
	PIPE INVERT
CPP	CORRUGATED PLASTIC PIPE
PVC	POLYVINYL CHLORIDE PIPE
RCP	REINFORCED CONCRETE PIPE
	MISCELLANEOUS MANHOLE
S	SANITARY MANHOLE
D	STORM DRAINAGE MANHOLE
E	ELECTRIC MANHOLE
	POST (AS NOTED)
RD	ROOF DRAIN
	BOLLARD
AC	AIR CONDITIONING UNIT
	SPOT ELEVATION
69 70 71	1' CONTOUR INTERVAL

LINETYPE LEGEND:

- LIMITS OF CONSTRUCTION
- GRAVITY DRAIN
- SF — SILT FENCE
- FENCE

STRUCTURE SYMBOLS:

- MANHOLE
- STORM CATCH BASIN

MATERIAL SYMBOLS:

- EARTH
- COMPACTED GRAVEL BACKFILL
- CONCRETE
- GROUT

LIST OF DRAWINGS

	GENERAL
G-101	GENERAL NOTES, ABBREVIATIONS, AND LIST OF DRAWINGS
	CIVIL
C-100	PARTIAL SITE PLAN- EXISTING CONDITIONS
C-101	PARTIAL SITE PLAN- SURFACE REMOVALS PLAN
C-102	PARTIAL SITE PLAN- NEW
C-103	PARTIAL SITE PLAN- PAVING
C-104	NEW GRAVITY DRAIN AND OIL/ WATER SEPARATOR- PLAN AND PROFILE
C-601	DETAILS
	STRUCTURAL
S-001	GERAL NOTES AND DETAILS
S-101	SPILL PAD-PLAN SECTIONS
S-201	FABRIC BUILDING-PLAN AND SECTION

STATE OF NEW YORK · MICHAEL E. TAMBLIN · 073737 · LICENSED PROFESSIONAL ENGINEER

CLIENT / SUBCONSULTANT:

EDR a better environment

Environmental Design & Research, Landscape Architecture, Engineering & Environmental Services, D.P.C.
217 Montgomery Street, Suite 1100
Syracuse, New York 13202
P. 315.471.0688

PROJECT TITLE: **RFP No. 2026-03 FURNISH AND INSTALL NEW OIL/WATER SEPARATOR**

PROJECT LOCATION: **CLARKSTOWN TRANSFER STATION, WEST NYACK, NY**

CLIENT: **ROCKLAND GREEN**

DRAWING TITLE: **GENERAL NOTES, ABBREVIATIONS, AND LIST OF DRAWINGS**

DRAWINGS ISSUED FOR / REVISIONS

NO.	DATE	ISSUED FOR / REVISION	BY	CHK	APP
1	5/12/26	FOR CONSTRUCTION	KAD	JHH	MET
2					
3					
4					
5					
6					

EDR JOB#: **20098**
DATE: **02/2026**
SCALE: **AS NOTED**
DRAWN BY: **KAD**
CHECKED BY: **JHH**
DRAWING NUMBER: **G-101**

ORIGINAL DRAWING SIZE: ANSI D (22" X 34")

MONITOR WELL – 5244
TOP 67.58
N RIM 67.7
N GROUND 66.8
N CASING 67.0

MONITOR WELL– 5243
TOP 67.06
N GROUND 67.1
S GROUND 67.0

PARTIAL SITE PLAN
SCALE: 1" = 20'

SCALE 1"=20' AT ORIGINAL SIZE

STATE OF NEW YORK MICHAELE TAUNTON 073737 LICENSED PROFESSIONAL ENGINEER

CLIENT / SUBCONSULTANT:

EDR a better environment
Environmental Design & Research,
Landscape Architecture, Engineering & Environmental Services, D.P.C.
217 Montgomery Street, Suite 1100
Syracuse, New York 13202
P. 315.471.0688

PROJECT TITLE: **RFP No. 2026-03**
FURNISH AND INSTALL NEW OIL/WATER SEPARATOR

PROJECT LOCATION: **CLARKSTOWN TRANSFER STATION, WEST NYACK, NY**

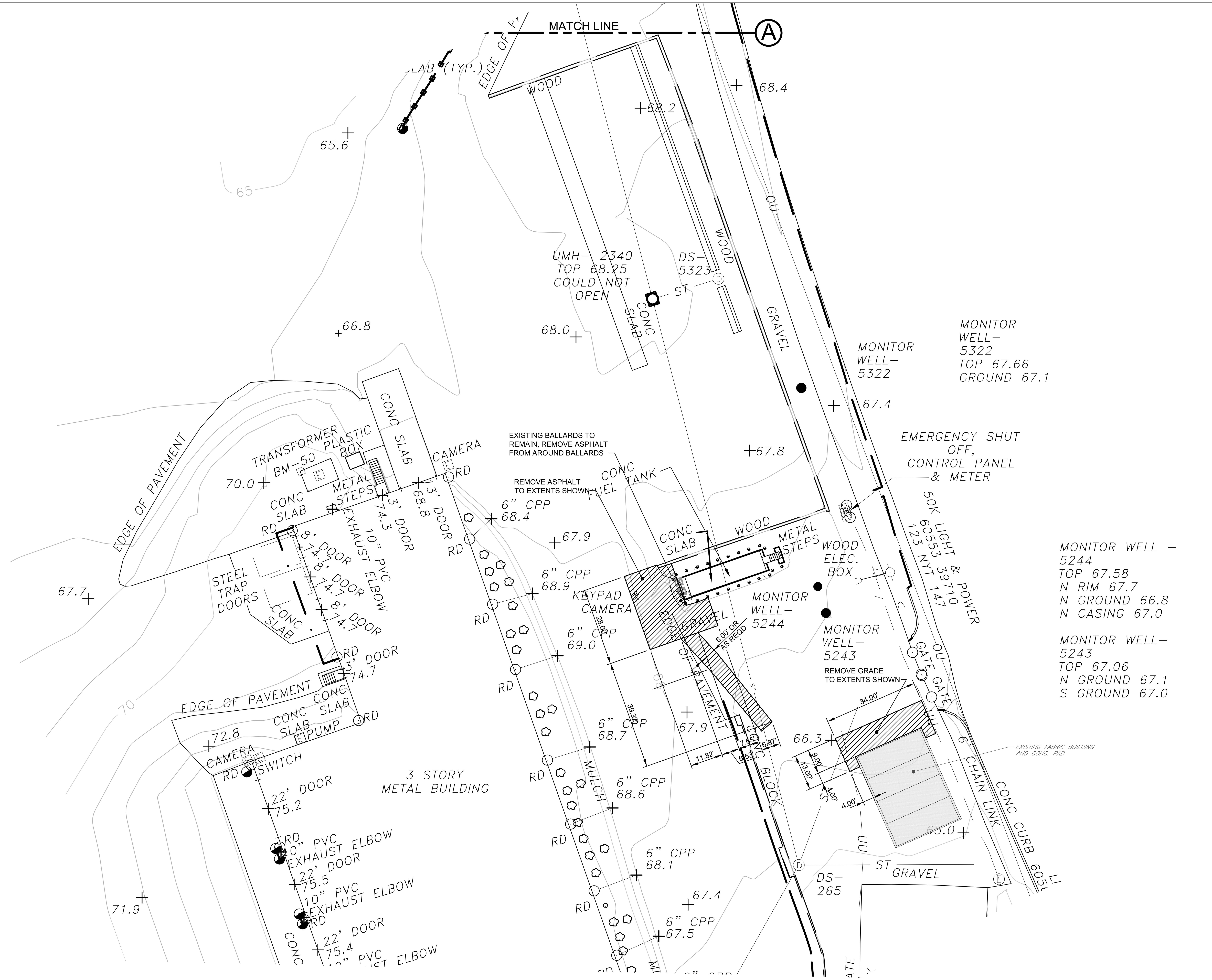
CLIENT: **ROCKLAND GREEN**

DRAWING TITLE: **PARTIAL SITE PLAN**
EXISTING CONDITIONS

DRAWINGS ISSUED FOR / REVISIONS

NO.	DATE	ISSUED FOR / REVISION	BY	CHK	APP
1	5/12/26	FOR CONSTRUCTION	KAD	JHH	MET
2					
3					
4					
5					
6					

EDR JOB#: **20098**
DATE: **05/2024**
SCALE: **AS NOTED**
DRAWN BY: **KAD**
CHECKED BY: **MSD**
DRAWING NUMBER:
C-100



PARTIAL SITE PLAN - DEMO

SCALE: 1" = 20'

NOTES:

1. THIS DRAWING HAS BEEN PREPARED TO PROVIDE THE CONTRACTOR WITH A GENERAL SCOPE OF DEMOLITION WORK TO BE REQUIRED. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY ALL ITEMS THAT MAY EFFECT DEMOLITION COSTS INCLUDING BUT NOT LIMITED TO EXACT EQUIPMENT AND PIPING LOCATIONS, ACTUAL EQUIPMENT AND PIPING SIZES, AND ALL INCIDENTAL EQUIPMENT OR PIPING NOT SHOWN BUT PART OF THE EQUIPMENT INDICATED TO BE REMOVED OR EFFECT REMOVAL PROCESS.
2. ALL ITEMS SHOWN TO BE DEMOLISHED. CONTRACTOR SHALL COORDINATE WITH OWNER AS TO MATERIALS / ITEMS TO BE REMOVED, OR MATERIALS / ITEMS TO BE RETURNED TO OWNER.
3. THERE ARE OTHER ITEMS TO BE DEMOLISHED WHICH ARE NOT SHOWN FOR CLARITY. HOWEVER, CONTRACTOR SHALL DEMOLISH ALL ITEMS TO ACCOMMODATE NEW WORK.
4. ALL DEBRIS SHALL BE REMOVED FROM THE SITE AND DISPOSED OF IN ACCORDANCE WITH APPLICABLE REGULATIONS.

