Town of Manlius

Planning Board Agenda

April 10, 2023

6:30PM

1. Zoom Meeting Instructions

   Documents:

   ZOOM PLANNING BOARD MEETING INSTRUCTIONS APRIL 10, 2023.PDF

2. Pledge Of Allegiance

3. Approval Of Minutes March 27, 2023

4. Horizon Solar Power And Catalyze Energy - 33 Boston Post Road West - Suite 220, Marlborough, MA 01752 - Discussion - Subdivision, Site Plan And Special Use Permit - 4.25 MW Solar Array - 4869 Peck Road, Kirkville, 13082 - Tax Map # 042.-021-32.1

   Documents:

   7869 PECK ROAD - UPDATED COVER LETTER FOR REVISIONS.PDF
   7869 PECK ROAD - CATALYZE - WARNER IC DOC.PDF
   7869 PECK ROAD -SOLAR PLANS SEALED.PDF
   SWITCHGEAR CABINET REFERENCE DRAWING.PDF
   OCPB RESOLUTION - SPECIAL USE PERMIT.PDF
   OCPB RESOLUTION - SITE PLAN.PDF
   OCPB RESLUTION - SUBDIVISION.PDF

5. Meltwater Solar, LLC - 3402 Pico Blvd. Santa Monica, CA 90405 - Discussion/Decision - Site Plan Amendment - Solar Project - 6101 Kirkville Road North - Kirkville NY 13082 - Tax Map # 071.0-02-09.0

   Documents:

   6101 KIRKVILLE ROAD NORTH -MELTWATER_RESPONSE_LETTER.PDF
   6101 KIRKVILLE ROAD NORTH - MELTWATER SUPPLEMENTAL RESPONSE LETTER (SNYDER SNYDER).PDF
   6101 KIRKVILLE ROAD NORTH - NATIONAL GRID EMAIL CORRESPONDENCE.PDF
   6101 KIRKVILLE ROAD NORTH - MELTWATER SOLAR - C200 SITE LAYOUT PLAN JANUARY 2023.PDF
   6101 KIRKVILLE ROAD NORTH - MELTWATER SOLAR POI DETAIL MARKUP.PDF

6. Icon Companies, LLC - 344 South Warren Street, Syracuse, NY 13202 -2nd Presentation - Site Plan - 4600 Enders Road, Manlius, NY 13104 - Tax Map # 117.2-01-04

   Documents:

   4600 ENDERS ROAD - PLANNING BOARD SUBMISSION.PDF
   4600 ENDERS ROAD - PLANNING BOARD APPLICATION SIGNED.PDF

4600 ENDERS ROAD - OVERALL UPDATED SITE PLAN.PDF
4600 ENDERS PLANNING BOARD APPLICATION - NOT SIGNED.PDF
4600 ENDERS DISCLOSURE AFFIDAVIT.PDF
4600 ENDERS ROAD - PLANS.PDF
4600 ENDERS ROAD - SWPPP.PDF

7. Discussion - Planned Unit Development (PUD)

   Documents:

   PUD RESOLUTION.PDF

8. Other Business

9. Adjournment

Town of
MANLIUS
New York

April 10, 2023

Virtual Planning Board Meeting

Instructions to attend the April 10, 2023 virtual Planning Board meeting:

The easiest way to join is to go to our website www.TownOfManlius.org and click on the link that is located on the homepage. You can also watch on our Facebook page by searching for "Town of Manlius"

Enter the meeting url web address as listed below:

https://us02web.zoom.us/j/84372726216?

Password to join when prompted:

Password: 181447

Enter your email address and name and join the meeting!

Join by telephone by dialing the number below:

1-(929) -436-2866

When prompted to enter the Webinar ID, use the number below followed by #

Webinar ID: 843 7272 6216

Press # again to skip the personal id and enter the password below followed by #

Password: 181447

HORIZON
SOLAR POWER

Town of Manlius Planning Board
c/o Lisa Beeman, Planning Board Secretary
301 Brooklea Dr
Fayetteville, NY 13066

With an email copy to:

- lbeeman@townofmanlius.org

March 28th, 2023

Dear Town Planning Board,

We are pleased to submit updated documents and plans for site plan approval and special use permit for the Warner Farm Solar Project. Below are our responses to the discussion items raised by the Planning Board at the meetings on February 27th and March 13th.

Revisions to the site plans have been made in accordance with the below comments. The updated site plan and other plans are attached as **Appendix A**.

Interconnection:

Per the direction from the Town, we have designed a pad-mounted "point of interconnection" (POI) with National Grid. National Grid is currently reviewing these plans. Although the published information from National Grid's ESB-750 and errata indicates that only one pole would likely be required for their "typical" design, our electrical engineer's extensive experience with Grid is that there will sometimes need to be two poles. This is dependent on the specific project and the on-site needs. The diagrams in are "typical", but there are many variations from "typical". Given that, we have assumed a worst-case scenario of two new poles being required for the POI, as indicated on the plans. Please note that we cannot dictate National Grid's equipment, and all National Grid-owned equipment is at their ultimate discretion. National Grid is reviewing our revised documentation.

Rendering of the new design will be provided ASAP. We have included landscape screening of the pad-mounted switchgear in our plans.

Site Plan:

As discussed in February, we have moved our east-to-west access path in the north part of the site to avoid any wetland areas. To be clear, this is not a "road" in any way (no infrastructure, paving, or gravel), but is merely a gap between tables of solar panels in order to accommodate easier travel across the site.

Access Road:

Our engineers confirmed that they are fully aware of the relatively large size of the access road, as well as the potential effort needed to remediate mud packing and other SWPPP-related remediation and restoration post-construction. We have left the access road as-is.

I look forward to seeing you all and discussing the project at your meeting on April 10th.

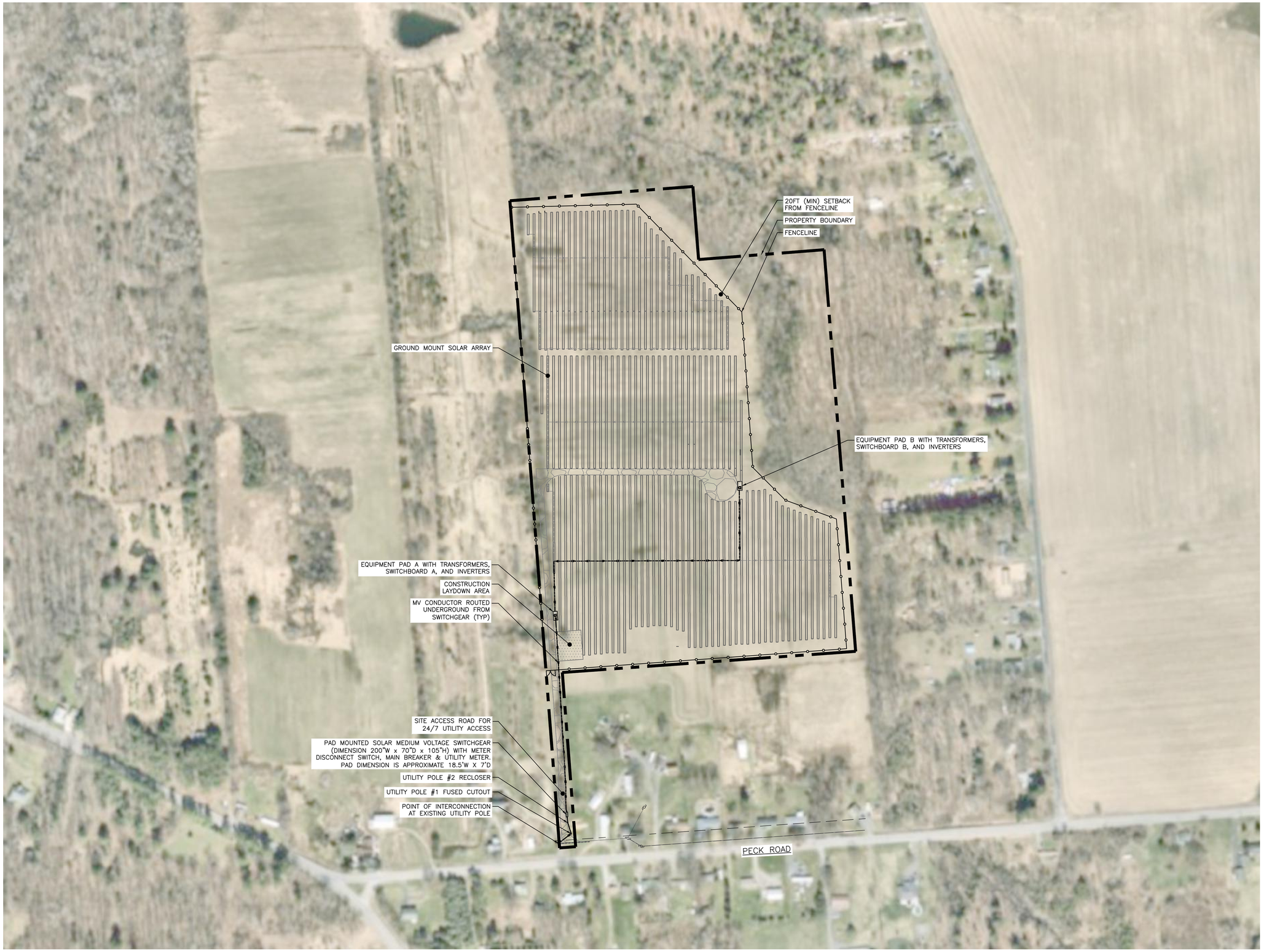
Sincerely,

Andy Melka
Director, Development

Appendix A – Updated Site Plan

Appendix B – Proposed New Property Boundaries

Appendix C – Decommissioning Estimate



1 SITE PLAN
SCALE: 1" = 150'

N

NOT FOR CONSTRUCTION

CATALYZE
CATALYZE CONSTRUCTION LLC
6325 GUNPARK DR SUITE C
BOULDER, CO 80301
PHONE NUMBER:(888) 918-0771
C-10 #1089103
WWW.CATALYZE.COM
INFO@CATALYZE.COM

PUREPOWER ENGINEERING
PURE POWER ENGINEERING INC.
111 RIVER STREET SUITE 1110
HOBOKEN, NJ 07030
WWW.PUREPOWER.COM
PHONE: (201) 687-9975