LEGEND:

ITEMS TO BE REMOVED

0 10 20 30 40'

SCALE 1"=20' AT ORIGINAL SIZE

STATE OF NEW YORK · LICENSED PROFESSIONAL ENGINEER · 073737

CLIENT / SUBCONSULTANT:

EDR
a better environment
Environmental Design & Research,
Landscape Architecture, Engineering & Environmental Services, D.P.C.
217 Montgomery Street, Suite 1100
Syracuse, New York 13202
P. 315.471.0688

PROJECT TITLE: **RFP No. 2026-03**
FURNISH AND INSTALL NEW OIL/WATER SEPARATOR

PROJECT LOCATION: CLARKSTOWN TRANSFER STATION, WEST NYACK, NY

CLIENT: **ROCKLAND GREEN**

DRAWING TITLE: **PARTIAL SITE PLAN**
SURFACE REMOVALS PLAN

DRAWINGS ISSUED FOR / REVISIONS

NO.	DATE	ISSUED FOR / REVISION	BY	CHK	APP
1	5/12/26	FOR CONSTRUCTION	KAD	JHH	MET
2					
3					
4					
5					
6					

EDR JOB#: 20098
DATE: 02/2026
SCALE: AS NOTED
DRAWN BY: KAD
CHECKED BY: MSD
DRAWING NUMBER:

C-101

1 - EXTERIOR EQUIPMENT PAD DETAIL

NO SCALE

LEGEND:

- NEW CONCRETE PAD/APRON
- NEW PIPE

PARTIAL SITE PLAN

SCALE: 1" = 20'

0 10 20 30 40'

SCALE 1"=20' AT ORIGINAL SIZE

Date Printed: 5/7/2026 9:39:43 AM

J:\20098 Rockland Green\CadWorking Drawings\West Nyack\Oil Water Separator\Drawings\Civil\20098_C-100 Series.dwg

ORIGINAL DRAWING SIZE: ANSI D (22" X 34")

STATE OF NEW YORK — MICHAEL TANNER — 073732 — LICENSED PROFESSIONAL ENGINEER

CLIENT / SUBCONSULTANT:

EDR a better environment

Environmental Design & Research,

Landscape Architecture, Engineering & Environmental Services, D.P.C.
217 Montgomery Street, Suite 1100
Syracuse, New York 13202
P. 315.471.0688

PROJECT TITLE: **RFP No. 2026-03**
FURNISH AND INSTALL NEW OIL/WATER SEPARATOR

PROJECT LOCATION: **CLARKSTOWN TRANSFER STATION, WEST NYACK, NY**

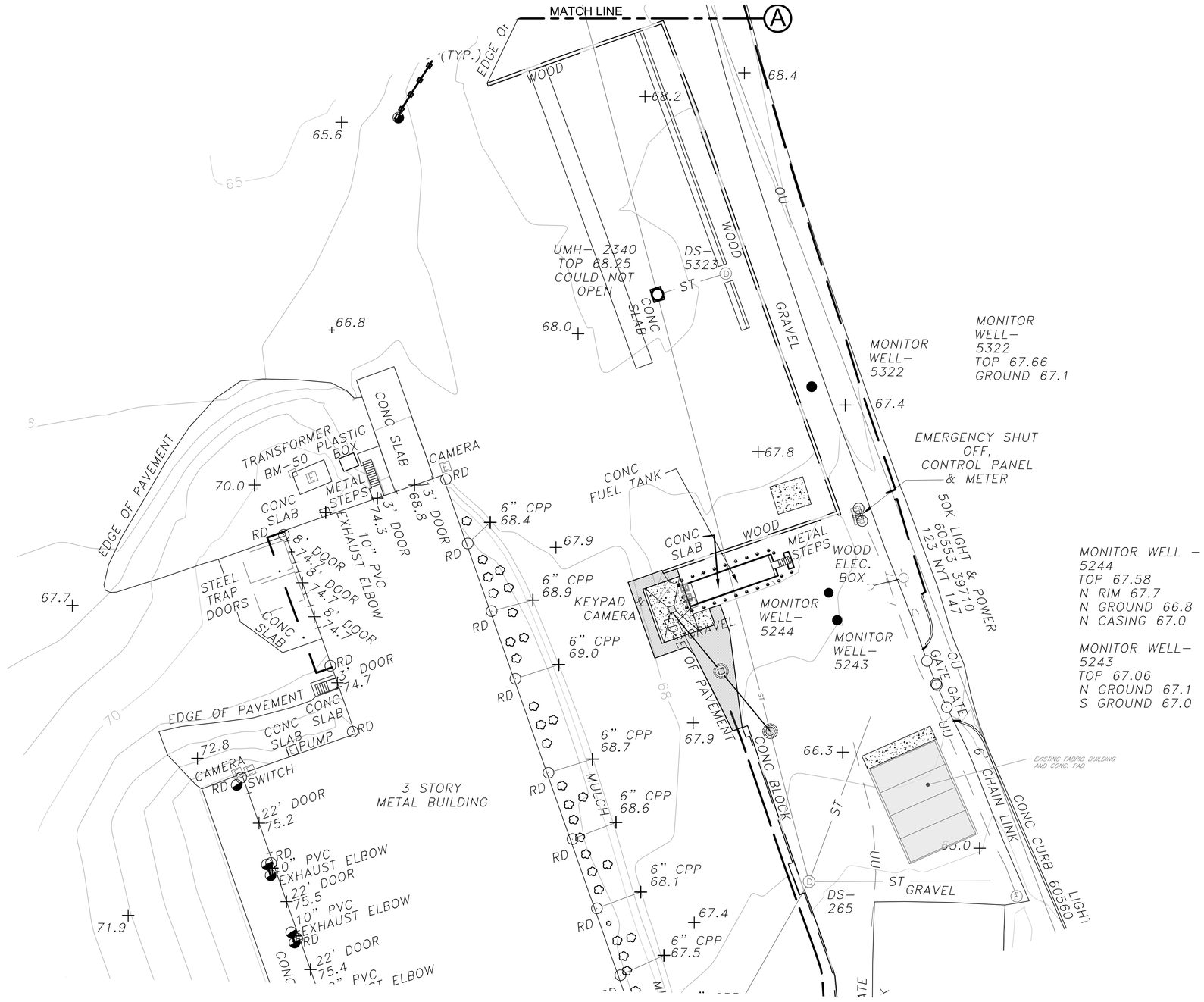
CLIENT: **ROCKLAND GREEN**

DRAWING TITLE: **PARTIAL SITE PLAN**
NEW

DRAWINGS ISSUED FOR / REVISIONS

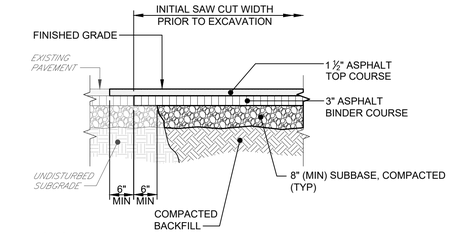
NO.	DATE	ISSUED FOR / REVISION	BY	CHK	APP
1	5/12/26	FOR CONSTRUCTION	KAD	JHH	MET
2					
3					
4					
5					
6					

EDR JOB#: **20098**
DATE: **05/2024**
SCALE: **AS NOTED**
DRAWN BY: **KAD**
CHECKED BY: **MSD**
DRAWING NUMBER:
C-102



PARTIAL SITE PLAN

SCALE: 1" = 20'

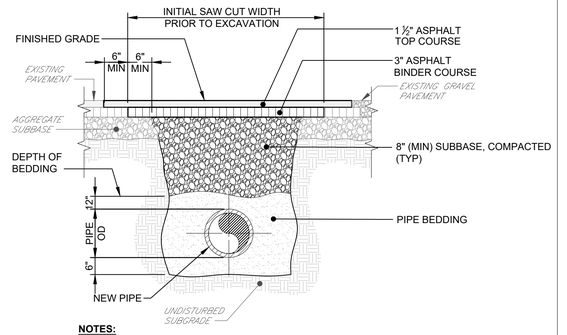


NOTES:

1. EXISTING PAVEMENT SHALL BE SAW CUT TO OBTAIN A STRAIGHT AND NEAT EDGE FOR PAVING. SAW CUT SHALL BE MADE PRIOR TO PAVING AFTER BACKFILL OF TRENCH TO BOTTOM OF NEW PAVEMENT.
2. ALL SEAMS BETWEEN EXISTING AND NEW ASPHALT SURFACES SHALL BE SEALED WITH ASPHALT FILLER.
3. BOTTOM OF ASPHALT OR CONCRETE COURSE SHALL MATCH THE BOTTOM OF OR BE SET BELOW BOTTOM OF EXISTING PAVEMENT BOTTOM COURSE.