STATE OF NEW YORK
RICHARD A. IVINS
091197
LICENSED PROFESSIONAL ENGINEER

SHEET TITLE:
SITE PLAN

NYSOLAR07 LLC
WARNER SOLAR FACILITY

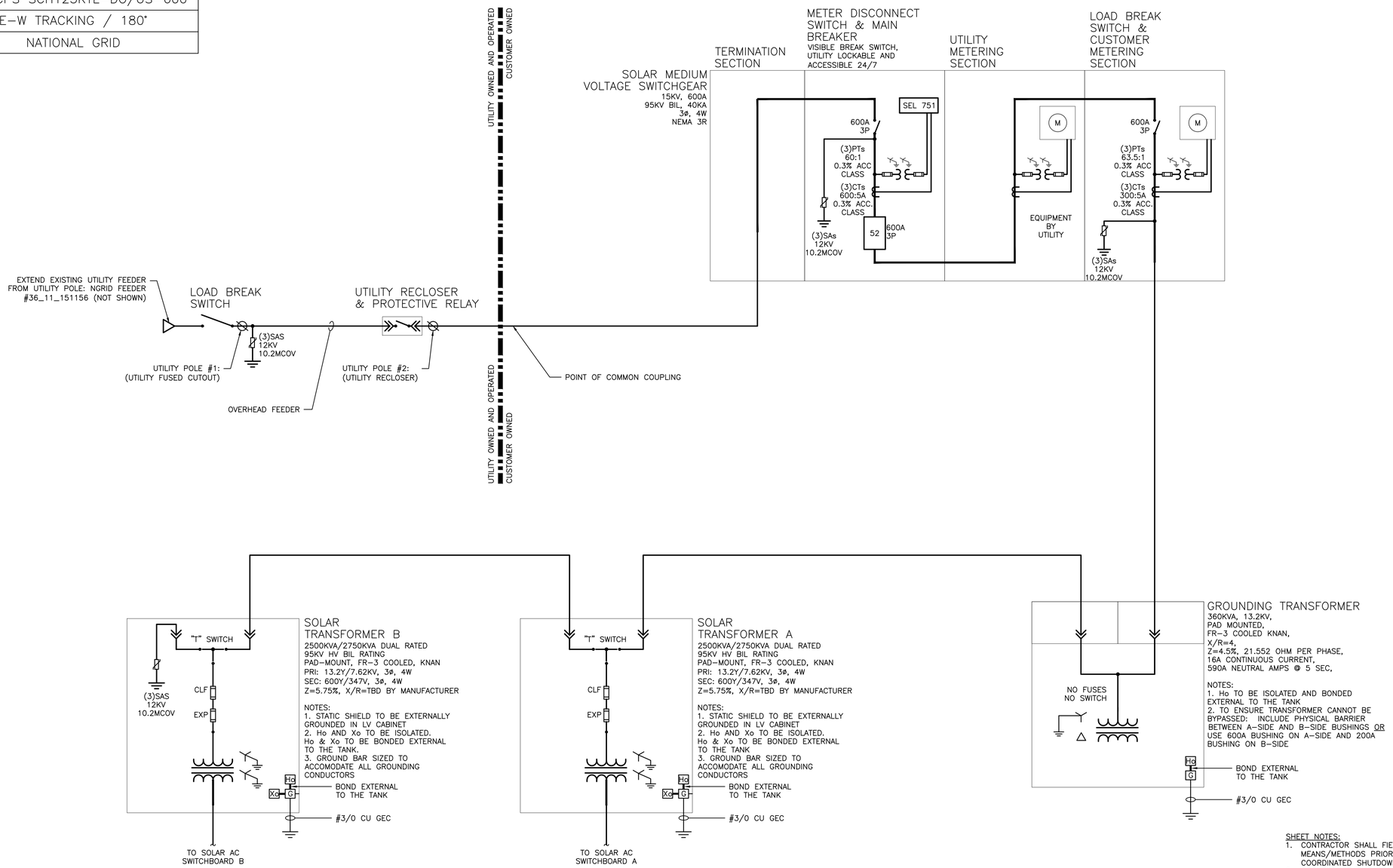
7859 PECK ROAD,
KIRKVILLE, NY 13082

No.	DESCRIPTION	DATE
1.	INTERCONNECTION DOCS	03/24/2023

PROJECT #: PPE-06211
DRAWN BY: BX
CHECKED BY: BX
DRAWING NO:
G100
TO SCALE ON 24X36 PAPER

RULER IN INCHES:

SYSTEM SUMMARY	
DC SYSTEM SIZE	7,488.18 KW
AC SYSTEM SIZE	5,000.00 KW
(QTY) MODULE	(13,867) WAAREE 540W
(QTY) INVERTER	(40) CPS SCH125KTL-DO/US-600
TILT / AZIMUTH	E-W TRACKING / 180°
UTILITY	NATIONAL GRID



1 ONE LINE DIAGRAM - MV
SCALE: NONE

SHEET NOTES:

1. CONTRACTOR SHALL FIELD-VERIFY INTERCONNECTION MEANS/METHODS PRIOR TO INSTALLATION. COORDINATED SHUTDOWN MAY BE REQUIRED.
2. ALL GROUND BARS AND LUGS SHALL BE DUAL RATED AL/CU.
3. UNLESS OTHERWISE NOTED EQUIPMENT IS PERMITTED TO BE 80% OR 100% RATED.
4. PVC SCH80 REQUIRED WHERE PVC IS SPECIFIED. PVC SCH40 IS PERMITTED FOR UNDERGROUND STRAIGHT RUNS ONLY.
5. SET NEW ELECTRONIC-TRIP BREAKERS TO THE SETTINGS BELOW, UNLESS OTHERWISE NOTED IN POWER STUDY. "NOMINAL TRIP" REFERS TO BREAKER TRIP RATING INDICATED ON ONELINE. SETTINGS BELOW ARE NOT FOR COORDINATION PURPOSES.
   - L = 100% OF NOMINAL TRIP (EXACT) MINIMUM TIME DELAY
   - S = 125% OF NOMINAL TRIP (OR NEXT HIGHER) MINIMUM TIME DELAY
   - I = 150% OF NOMINAL TRIP (OR NEXT HIGHER)
   - G = 20% OF NOMINAL TRIP (OR NEXT HIGHER) 0.5 SEC TIME DELAY

NOT FOR CONSTRUCTION

CATALYZE
CATALYZE CONSTRUCTION LLC
6325 GUNPARK DR SUITE C
BOULDER, CO 80301
PHONE NUMBER:(888) 918-0771
C-10 #1089103
WWW.CATALYZE.COM
INFO@CATALYZE.COM

PUREPOWER ENGINEERING
PURE POWER ENGINEERING INC.
111 RIVER STREET SUITE 1110
HOBOKEN, NJ 07030
WWW.PUREPOWER.COM
PHONE: (201) 687-9975