PAVEMENT RESTORATION

Scale: NTS



NOTES:

1. EXISTING PAVEMENT SHALL BE SAW CUT TO OBTAIN A STRAIGHT AND NEAT EDGE FOR PAVING. SAW CUT SHALL BE MADE PRIOR TO PAVING AFTER BACKFILL OF TRENCH TO BOTTOM OF NEW PAVEMENT.
2. ALL SEAMS BETWEEN EXISTING AND NEW ASPHALT SURFACES SHALL BE SEALED WITH ASPHALT FILLER.
3. BOTTOM OF ASPHALT OR CONCRETE COURSE SHALL MATCH THE BOTTOM OF OR BE SET BELOW BOTTOM OF EXISTING PAVEMENT BOTTOM COURSE.
4. REFER TO SPECIFICATION SECTION 31 2325 FOR BACKFILL MATERIAL SPECIFICATIONS

PAVEMENT RESTORATION OVER TRENCH

Scale: NTS

LEGEND:

- NEW PAVING
- NEW CONCRETE PAD/APRON
- NEW PIPE

0 10 20 30 40'

SCALE 1"=20' AT ORIGINAL SIZE

STATE OF NEW YORK · MICHAEL E. TAUBE · 073757 · LICENSED PROFESSIONAL ENGINEER

CLIENT / SUBCONSULTANT:

EDR a better environment

Environmental Design & Research,
Landscape Architecture, Engineering & Environmental Services, D.P.C.
217 Montgomery Street, Suite 1100
Syracuse, New York 13202
P. 315.471.0688

PROJECT TITLE: **RFP No. 2026-03**
FURNISH AND INSTALL NEW OIL/WATER SEPARATOR

PROJECT LOCATION: **CLARKSTOWN TRANSFER STATION, WEST NYACK, NY**

CLIENT: **ROCKLAND GREEN**

DRAWING TITLE: **PARTIAL SITE PLAN**
PAVING

DRAWINGS ISSUED FOR / REVISIONS

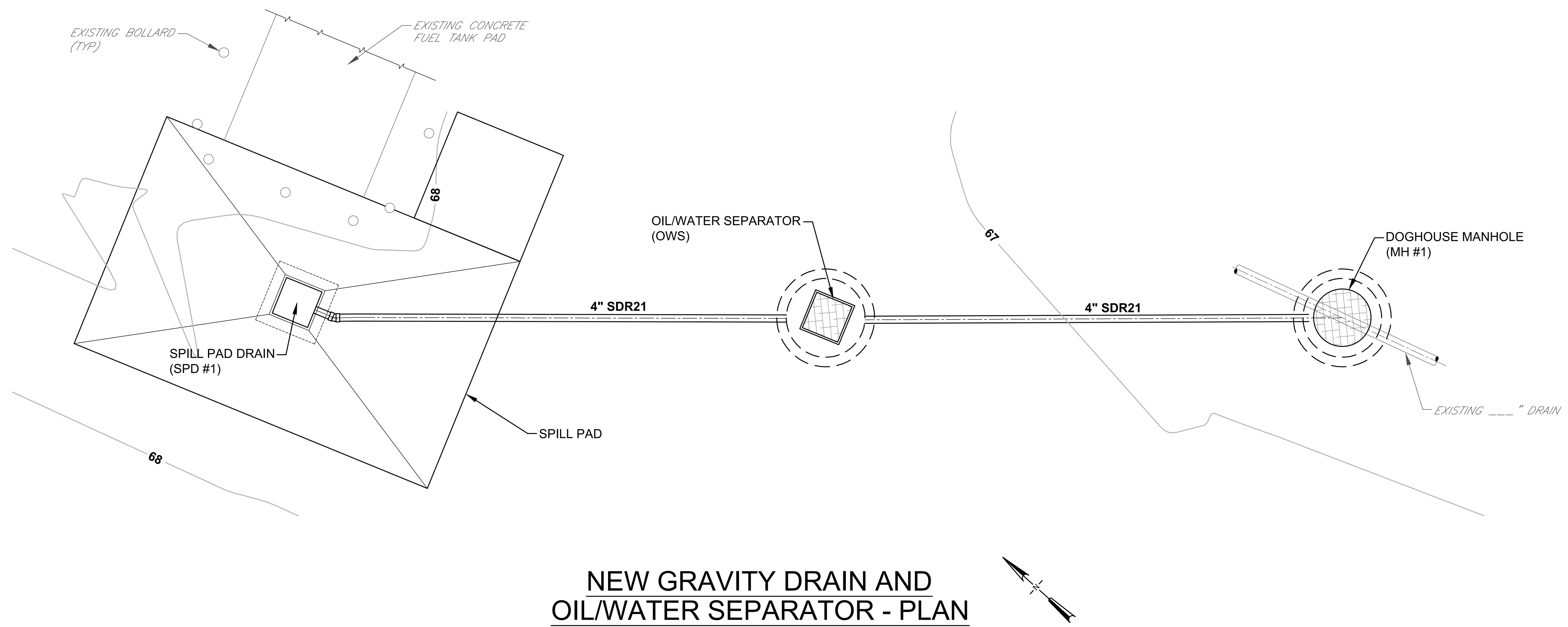
NO.	DATE	ISSUED FOR / REVISION	BY	CHK	APP
1	5/12/26	FOR CONSTRUCTION	KAD	JHH	MET
2					
3					
4					
5					
6					

EDR JOB#: **20098**
DATE: **05/2024**
SCALE: **AS NOTED**
DRAWN BY: **KAD**
CHECKED BY: **MSD**
DRAWING NUMBER: **C-103**

Date Printed: 5/7/2026 9:39:11 AM

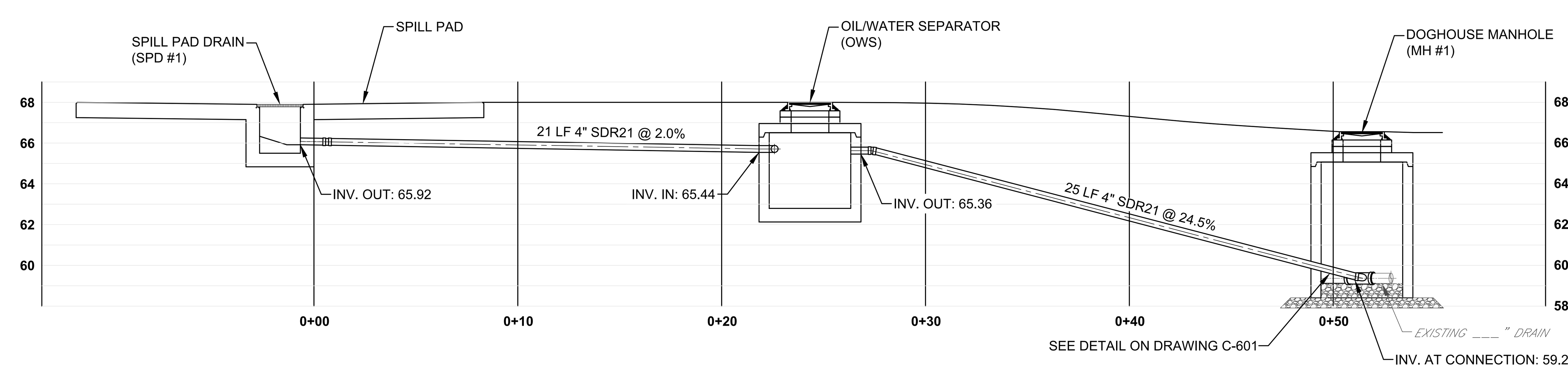
J:\20098 Rockland Green\CadWorking Drawings\West Nyack\Oil Water Separator\Drawings\Civil\20098_C-100 Series.dwg

ORIGINAL DRAWING SIZE: ANSI D (22" X 34")



NEW GRAVITY DRAIN AND
OIL/WATER SEPARATOR - PLAN

SCALE: 1" = 5'-0"



NEW GRAVITY DRAIN AND
OIL/WATER SEPARATOR - PROFILE

SCALE: 1" = 5'-0"

0 2.5 5 7.5 10'
SCALE 1"=5' AT ORIGINAL SIZE

STATE OF NEW YORK · MICHAEL E. TAMBLIN · 073737 · LICENSED PROFESSIONAL ENGINEER

CLIENT / SUBCONSULTANT:

EDR
a better environment

Environmental Design & Research,
Landscape Architecture, Engineering & Environmental Services, D.P.C.
217 Montgomery Street, Suite 1100
Syracuse, New York 13202
P. 315.471.0688

PROJECT TITLE: **RFP No. 2026-03 FURNISH AND INSTALL NEW OIL/WATER SEPARATOR**

PROJECT LOCATION: **CLARKSTOWN TRANSFER STATION, WEST NYACK, NY**

CLIENT: **ROCKLAND GREEN**

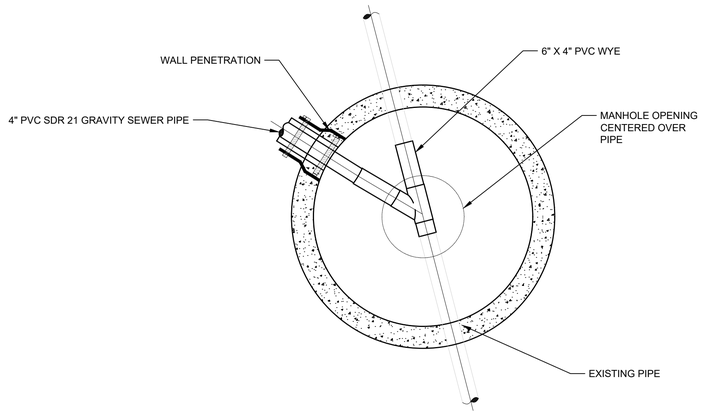
DRAWING TITLE: **NEW GRAVITY DRAIN AND OIL/WATER SEPARATOR PLAN AND PROFILE**

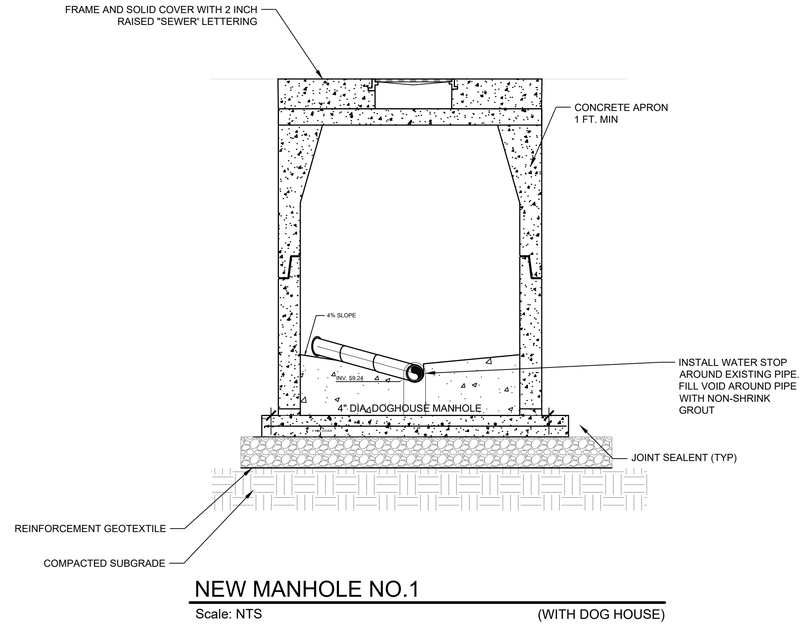
DRAWINGS ISSUED FOR / REVISIONS

NO.	DATE	ISSUED FOR / REVISION	BY	CHK	APP
1	5/12/26	FOR CONSTRUCTION	KAD	JHH	MET
2					
3					
4					
5					
6					

EDR JOB#: **20098**
DATE: **05/2024**
SCALE: **AS NOTED**
DRAWN BY: **KAD**
CHECKED BY: **MSD**
DRAWING NUMBER:

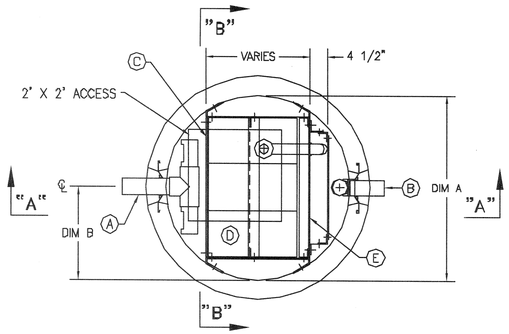
C-104



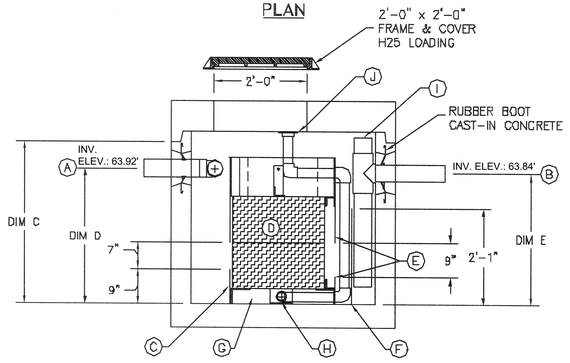


NEW MANHOLE NO.1

Scale: NTS (WITH DOG HOUSE)



PLAN



SECTION "A-A"

Key	Qty	Description
A	1	4"ø INLET, PIPE STUB (PVC)
B	1	4"ø OUTLET, PIPE STUB (PVC)
C	1	INLET BAFFLE (FRP)
D	1	COALESCING MEDIA
E	1	OIL RETENTION BAFFLE (FRP)
F	1	WEIR WALL
G	1	SOLIDS COLLECTION ZONE
H	1	2"ø SLUDGE DRAW OFF
I	1	4"ø T-PIPE DRAW OFF
J	1	150 LBS. 2"ø FLAT FACE FLANGE

TYPE	DIM. A	DIM. B	DIM. C	DIM. D	DIM E.
20 G.P.M.	48"Ø	2'-0"	3'-6"	2'-11"	2'-10"
*200 G.P.M. UNIT REQUIRES 12" X 12" X 48" COALESCING MEDIA, (ALL OTHERS TYPES REQUIRES 12" X 12" X 24")					

NOTES:

1. OIL/WATER SEPARATOR SHALL BE A CONCRETE VERTICAL PLATE SEPARATOR AS SUPPLIED BY BINGHAMTON PRECAST &SUPPLY, BINGHAMTON, NY, OR APPROVED EQUAL.
2. VERTICAL PERFORATED PLATES SHALL BE POLYPROPYLENE CAPABLE OF CAPTURING 20 MICRON OR LARGER OIL GLOBULES AND REDUCTION OF OIL CONTENT TO 10 MG/L.
3. CONCRETE STRUCTURE, FRAME, AND MANHOLE COVER SHALL BE DESIGNED FOR H25 HIGHWAY LOADING CRITERIA. REFER TO SPECIFICATIONS FOR MANHOLE FRAME AND COVER.

CONCRETE VERTICAL PLATE SEPARATOR - OIL /WATER SEPARATOR (OWS)

Scale: NTS

STATE OF NEW YORK — MICHAELE. TAUB — 073737 — LICENSED PROFESSIONAL ENGINEER

CLIENT / SUBCONSULTANT:

EDR
a better environment
Environmental Design & Research,
Landscape Architecture, Engineering & Environmental Services, D.P.C.
217 Montgomery Street, Suite 1100
Syracuse, New York 13202
P. 315.471.0688

PROJECT TITLE: **RFP No. 2026-03**
FURNISH AND INSTALL NEW OIL/WATER SEPARATOR

PROJECT LOCATION: **CLARKSTOWN TRANSFER STATION, WEST NYACK, NY**

CLIENT: **ROCKLAND GREEN**

DRAWING TITLE: **DETAILS**
MANHOLE AND OIL/WATER SEPARATOR

DRAWINGS ISSUED FOR / REVISIONS

NO.	DATE	ISSUED FOR / REVISION	BY	CHK	APP
1	5/12/26	FOR CONSTRUCTION	KAD	JHH	MET
2					
3					
4					
5					
6					

EDR JOB#: **20098**
DATE: **05/2024**
SCALE: **AS NOTED**
DRAWN BY: **SBW**
CHECKED BY: **MSD**
DRAWING NUMBER:
C-601

GENERAL CONCRETE CONSTRUCTION NOTES

A. Reinforced concrete design follows ACI 318-14 except for liquid containment structures which are designed in accordance with ACI 350-06, "Code Requirements for Environmental Engineering Concrete Structures and Commentary."

B. Unless noted otherwise, all concrete shown is structural concrete with a 5000 psi 28-day compressive strength and Type II Portland Cement or Type IL(MS) Blended Cement. Refer to Section 03300 of specifications.

C. Reinforcement will be new Billet Steel, conforming to ASTM A-615 Grade 60, deformed.

D. Detail, fabricate and erect reinforcing bars in accordance with "Details and Detailing Concrete Reinforcement," (ACI 315R-18).

E. Unless otherwise shown, all reinforcing steel shall be provided with minimum concrete cover as follows:

Slabs on grade:	- top reinf. (interior)	1 ½"
	- top reinf. (exterior)	2"
	- bottom reinf.	3"
Foundation slab/footing	- top reinf.	2"
	- bottom reinf.	3"
Beams and columns	-	2"
Walls	-	2"

F. Lap splices and embedments for reinforcement shall follow the chart shown on this drawing unless otherwise indicated on the drawings.

G. Any revisions to joint placement, pour sequencing or reinforcing splices must be submitted to the engineer for review and approval prior to submittal of reinforcing steel shop drawings.

H. Cure concrete at a minimum temperature of 50° F for seven days, following the criteria of ACI 308.1-11.

I. Concrete surfaces shall be finished per Section 03300 of the specifications.

J. Chamfer exposed concrete edges ¾" x ¾" unless otherwise noted.

K. Equipment pad dimensions, housekeeping pad dimensions and openings for hatches, ducts and pipes must be coordinated with approved equipment shop drawings, and with the requirements shown on other drawings, this project set.

L. The contractor is responsible for maintaining stability and preventing floatation of structures during all phases of construction.

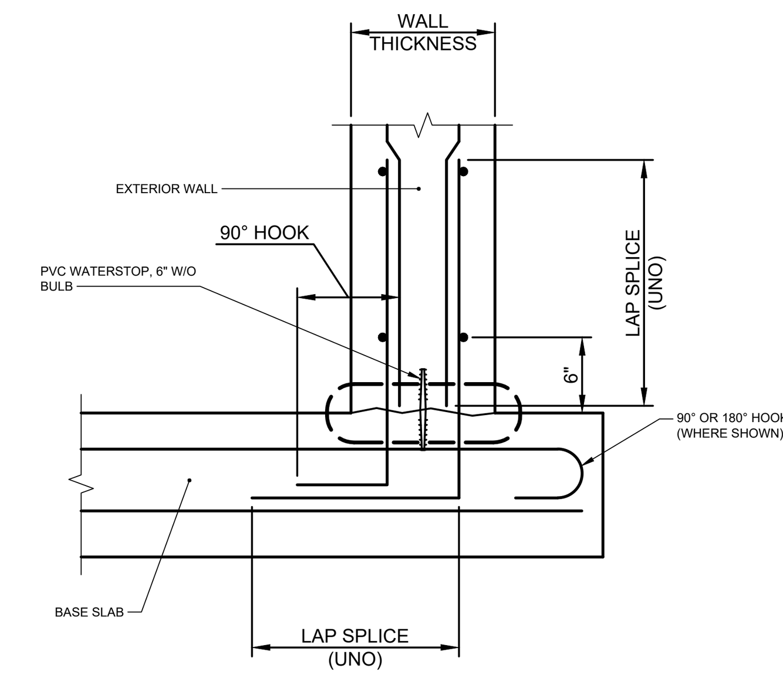
CONCRETE CONSTRUCTION NOTES

BAR SIZE	MIN LAP SPLICE LENGTH (INCHES)		MIN EMBEDMENT LENGTH (INCHES)	
	TOP BARS	OTHER BARS	TOP BARS	OTHER BARS
3	18	16	14	12
4	24	20	20	15
5	30	24	24	18
6	36	28	28	22

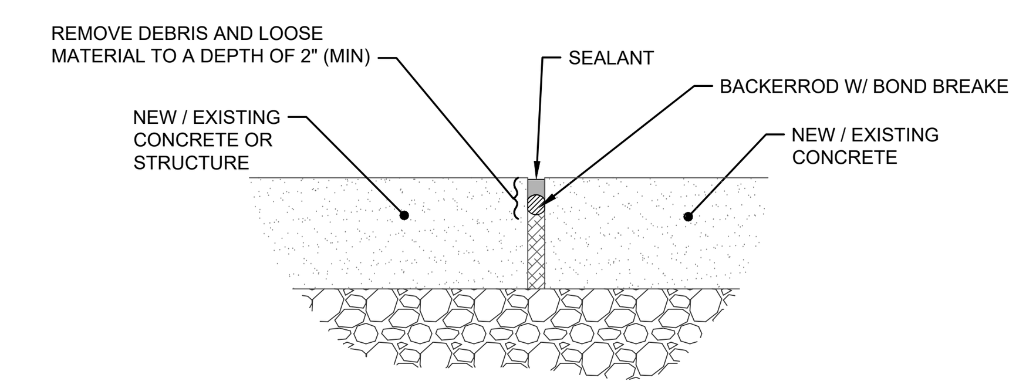
NOTES:

A. F'c = 5,000 PSI (NORMAL WEIGHT CONCRETE), F_y = 60,000 PSI.
B. TOP BARS ARE HORIZONTAL BARS WITH MORE THEN 12" DEPTH OF CONCRETE CAST BELOW THE REINFORCEMENT.
C. LAP SPLICES SHOWN ARE TENSION LAPS, CLASS B.
D. MINIMUM CLEAR COVER IS 1.5 INCHES. MINIMUM SPACING IS 4 INCHES.