STATE OF NEW YORK · RICHARD A. IVINS · 091197 · LICENSED PROFESSIONAL ENGINEER

SHEET TITLE:
ONE LINE DIAGRAM - MV

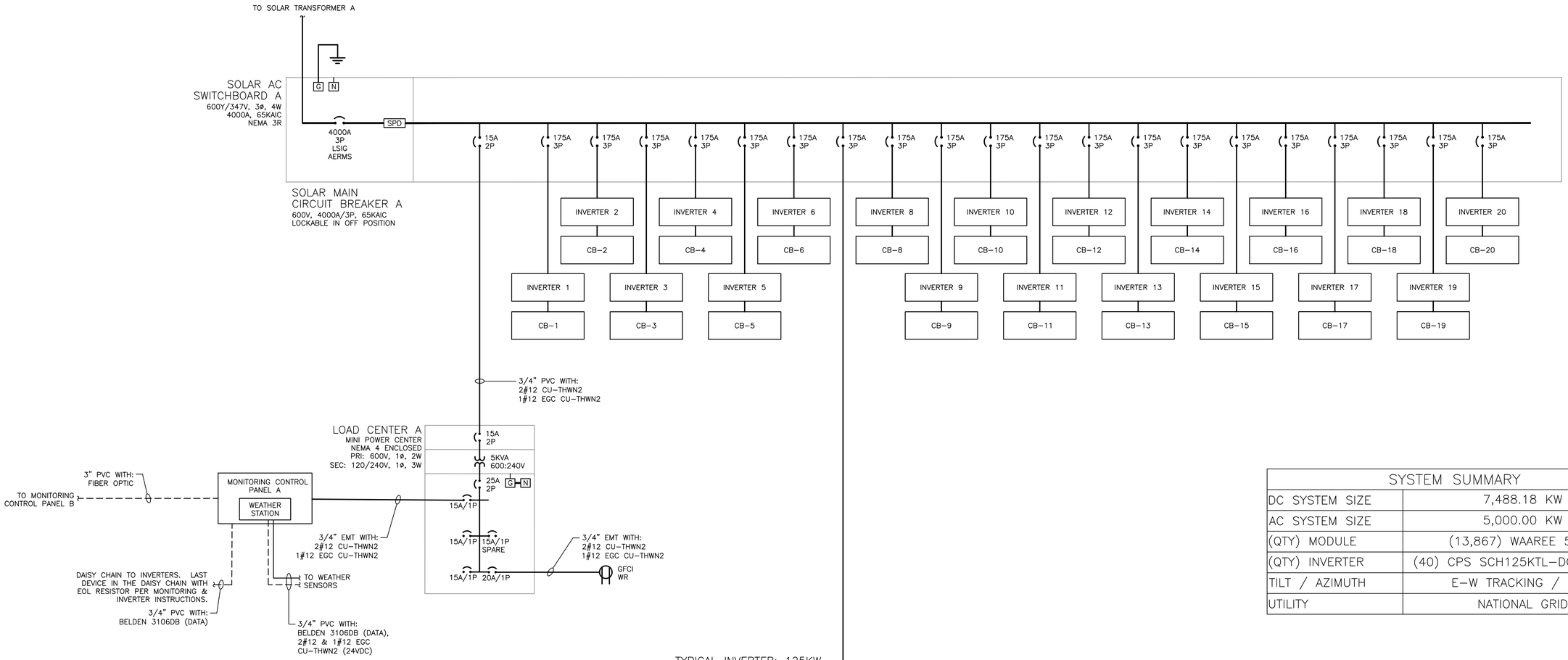
NYSOLAR07 LLC
WARNER SOLAR FACILITY

7859 PECK ROAD,
KIRKVILLE, NY 13082

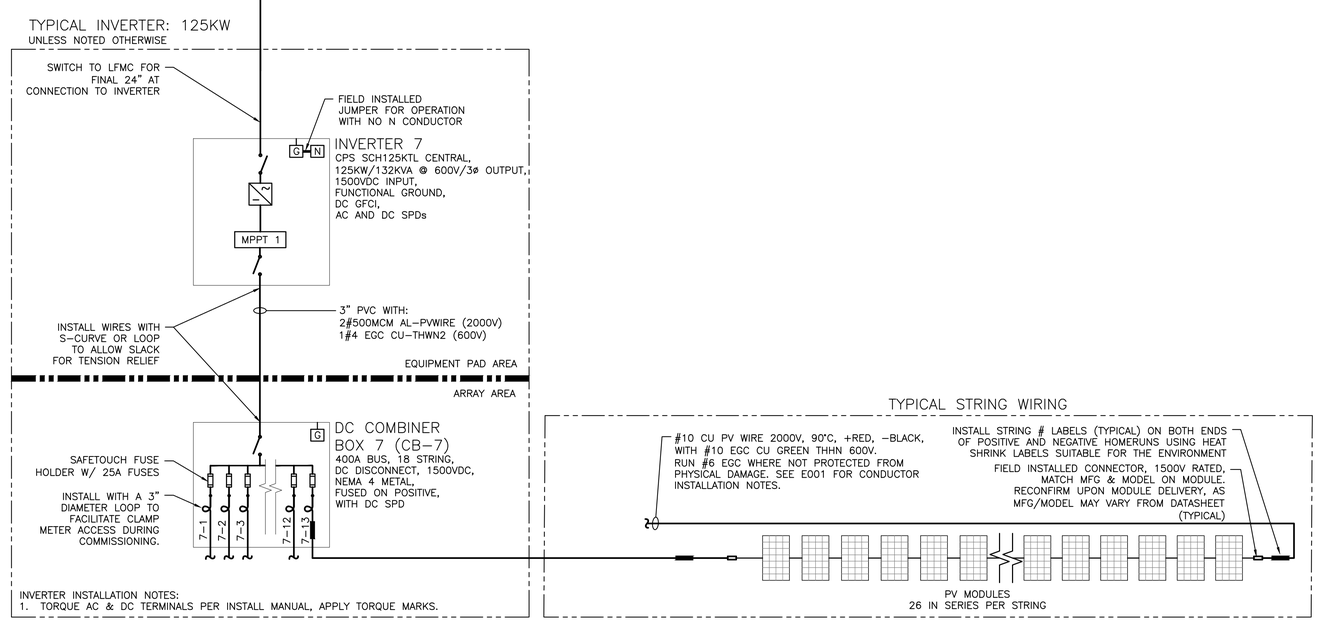
No.	DESCRIPTION	DATE
1.	INTERCONNECTION DOCS	03/24/2023

PROJECT #: PPE-06211
DRAWN BY: BX
CHECKED BY: BX
DRAWING NO:
E300
TO SCALE ON 24X36 PAPER

RULER IN INCHES:



SYSTEM SUMMARY	
DC SYSTEM SIZE	7,488.18 KW
AC SYSTEM SIZE	5,000.00 KW
(QTY) MODULE	(13,867) WAAREE 540W
(QTY) INVERTER	(40) CPS SCH125KTL-DO/US-600
TILT / AZIMUTH	E-W TRACKING / 180°
UTILITY	NATIONAL GRID



1 ONE LINE DIAGRAM – PAD A
SCALE: NONE

NOT FOR CONSTRUCTION

CATALYZE
CATALYZE CONSTRUCTION LLC
6325 GUNPARK DR SUITE C
BOULDER, CO 80301
PHONE NUMBER:(888) 918-0771
C-10 #1089103
WWW.CATALYZE.COM
INFO@CATALYZE.COM

PUREPOWER ENGINEERING
PURE POWER ENGINEERING INC.
111 RIVER STREET SUITE 1110
HOBOKEN, NJ 07030
WWW.PUREPOWER.COM
PHONE: (201) 687-9975

STATE OF NEW YORK
RICHARD A. IVINS
091197
LICENSED PROFESSIONAL ENGINEER

SHEET TITLE:
ONE LINE DIAGRAM – PAD A

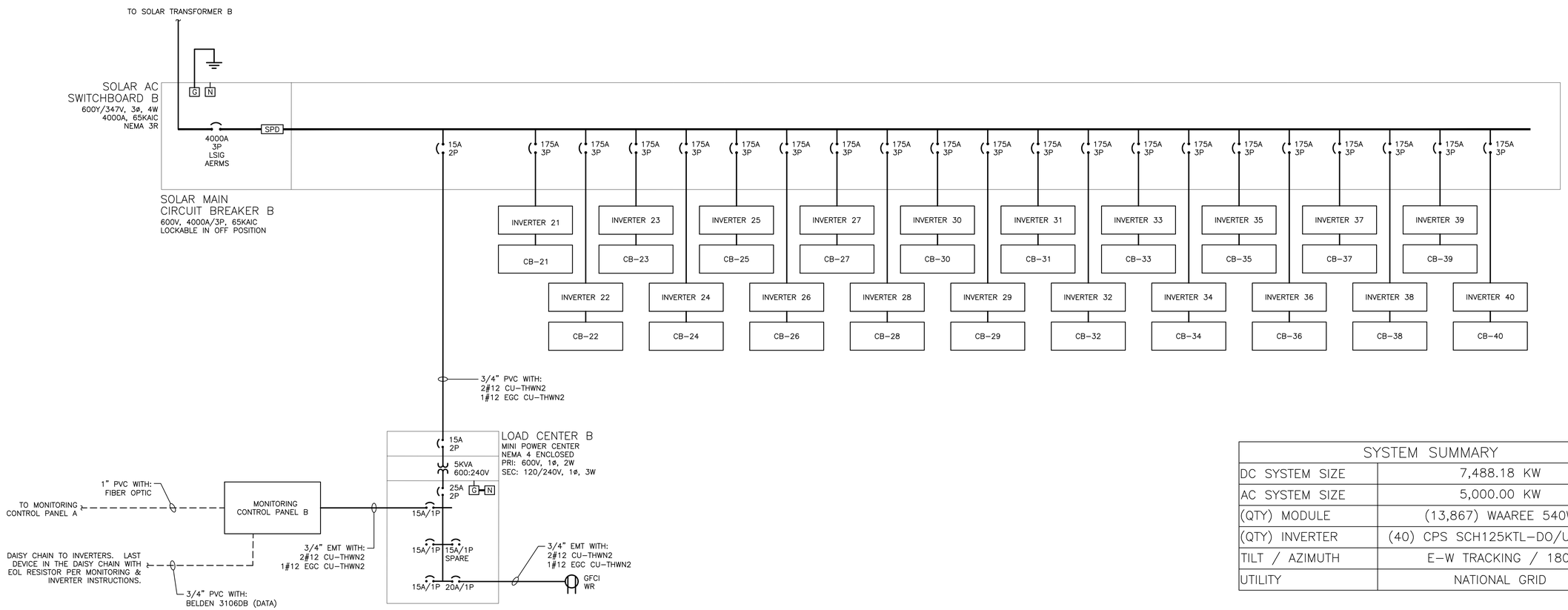
NYSOLAR07 LLC
WARNER SOLAR FACILITY

7859 PECK ROAD,
KIRKVILLE, NY 13082

No.	DESCRIPTION	DATE
1.	INTERCONNECTION DOCS	03/24/2023

PROJECT #: PPE-06211
DRAWN BY: BX
CHECKED BY: BX
DRAWING NO:
E301
TO SCALE ON 24X36 PAPER

RULER IN INCHES:



SYSTEM SUMMARY	
DC SYSTEM SIZE	7,488.18 KW
AC SYSTEM SIZE	5,000.00 KW
(QTY) MODULE	(13,867) WAAREE 540W
(QTY) INVERTER	(40) CPS SCH125KTL-DO/US-600
TILT / AZIMUTH	E-W TRACKING / 180°
UTILITY	NATIONAL GRID

1 ONE LINE DIAGRAM – PAD B
SCALE: NONE

NOT FOR CONSTRUCTION

CATALYZE
CATALYZE CONSTRUCTION LLC
6325 GUNPARK DR SUITE C
BOULDER, CO 80301
PHONE NUMBER:(888) 918-0771
C-10 #1089103
WWW.CATALYZE.COM
INFO@CATALYZE.COM

PUREPOWER ENGINEERING
PURE POWER ENGINEERING INC.
111 RIVER STREET SUITE 1110
HOBOKEN, NJ 07030
WWW.PUREPOWER.COM
PHONE: (201) 687-9975

STATE OF NEW YORK
RICHARD A. IVINS
091197
LICENSED PROFESSIONAL ENGINEER

SHEET TITLE:
ONE LINE DIAGRAM – PAD B

NYSOLAR07 LLC
WARNER SOLAR FACILITY

7859 PECK ROAD,
KIRKVILLE, NY 13082

No.	DESCRIPTION	DATE
1.	INTERCONNECTION DOCS	03/24/2023

PROJECT #: PPE-06211
DRAWN BY: BX
CHECKED BY: BX
DRAWING NO:
E302
TO SCALE ON 24X36 PAPER

RULER IN INCHES:

SEL 651R RELAY										
SETTINGS ARE PRELIMINARY PENDING UTILITY APPROVAL AND NOT INTENDED FOR CONSTRUCTION										
Solar System Base AC Size = 5000KVA			218.69A BASE PRIMARY USED FOR 50/51 ELEMENTS				*Total Clear Time = 3 Cycle Breaker Plus Delay (Time Dial or DEF Time)			
1.09A BASE SECONDARY 50/51P,G,N,Q							7621.02V BASE PRIMARY USED FOR 27/59 ELEMENTS			
P,G,N,Q CT RATIO FACTOR = 200							1.52V BASE SECONDARY USED FOR 27/59 ELEMENTS			
P CT = 200:1 1B0.5 C50 RF = 1.5 @ 30C							LEA RATIO FACTOR = 5000			
ANSI ELEMENT #	Unit	Pickup (Secondary)	Real (Primary)	Level	Def. Time Delay (s)	Time Dial	Total Clear Time (s)*	Total Clear Time (cyc)*	Curve	Description
27-1	L-N Volt	1.34	6706.50	0.88	1.95	-	2.00	120.00	-	Slow UV
27-2	L-N Volt	0.76	3810.51	0.50	1.05	-	1.10	66.00	-	Fast UV
59-1	L-N Volt	1.68	8383.13	1.10	1.95	-	2.00	120.00	-	Slow OV
59-2	L-N Volt	1.83	9145.23	1.20	0.11	-	0.16	9.60	-	Fast OV
79-UV	L-N Volt	1.45	7239.97	0.95	299.95	-	300.00	18000.00	-	Min Permissive Close Voltage
79-OV	L-N Volt	1.60	8002.07	1.05	299.95	-	300.00	18000.00	-	Max Permissive Close Voltage
59N	3V0 L-N Volt	0.26	1295.57	0.17	1.95	-	2.00	120.00	-	Zero Sequence Overvolt
81U-1	Hz	58.50	58.50	0.98	299.95	-	300.00	18000.00	-	Slow UF
81U-2	Hz	56.50	56.50	0.94	0.11	-	0.16	9.60	-	Fast UF
81O-1	Hz	61.20	61.20	1.02	299.95	-	300.00	18000.00	-	Slow OF
81O-2	Hz	62.00	62.00	1.03	0.11	-	0.16	9.60	-	Fast OF
79-UF	Hz	59.50	59.50	0.99	299.95	-	300.00	18000.00	-	Min Permissive Close Frequency
79-OF	Hz	60.50	60.50	1.01	299.95	-	300.00	18000.00	-	Max Permissive Close Frequency
51P	A	1.37	273.37	1.25	-	2.2	-	-	IAC-77	Time Phase OC
50P	A	4.76	951.32	4.35	0.00	-	0.05	3.00	-	Instantaneuos P OC
51G	A	0.22	43.74	0.20	-	3	-	-	IAC-77	Timed Ground OC
50G	A	3.17	634.21	2.90	0.00	-	0.05	3.00	-	Instantaneuos G OC
74	-	-	-	-	0.00	-	0.05	3.00	-	Relay Alarm