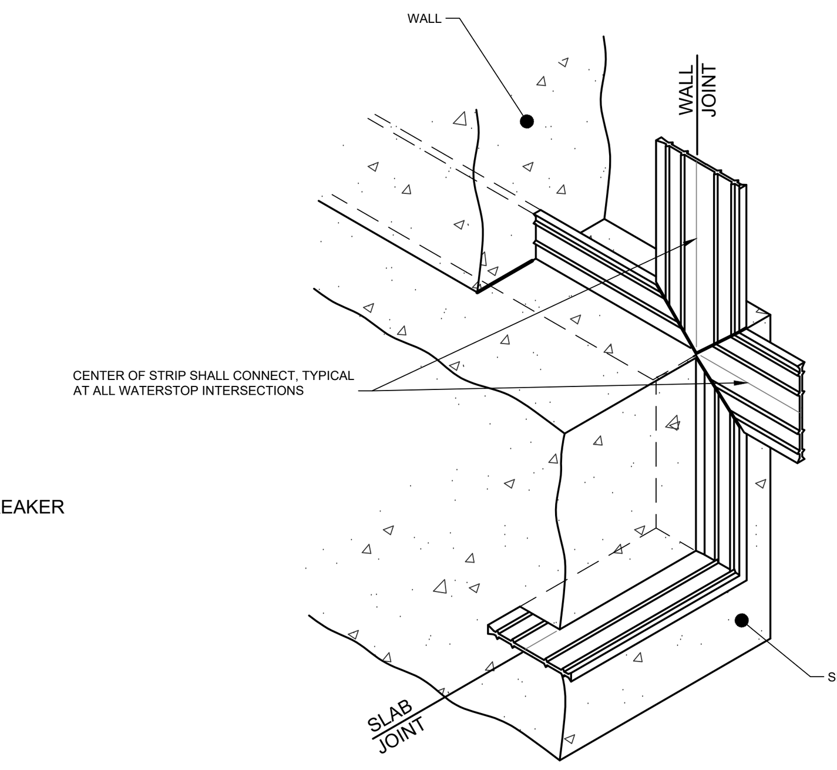
1 / - SPLICE AND EMBEDMENT CHART



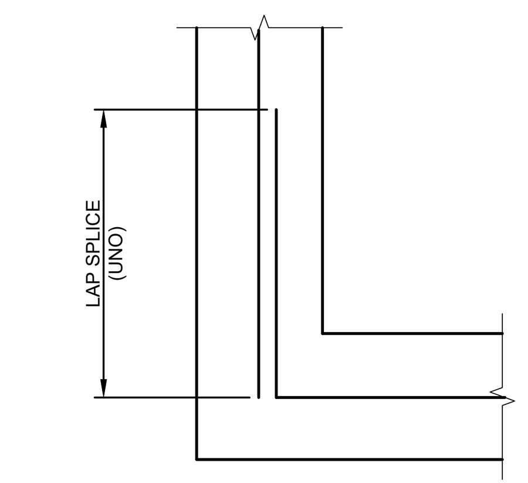
2 / - WALL / SLAB JOINT DETAIL
NO SCALE



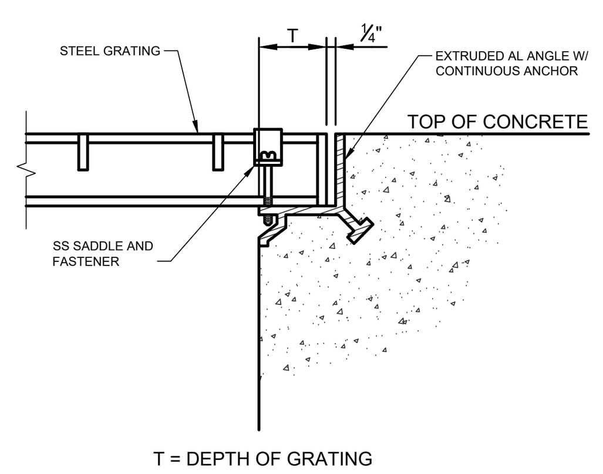
3 / - ISOLATION JOINT DETAIL
NO SCALE



4 / - WATERSTOP DETAIL
NO SCALE

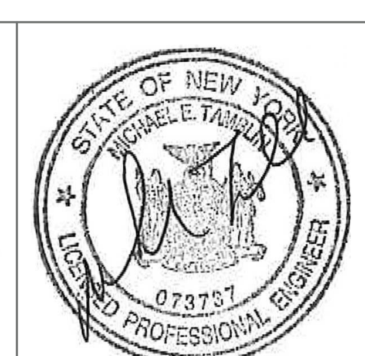


5 / - CORNER WALL REINFORCEMENT DETAIL
NO SCALE



T = DEPTH OF GRATING

6 / - EMBEDDED GRATING SUPPORT DETAIL
NO SCALE



CLIENT / SUBCONSULTANT:

EDR
a better environment
Environmental Design & Research,
Landscape Architecture, Engineering & Environmental Services, D.P.C.
217 Montgomery Street, Suite 1100
Syracuse, New York 13202
P. 315.471.0688

PROJECT TITLE: **RFP No. 2026-03**
FURNISH AND INSTALL NEW OIL/WATER SEPARATOR

PROJECT LOCATION: **CLARKSTOWN TRANSFER STATION, WEST NYACK, NY**

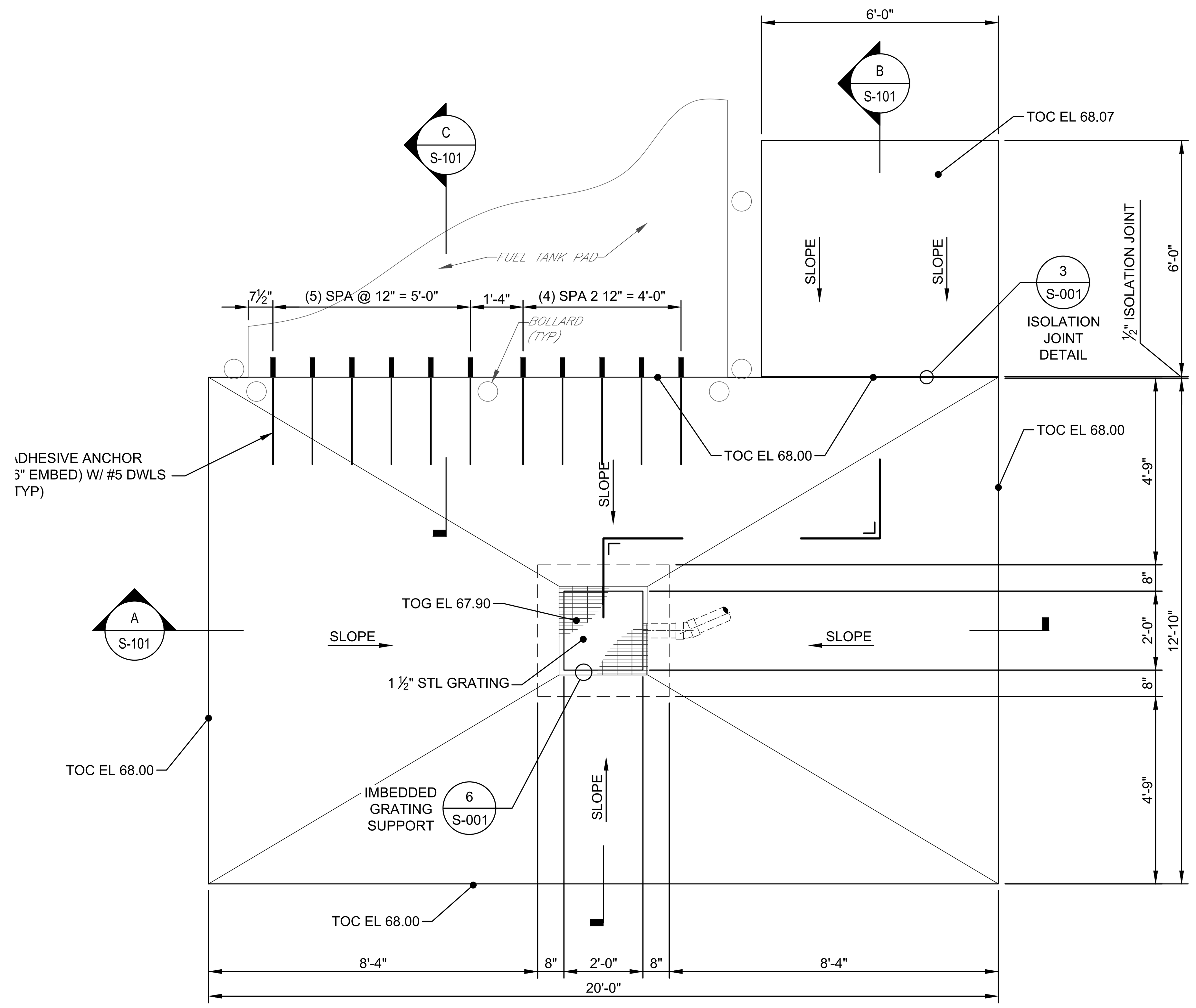
CLIENT: **ROCKLAND GREEN**

DRAWING TITLE: **TRANSFER STATION**
GENERAL NOTES AND DETAILS

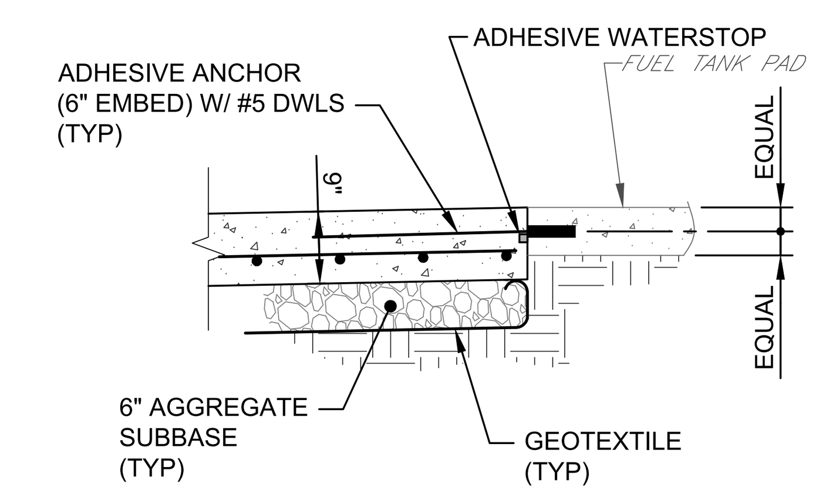
DRAWINGS ISSUED FOR / REVISIONS

NO.	DATE	ISSUED FOR / REVISION	BY	CHK	APP
1	5/12/26	FOR CONSTRUCTION	KAD	MSD	MET
2					
3					
4					
5					
6					

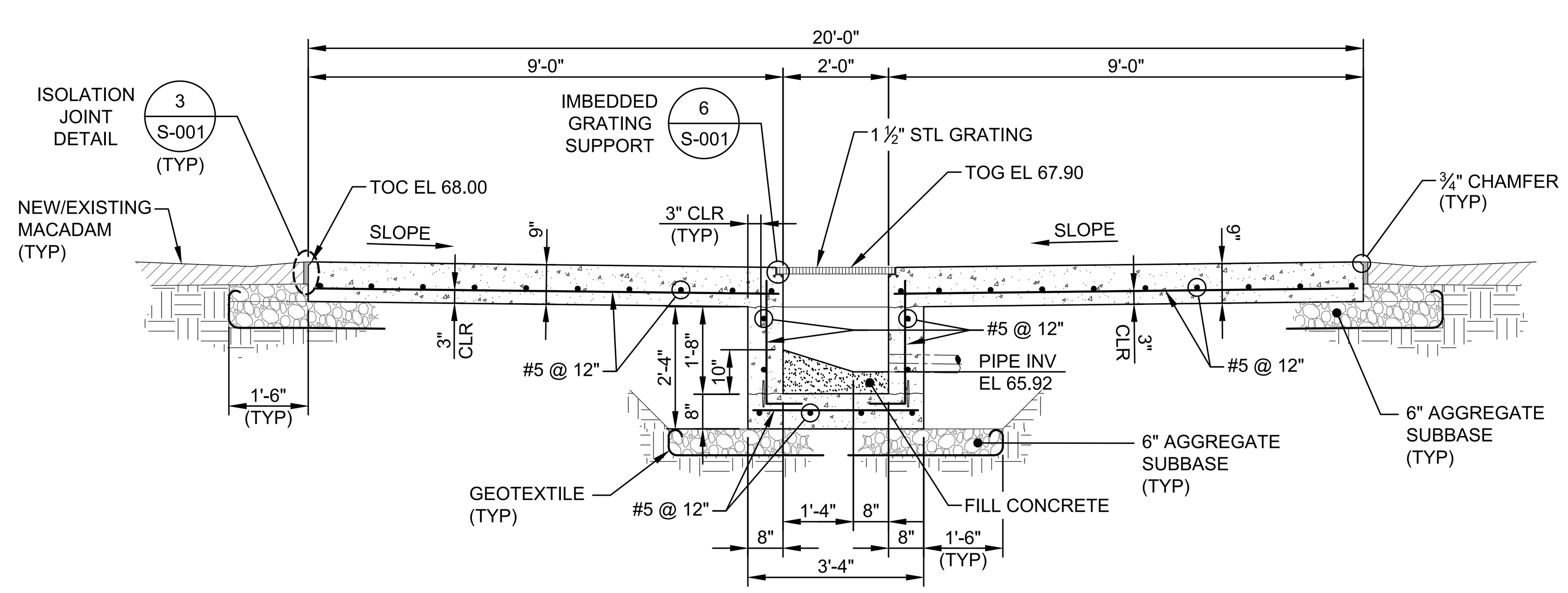
EDR JOB#: **20098**
DATE: **02/2026**
SCALE: **AS NOTED**
DRAWN BY: **KAD**
CHECKED BY: **MSD**
DRAWING NUMBER:
S-001



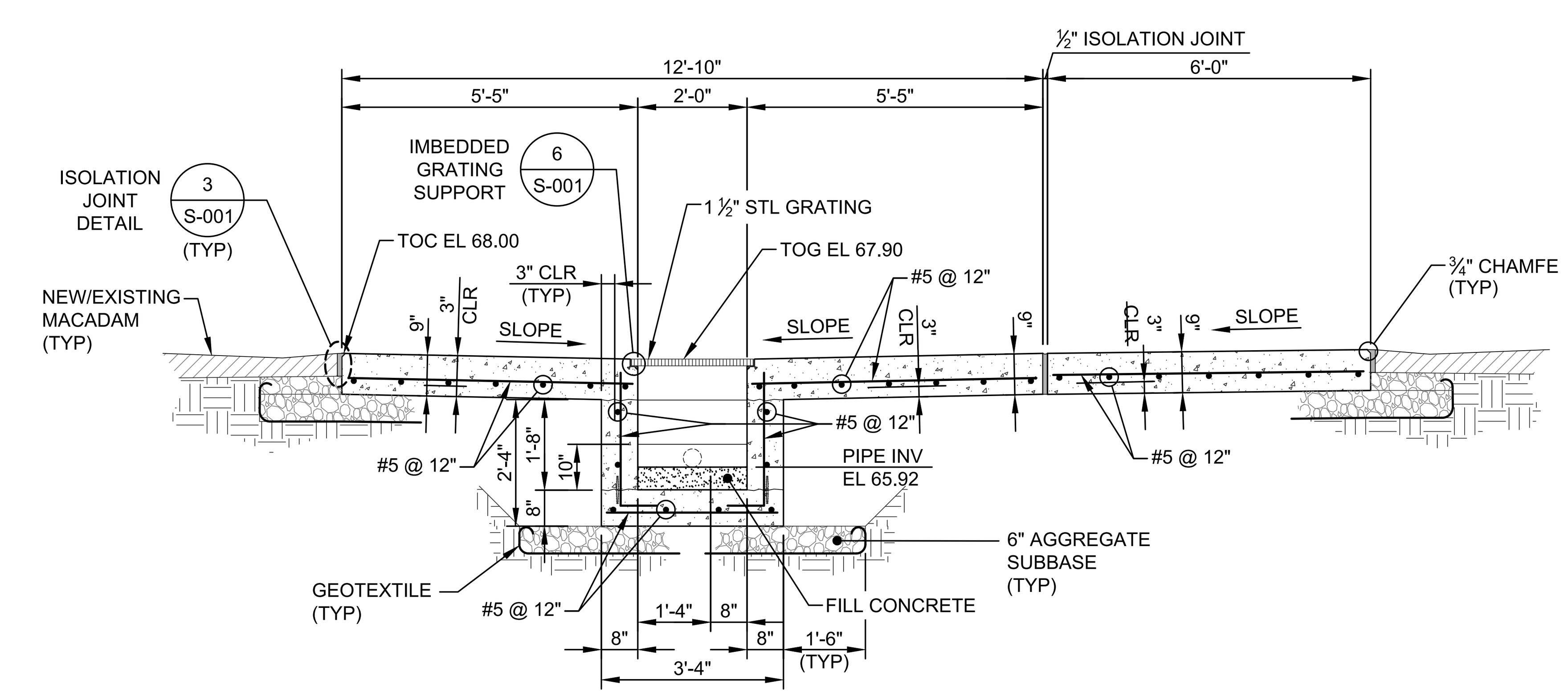
PLAN
SCALE: 3/8" = 1'-0"



C
S-101
SECTION
Scale: 1/2" = 1'-0"



A
S-101
SECTION
Scale: 3/8" = 1'-0"



B
S-101
SECTION
Scale: 3/8" = 1'-0"

NOTES:

1. REFER TO DRAWING S-001 FOR CONCRETE NOTES AND DETAILS.
2. COORDINATE PIPE, CONDUIT AND EQUIPMENT LOCATIONS WITH EQUIPMENT MANUFACTURER'S REQUIREMENTS AND DRAWINGS OF OTHER DISCIPLINES.
3. PROVIDE WALL/SLAB OPENINGS REINFORCEMENT IN ACCORDANCE WITH DETAIL ON DRAWING S-001.