INVERTER UL1741-SA Compliant						
ANSI ELEMENT #	Pickup	Real	Level	Delay (sec)	Curve	Description
27	304.84	528V	88.0%	2.00		Slow UV
27	173.21	300V	50.0%	1.10		Fast UV
59	381.05	660V	110.0%	2.00		Slow OV
59	415.69	720V	120.0%	0.16		Fast OV
81U-1	56.50	56.5Hz	94.2%	0.16		Fast UF
81U-2	58.50	58.5Hz	97.5%	300.00		Slow UF
81O-1	62.00	62Hz	103.3%	0.16		Fast OF
81O-2	60.50	60.5Hz	100.8%	300.00		Slow OF
PF Set Point		1.00				Power Factor Control
Var Control		OFF				Reactive Power Control
Ramp Rate		10%/1 sec				dkw / dt
Freq Control		OFF				Speed Control

1 RELAY SETTINGS
SCALE: NONE

NOT FOR CONSTRUCTION

CATALYZE
CATALYZE CONSTRUCTION LLC
6325 GUNPARK DR SUITE C
BOULDER, CO 80301
PHONE NUMBER:(888) 918-0771
C-10 #1089103
WWW.CATALYZE.COM
INFO@CATALYZE.COM

PUREPOWER ENGINEERING
PURE POWER ENGINEERING INC.
111 RIVER STREET SUITE 1110
HOBOKEN, NJ 07030
WWW.PUREPOWER.COM
PHONE: (201) 687-9975

STATE OF NEW YORK · RICHARD A. IVINS · 091197 · LICENSED PROFESSIONAL ENGINEER

SHEET TITLE:
RELAY SETTINGS

NYSOLAR07 LLC
WARNER SOLAR FACILITY

7859 PECK ROAD,
KIRKVILLE, NY 13082

No.	DESCRIPTION	DATE
1.	INTERCONNECTION DOCS	03/24/2023

PROJECT #: PPE-06211
DRAWN BY: BX
CHECKED BY: BX
DRAWING NO:
E303
TO SCALE ON 24X36 PAPER

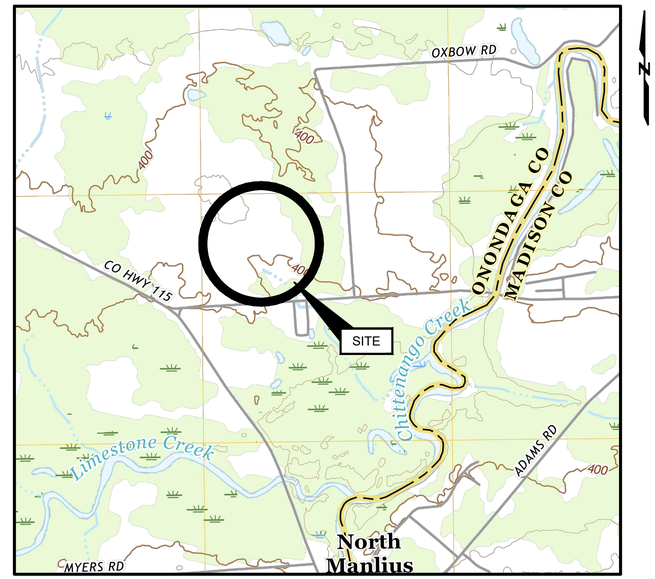
RULER IN INCHES: 0 ½ 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18

4.25MW AC GROUND MOUNTED SOLAR FARM
NYSOLAR07 LLC-WARNER SOLAR FACILITY

7859 PECK ROAD
KIRKVILLE, NY 13082

SOURCE:
"NEW YORK COUNTY MAP" BY: GISGEOGRAPHY

NEW YORK COUNTY MAP
(NOT TO SCALE)



SOURCE:
THIS IMAGE IS FROM U.S.G.S. TOPOGRAPHIC 7.5 MINUTE SERIES
MANILUS, NY QUADRANGLE, 2019

SITE LOCATION MAP
1"=1000'

SHEET NO.	TITLE	REVISION
G-001	COVER SHEET	C
G-002	GENERAL NOTES	C
C-101	EXISTING CONDITIONS PLAN	B
C-102	EROSION AND SEDIMENT CONTROL PLAN AND DETAILS	C
C-103	SITE PLAN	C
C-104	GRADING AND UTILITY PLAN	C
C-105	LANDSCAPING PLAN	C
C-106	LANDSCAPING NOTES AND DETAILS	A
C-107	TYPICAL DETAILS 1 OF 2	B
C-108	TYPICAL DETAILS 2 OF 2	C

PREPARED FOR:

NYSOLAR07, LLC
330 W GOETHE ST.
CHICAGO, ILLINOIS 60610

PREPARED BY:

GEI CONSULTANTS, INC., P.C.
1301 TRUMANSBURG ROAD
SUITE N
ITHACA, NY 14850
(607)216-8955

TOWN OF MANLIUS APPROVALS

PLANNING BOARD CHAIRMAN — DATE

TOWN ENGINEER — DATE

PLANNING BOARD SECRETARY — DATE

THIS DOCUMENT, AND THE IDEAS AND DESIGNS INCORPORATED HEREIN, IS AN INSTRUMENT OF PROFESSIONAL SERVICE. IS THE PROPERTY OF GEI CONSULTANTS AND IS NOT TO BE USED, IN WHOLE OR IN PART, FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION OF GEI CONSULTANTS.

GEI PROJECT NO. 223192

ISSUED FOR PERMIT
NOT FOR CONSTRUCTION

NO.	DATE	ISSUE/REVISION	APP
C	3/28/2023	REVISIONS PER PB REVIEW	PJS
B	1/10/2023	REVISIONS PER SUBDIVISION	PJS
A	11/2/2022	SPECIAL USE PERMIT REVIEW	PJS

STATE OF NEW YORK · PHILIP J. SNYDER · 100361 · LICENSED PROFESSIONAL ENGINEER

SHEET NO.
G-001

GENERAL NOTES:

1. TAX PARCEL PROPOSED FOR SOLAR DEVELOPMENT KNOWN AS TAX BLOCK 1, LOT 32.1 AS SHOWN ON SHEET 42 OF THE TAX MAP OF THE TOWN OF MANILUS, ONONDAGA COUNTY, NEW YORK.
2. HORIZONTAL DATUM IS REFERENCED TO NEW YORK STATE PLANE COORDINATE SYSTEM, CENTRAL ZONE (HARN/NY.NY-CF), US FOOT.
3. VERTICAL DATUM IS REFERENCED TO NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88). ELEVATIONS ARE IN FEET.
4. FURNISH, INSTALL, TEST AND COMPLETE ALL WORK TO THE SATISFACTION OF THE ENGINEER AND OWNER IN ACCORDANCE WITH THE CONTRACT DOCUMENTS. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR MEANS AND METHODS OF CONSTRUCTION; AS SUCH, THESE PLANS DO NOT COMPLETELY REPRESENT, NOR ARE THEY INTENDED TO REPRESENT, ALL SPECIFIC INSTRUCTIONS REQUIRED FOR THE CONSTRUCTION OF THE SITE/CIVIL WORKS. THE CONTRACTOR IS RESPONSIBLE TO CONSTRUCT ALL IMPROVEMENTS DEPICTED ON THESE PLANS IN ACCORDANCE WIT HALL APPLICABLE RULES, REGULATIONS, LAWS IN EFFECT, AND CONTRACT REQUIREMENTS AT THE TIME OF CONSTRUCTION.
5. THE CONTRACTOR SHALL ACCEPT THE SITE AS IS AND SHALL ASSESS THE CURRENT CONDITIONS, AND THE KIND, QUALITY AND QUANTITY OF WORK REQUIRED. THE OWNER AND ENGINEER MAKE NO GUARANTEE IN REGARD TO THE ACCURACY OF ANY INFORMATION THAT WAS OBTAINED DURING INVESTIGATIONS. THE CONTRACTOR SHALL: MAKE A THOROUGH SITE INSPECTION IN ORDER TO FIELD CHECK EXISTING SITE CONDITIONS; CORRELATE CONDITIONS WITH THE DRAWINGS; AND RESOLVE ANY POSSIBLE CONSTRUCTION CONFLICTS WITH THE OWNER AND ENGINEER PRIOR TO COMMENCEMENT OF WORK. THE CONTRACTOR SHALL PERFORM ADDITIONAL TOPOGRAPHIC SURVEYS IF HE/SHE DEEMS NECESSARY, PROVIDED THEY ARE COORDINATED WITH THE OWNER. IF CHANGED CONDITIONS ARE IDENTIFIED BY THE CONTRACTOR, THEY SHOULD BE BROUGHT TO THE ATTENTION OF THE OWNER AND ENGINEER PRIOR TO THE START OF WORK.
6. PROVIDE A WRITTEN REQUEST FOR INFORMATION (RFI) TO THE OWNER AND/OR OWNER'S DESIGNATED REPRESENTATIVE, AND THE ENGINEER PRIOR TO THE CONSTRUCTION OF ANY SPECIFIC ITEM. THE RFI SHALL BE IN A FORM ACCEPTABLE TO OWNER AN/OR OWNER'S REPRESENTATIVE, AND ENGINEER AND SHALL ALOW FOR A MINIMUM OF THREE WORK DAYS FOR A WRITTEN REPLY. RFIS SHALL BE NUMBERED CONSECUTIVELY BY DATE SUBMITTED. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR THE ANY ITEMS CONSTRUCTED DIFFERENTLY THAN INTENDED OR AS DEPICTED ON THE PLANS
7. INFORMATION RELATED TO ELEVATIONS AND PROPOSED UTILITIES (SUCH AS ROADWAY GRADES, INVERT ELEVATIONS, RIM ELEVATIONS, GRATE ELEVATIONS, BUILDING FINISHED FLOOR ELEVATIONS, ETC.) MAY BE FOUND IN MORE THAN ON LOCATION IN THE CONTRACT DOCUMENTS. THE CONTRACTOR SHALL SUFFICIENTLY REVIEW ALL PLANS, PROFILES AND ANY OTHER INFORMATION IN THE CONTRACT DOCUMENTS FOR CONSISTENCY PRIOR TO BID. ANY INCONSISTENCIES OR DISCREPANCIES THAT ARE FOUND BY THE CONTRACTOR OR HIS ASSIGNS SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE OWNER AND ENGINEER IN WRITING, IN THE FORMAT OF A BID CLARIFICATION PRIOR TO BID AND AN RFI AFTER THE BID.
8. THERE ARE ADDITIONAL NOTES, SPECIFICATIONS AND REQUIREMENTS CONTAINED THROUGHOUT THE PLAN SET AS WELL AS REFERENCES TO SPECIFICATIONS FROM APPLICABLE GOVERNING AUTHORITIES AND INDUSTRY STANDARDS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN, REVIEW AND ADHERE TO ALL THESE DOCUMENTS.
9. THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT ALL CONSTRUCTION STAKEOUT FOR THIS PROJECT MUST BE COMPLETED FROM THE SITE SPECIFIC SURVEY CONTROL (HORIZONTAL AND VERTICAL) UPON WHICH THE DESIGN IS BASED. THE CONTRACTOR SHOULD NOT RELY ON OR RE-ESTABLISH SURVEY CONTROL BY GPS OR OTHER METHODS FOR USE IN CONSTRUCTION STAKEOUT OR ANY OTHER PURPOSE FOR THIS PROJECT. ANY DISCREPANCIES BETWEEN THE EXISTING HORIZONTAL OR VERTICAL DATA SHOWN ON THESE DRAWINGS AND THAT ENCOUNTERED IN THE FIELD MUST BE REPORTED TO THE DESIGN TEAM PRIOR TO CONSTRUCTION FOR RESOLUTION.
10. REMOVAL OF TREES/WOODY VEGETATION WITHIN THE DELINEATED WETLANDS INCLUDES CUTTING ONLY; DO NOT DISTURB WETLAND SOILS AND DO NOT PERFORM GRUBBING, STUMP GRINDING, BRUSH HOGGING, GRADING, OR OTHER GROUND-DISTURBING ACTIVITIES. STUMPS ARE TO REMAIN IN WETLAND AREAS..
11. PRIOR TO CONSTRUCTION, ALL MATERIAL SHALL BE PROVIDED TO THE OWNER'S REPRESENTATIVE FOR APPROVAL.
12. POST WARNING SIGNS IN ACCORDANCE WITH HIGH-VOLTAGE PROXIMITY ACT.
13. THERE IS TO BE NO LOADING/UNLOADING OF VEHICLES WITHIN ANY PUBLIC RIGHT-OF-WAY.
14. STOPPING SIGHT DISTANCE, SIGHT TRIANGLES AND OTHER SIGHT LINE ANALYSES WAS NOT PERFORMED DURING THE PRELIMINARY DESIGN PHASE.