0 2'-0" 4'-0" 6'-0"
SCALE 3/8"=1'-0" AT ORIGINAL SIZE

CLIENT / SUBCONSULTANT:

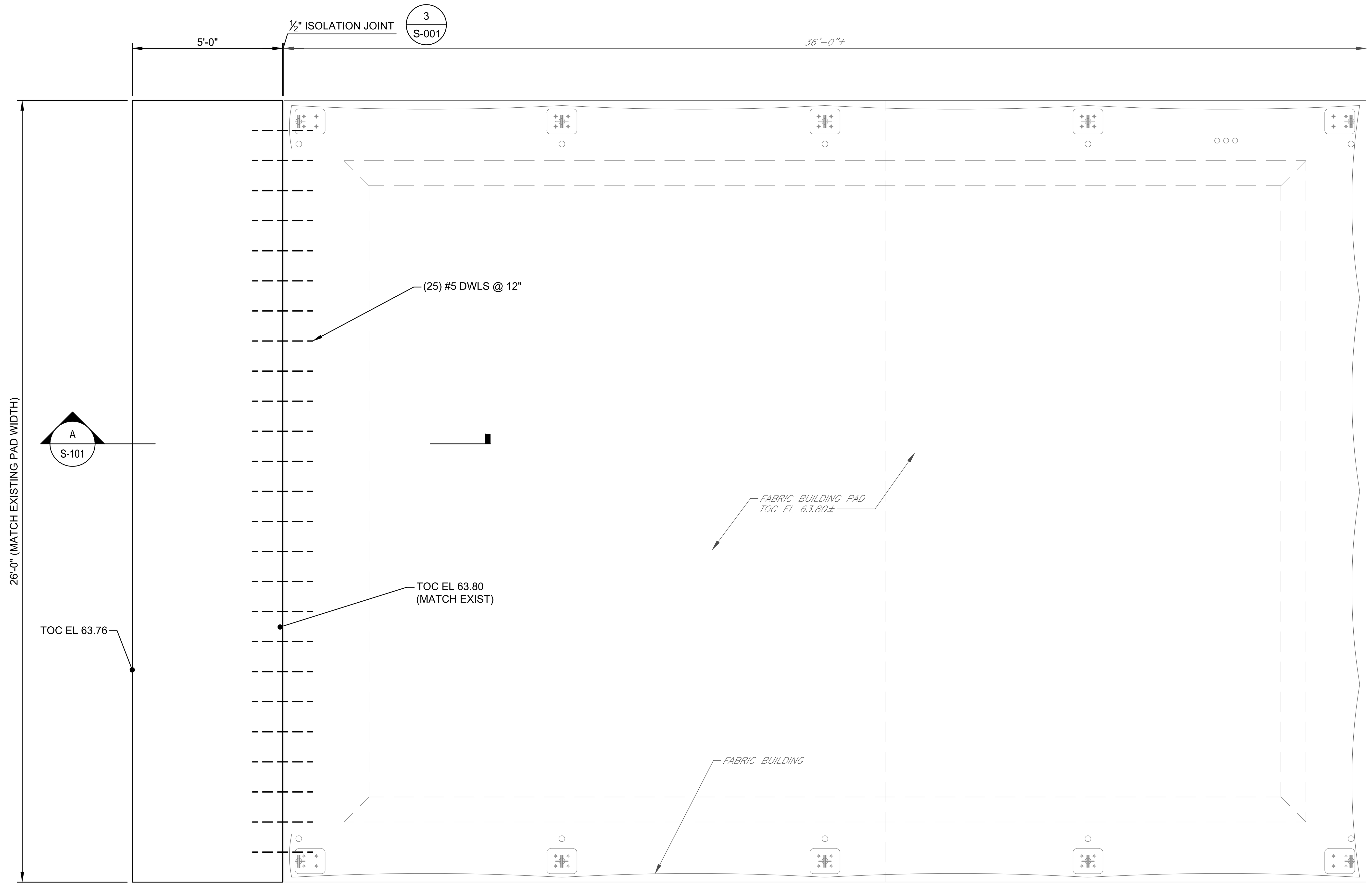
EDR
a better environment
Environmental Design & Research,
Landscape Architecture, Engineering & Environmental Services, D.P.C.
217 Montgomery Street, Suite 1100
Syracuse, New York 13202
P. 315.471.0688

PROJECT TITLE: **RFP No. 2026-03**
FURNISH AND INSTALL NEW OIL/WATER SEPARATOR
PROJECT LOCATION: CLARKSTOWN TRANSFER STATION, WEST NYACK, NY
CLIENT: ROCKLAND GREEN
DRAWING TITLE: **TRANSFER STATION**
SPILL PAD PLAN AND SECTIONS

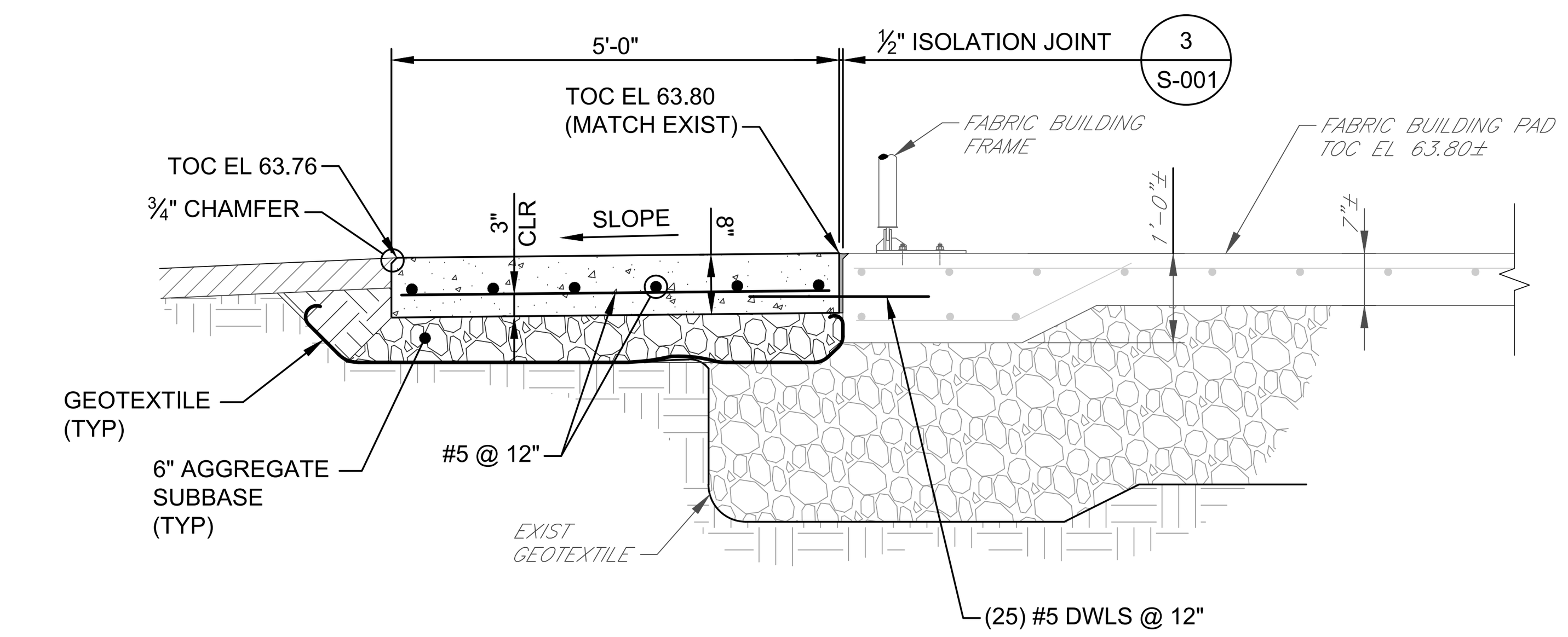
DRAWINGS ISSUED FOR / REVISIONS

NO.	DATE	ISSUED FOR / REVISION	BY	CHK	APP
1	5/12/26	FOR CONSTRUCTION	KAD	MSD	MET
2					
3					
4					
5					
6					

EDR JOB#: 20098
DATE: 02/2026
SCALE: AS NOTED
DRAWN BY: KAD
CHECKED BY: MSD
DRAWING NUMBER:
S-101



PLAN
SCALE: 3/8" = 1'-0"



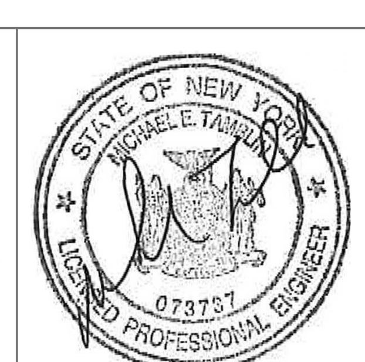
A
S-201
SECTION
Scale: 1/2" = 1'-0"

NOTES:

1. REFER TO DRAWING S-001 FOR CONCRETE NOTES AND DETAILS.

0 2'-0" 4'-0" 6'-0"
SCALE 3/8"=1'-0" AT ORIGINAL SIZE

0 1'-0" 2'-0" 3'-0" 4'-0"
SCALE 1/2"=1'-0" AT ORIGINAL SIZE



CLIENT / SUBCONSULTANT:

EDR
a better environment
Environmental Design & Research,
Landscape Architecture, Engineering & Environmental Services, D.P.C.
217 Montgomery Street, Suite 1100
Syracuse, New York 13202
P. 315.471.0688

PROJECT TITLE: **RFP No. 2026-03**
FURNISH AND INSTALL NEW OIL/WATER SEPARATOR

PROJECT LOCATION: **CLARKSTOWN TRANSFER STATION, WEST NYACK, NY**

CLIENT: **ROCKLAND GREEN**

DRAWING TITLE: **TRANSFER STATION**
FABRIC BUILDING APRON PLAN AND SECTION

DRAWINGS ISSUED FOR / REVISIONS

NO.	DATE	ISSUED FOR / REVISION	BY	CHK	APP
1	5/12/26	FOR CONSTRUCTION	KAD	MSD	MET
2					
3					
4					
5					
6					

EDR JOB#: **20098**
DATE: **02/2026**
SCALE: **AS NOTED**
DRAWN BY: **KAD**
CHECKED BY: **MSD**
DRAWING NUMBER:
S-201

APPENDIX F

DRAFT CONTRACT

FURNISH AND INSTALL NEW OIL/WATER SEPARATOR AND ASSOCIATED WORK AT THE CLARKSTOWN TRANSFER STATION

(RFP 2026-03)

between

ROCKLAND GREEN

and

THIS AGREEMENT made the __ day, of _____, by and between Rockland Green**,** a municipal corporation of the State of New York, having its principal office at 172 Main Street, Nanuet, New York and ----------,hereinafter referred to as "Contractor," in the following manner;

WITNESSETH:

WHEREAS, Rockland Green wishes to enter into an agreement with the Contractor to furnish and install a new oil/water separator and associated work, including the installation of a concrete containment area at the fueling station which will include a small oil/water separator as an extension of the existing gravity sanitary sewer conveyance system on site. The work will also include the addition of of three separate concrete pads, all at the Clarkstown Transfer Station, as defined in the proposal RFP 2026-03 as attached hereto, as requested by Rockland Green, and as shown on the drawings.

NOW THEREFORE, the parties hereto, in consideration of the covenants, agreements, terms and conditions herein contained, do agree as follows:

1. SERVICES: The Contractor shall render and perform services for and to Rockland Green in accordance with specifications and conditions as proposed in RFP 2026-03. The Contractor represents and warrants to Rockland Green that it, and its employees, agents and servants possess all the licenses, skills, experience, expertise, and independence to render these services to Rockland Green. The proposal provided by the Contractor in response to RFP 2026-03, is incorporated as additional terms and conditions to this contract.

2. TERM: This Agreement shall become effective on the date that both parties sign the Agreement and shall remain in full force and effect until final acceptance by Rockland Green of Contractor's work.

3. PAYMENT: Rockland Green agrees to pay Contractor and Contractor agrees to accept a maximum sum not to exceed ----------, in accordance with the terms and at the times specified herein. Payment will not be issued without Certified Payroll.

4. PREVAILING WAGE: The Contractor acknowledges that all work performed pursuant to this contract requires the payment of prevailing wages to the Contractor's employees. Rockland Green has been issued PRC# and requires the Contractor to submit certified payrolls on a weekly basis.

5. INDEPENDENT CONTRACTOR: The Contractor, as an independent contractor, covenants and agrees that it, its employees, servants and/or agents, will neither hold itself or themselves out as, nor claim to be an employee, servant or agent of Rockland Green, and that it, its employees, servants and/or agents will not make claim, demand or application to or for any right or privilege applicable to an officer or employee of Rockland Green including, but not limited to, Worker's Compensation coverage, Unemployment Insurance benefits, Social Security coverage or retirement membership or credit.

6. SUBCONTRACTORS: All subcontractors are subject to the same terms and conditions for services required under this Agreement and any amendment thereto.

7. QUALITY ASSURANCE: For products and/or workmanship specified by association, trade, Federal Standards, comply with requirements of the standard, except when more ridged requirements are specified or are required by applicable codes.

8. **WARRANTY:** The Contractor shall guarantee/warranty both the workmanship and all products installed. Contractor warrants to Rockland Green that all construction,

installation, and related services provided hereunder shall be performed in a good and workmanlike manner, by workers who are appropriately trained and experienced in the work being performed, and in accordance with all requirements of the contract documents.

9. INSURANCE REQUIREMENTS: The Contractor or subcontractor shall, at its own cost and expense, procure and maintain insurance to cover its work, services, employees, servants and/or agents under the terms of this Agreement as specified in Contractor's Proposal. When the Contractor signs and returns this Agreement, Contractor shall provide Rockland Green with a policy endorsement showing the required insurance as detailed in RFP 2025-08. It is expressly agreed that Rockland Green shall be named as an additional insured on any general liability insurance policies and policy endorsements, and the policies and policy endorsements shall ensure that the insurance shall not be cancelled or terminated without thirty (30) days prior written notice to Rockland Green**.** Unless and until Contractor obtains such insurance and provides a policy endorsement to Rockland Green, this Agreement shall not be effective, and no monies shall be paid or given to Contractor**.** The Contractor shall also ensure that each of its subcontractors provides Rockland Green with the same insurance as specified in this Section.

10. INJURY. PROPERTY DAMAGE: The Contractor shall be responsible for all damages and/or injury to life and property due to, or resulting from, the activities or omissions of Contractor**,** its employees, agents, subcontractors and/or employees in connection with its work, activities or services under this Agreement. The Contractor represents and warrants that its employees, servants, and or employees possess the skills, experience, expertise and independence necessary for the work and/or services to be performed in connection with this Agreement.

11. INDEMNIFY AND HOLD HARMLESS: The Contractor agrees to defend, indemnify and hold harmless Rockland Green and its respective officers, employees and agents from and against all claims, actions and suits and will defend Rockland Green and its respective officers, employees and agents, at its own cost and at no cost to Rockland Green, in any suit, action or claim, including appeals, for personal injury to, or death of,

any person, or loss or damage to property arising out of, or resulting from, the Contractor's failure, or the failure of any of its subcontractors, to perform services as required under this Agreement**.** These indemnification provisions are for the protection of Rockland Green and its respective officers, employees and agents only and shall not establish, of themselves, any liability to third parties. The provisions of this section shall survive the termination of this Agreement.

12. FINANCIAL RECORDS/AUDIT: The Contractor shall maintain records of all its financial transactions, including all expenses and disbursements, which relate to this Agreement. Such records shall be kept in accordance with GAAP (Generally Accepted Accounting Practices) and/or Rockland Green record-keeping requirements, and each transaction shall be documented. Such records shall be made available to Rockland Green for inspection or audit upon request. No compensation or fee for services will be due Contractor unless or until financial statements have been filed with Rockland Green.

13. NO ASSIGNMENT: The Contractor shall not assign, sublet or transfer or otherwise dispose of its interest in this Agreement without the prior written consent of Rockland Green.

14. LAWS OF THE STATE OF NEW YORK: This Agreement shall be governed by the Laws of the State of New York, and the venue of any litigation shall be Rockland County.

15. LABOR LAW AND EXECUTIVE LAW: The Contractor shall comply with all of the provisions of the Labor Law of the State of New York including, but not limited to, prevailing wage provisions, if required by law, and with Article 15 of the Executive Law of the State of New York relating to unlawful discriminatory practices insofar as the provisions are applicable to the work and/or services to be performed under this Agreement.

16. LOCAL LAWS AND RESOLUTIONS: The Contractor shall comply with all local laws and resolutions of Rockland Green, including but not limited to, filing of Disclosure Statements and Affirmative Action Plans, if required by law or resolution.

17. APPROVAL OF FEDERAL. STATE AND LOCAL AGENCY: Notwithstanding any other provisions of this Agreement, Rockland Green shall not be liable for any payment or compensation to Contractor until the services rendered by Contractor under this Agreement meet the approval and standards of any other Federal, State or local agency, Rockland Green, commission or body, which has jurisdiction over the services to be rendered under this Agreement which provides funding in whole or in part for the services provided under this Agreement.

18. COMPLIANCE WITH AMERICANS WITH DISABILITIES ACT OF 1990: The **CONTRACTOR** agrees to comply with the provisions of the Americans with Disabilities Act of 1990 (ADA) prohibiting discrimination on the basis of disability with regard to employment policies and procedures, structural and program accessibility, transportation and telecommunications.

19. NO DISCRIMINATION: Contractor shall not discriminate nor permit discrimination by any of its officers, agents and/or representatives against any person because of age, race, color, religion, gender, national origin, sexual orientation, or, with respect to otherwise qualified individuals, handicap. Contractor agrees to take all actions reasonably necessary to ensure that quality applicants are employed, and that employees are treated consistently and fairly during employment, without regard to their age, race, color, gender, religion, sexual orientation, national origin or, with respect to otherwise qualified individuals, handicap. The contractor shall impose the non-discriminatory provisions of this Section by contract on all subcontractors hired to perform services related to the project and shall take all reasonable actions necessary to enforce such provisions.

20. ENTIRE AGREEMENT/SEVERABILITY: This Agreement constitutes the entire Agreement between the parties and supersedes all prior negotiations, representations or agreements either oral or written. If any clause, provision or section of this Agreement shall be deemed to be invalid by any court of competent jurisdiction or administrative agency, such action shall not affect any of the remaining provisions hereof, and this Agreement shall be construed and enforced as if such invalid portion did not exist.

21. MODIFICATION: This Agreement may not be modified except by mutual consent in writing signed by the parties.

22. WAIVER: No waiver by Rockland Green or the Contractor of any of the terms or conditions of this Agreement or any of their respective rights under this Agreement shall be effective unless such waiver is in writing and signed by the party charged with the waiver.

23. COUNTERPARTS: This Agreement may be executed in counterparts.

(The remainder of this page is left intentionally blank)

24. NOTICE: Any notice or communication required or permitted hereunder shall be in writing and sufficiently given if delivered in person or sent by certified or registered mail, postage prepaid, as follows:

If to Rockland Green:

Gerard M. Damiani, Jr., Executive Director
Rockland Green
172 Main Street
Nanuet, New York 10954
(845)753-2200
gdamiani@rocklandgreen.com

If to Contractor:

IN WITNESS WHEREOF, the parties hereto have caused this Agreement to be executed by their duly authorized officers or representatives as of the day and year executed by each.

_____ Date: _____

By:

_____ Date: _____

By: Gerard M. Damiani Jr.,
Executive Director, Rockland Green