15. EXCEPT AS SPECIFICALLY NOTES, ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH NYSDOT, NYSDEC, USACE, OSHA, AND ACI REQUIREMENTS, LASTEST REVISION THEREOF.
16. EXECUTE THE WORK IN ACCORDANCE WITH ALL PERMITS, APPROVALS, AND CONDITIONS.
17. DURING CONSTRUCTION, CONTRACTOR MAY ENCOUNTER EXISTING CONDITIONS WHICH ARE NOT NOW KNOWN OR ARE AT VARIANCE WITH THE PROJECT DOCUMENTATION. CONTRACTOR SHALL NOTIFY THE OWNER AND ENGINEER IMMEDIATELY OF ANY DIFFERING CONDITIONS.
18. DO NOT SCALE DRAWINGS. WHERE DISCREPANCIES OCCUR BETWEEN PLANS, DETAILS, AND NOTES, THE MORE STRINGENT REQUIREMENTS SHALL GOVERN. DETAILS AND DETAILED NOTES ON DRAWINGS TAKE PRECEDENCE OVER GENERAL NOTES AND TYPICAL DETAILS.
19. OBTAIN OWNER'S APPROVAL PRIOR TO MAKING ANY SUBSTITUTIONS.
20. CONTRACTOR SHALL BE RESPONSIBLE FOR MEETING ALL OSHA REQUIREMENTS DURING EXECUTION OF THE WORK.
21. CONTRACTOR COORDINATE WORK OF THIS CONTRACT WITH ANY OTHER WORK OCCURRING ON SITE.
22. CONTRACTOR SHALL MAKE ALL WORK AND WORK AREAS AVAILABLE AND ACCESSIBLE TO ALLOW FOR INSPECTION BY OWNER, OWNER'S REPRESENTATIVE, OR REGULATORY AGENCY INSPECTORS.
23. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL TRAFFIC CONTROL, IN ACCORDANCE WITH NYSDOT AND TOWN OF MANLIUS REQUIREMENTS.
24. MATERIALS REMOVED AND/OR WASTED DURING THE WORK SHALL BE COLLECTED AND RECYCLED, TREATED OR DISPOSED OF IN ACCORDANCE WITH ALL APPLICABLE FEDERAL, STATE, AND LOCAL LAWS AND REGULATIONS.
25. NO MATERIAL OR EQUIPMENT SHALL BE PLACED OR STORED IN WETLANDS. ALL EXCESS EXCAVATED MATERIALS SHALL BE REMOVED, STOCKPILED, TRANSPORTED AND DISPOSED OF IN A PROPER AND LEGAL MANNER BY THE CONTRACTOR. ALL DISTURBED SURFACE AREAS SHALL BE SHAPED TO FACILITATE POSITIVE DRAINAGE AND AVOID PONDING.
26. THE CONTRACTOR SHALL OBTAIN THE NECESSARY PERMITS REQUIRED TO PERFORM THE WORK AND SHALL ABIDE BY THE CONDITIONS OF ALL PERMITS AND SHALL PERFORM ALL WORK ORDERED BY SAID PERMITS IN CONFORMANCE THEREWITH.
27. CONTRACTOR SHALL BE RESPONSIBLE FOR PREPARING, PAYING ALL FEES ASSOCIATED WITH, AND COMPLYING WITH A STORM WATER POLLUTION PREVENTION PLAN (SWPPP) AND IMPLEMENTING ALL NECESSARY BMP'S. CONTRACTOR SHALL COMPLY WITH ALL REQUIREMENTS OF THE APPLICABLE WATER DISCHARGE PERMIT INCLUDING THE MONITORING PROGRAM.
28. THE CONTRACTOR SHALL PROVIDE ALL MATERIALS TESTING, INCLUDING BUT NOT LIMITED TO CONCRETE PHYSICAL PROPERTY AND STRENGTH TESTING. COPIES OF ALL TEST RESULTS SHALL BE FURNISHED TO THE ENGINEER WITHIN 1 BUSINESS DAY OF THE COMPLETION OF THE TESTS. IF TESTS FAILS, CONTRACTOR SHALL PAY FOR ALL ASSOCIATED RE-WORK AND RE-TESTS.
29. PROVIDE STABILIZED CONSTRUCTION ENTRANCES MEETING THE NYSDOT REQUIREMENTS AT ALL INGRESS AND EGRESS LOCATIONS FROM THE SITE ONTO THE PUBLIC ROADWAY. ROADWAYS AND TRUCK ROUTES SHALL BE KEPT CLEAN AT ALL TIMES AND AS REQUIRED BY THE TOWN OF MANLIUS. STABILIZED ENTRANCES TO BE MAINTAINED THROUGHOUT CONSTRUCTION.
30. THE CONTRACTOR IS RESPONSIBLE FOR ALL TEMPORARY FACILITIES AND CONTROLS AND THE SELECTION AND LAYOUT OF THEIR OWN STAGING AND STORAGE AREAS WITHIN THE AREA(S) IDENTIFIED ON THE DRAWING.
31. MAINTAIN, RELOCATE OR REPLACE EXISTING SURVEY MONUMENTS, CONTROL POINTS AND STAKES WHICH ARE DISTURBED OR DESTROYED. THIS WORK SHALL BE PERFORMED BY A NYS LICENSED PROFESSIONAL LAND SURVEYOR TO PRODUCE THE SAME LEVEL OF ACCURACY AS THE ORIGINAL MONUMENT(S) IN A TIMELY MANNER AND AT THE CONTRACTOR'S EXPENSE.
32. ALL LAYOUT AND AS-BUILT SURVEY WORK SHALL BE PERFORMED BY A PROFESSIONAL LAND SURVEYOR LICENSED IN THE STATE OF NEW YORK. CONTRACTOR TO PROVIDE ALL SURVEYING SERVICES REQUIRED DURING CONSTRUCTION.
33. CONTRACTOR SHALL MAINTAIN PEDESTRIAN ACCESS AND ANY APPLICABLE PEDESTRIAN DETOURS AROUND THE SITE AT ALL TIMES INCLUDING ANY APPLICABLE ADA REQUIREMENTS.
34. BEFORE PERFORMING ANY EXCAVATION ON THE SITE, CONTRACTOR SHALL CONTACT DIG SAFELY NEW YORK (811) IN ACCORDANCE WITH ALL APPLICABLE LAWS AND REQUIREMENTS.
35. VERIFY EXISTING CONDITIONS, DIMENSIONS, ELEVATIONS, OPENINGS, FIELD CONDITIONS AND QUANTITIES IN THE FIELD PRIOR TO BIDDING, FABRICATING, CONSTRUCTING, OR INSTALLING ANY WORK. ANY DISCREPANCIES SHALL BE REPORTED TO ENGINEER.
36. UNLESS OTHERWISE NOTED OR APPROVED, CONSTRUCTION ACTIVITIES SHALL NOT BE CONDUCTED OUTSIDE THE LIMIT OF WORK SHOWN ON THE DRAWINGS.
37. CONTRACTOR SHALL PROTECT AND PRESERVE ALL AREAS SCHEDULED TO BE PROTECTED AND TO REMAIN. ANY DAMAGE CAUSED BY CONTRACTOR SHALL BE REPAIRED AT NO COST TO THE OWNER WITH ALL WARRANTIES AND GUARANTEES IN EFFECT AS ARE APPLICABLE TO THE PROPOSED WORK.
38. CONTRACTOR SHALL MAINTAIN THE SITE CLEAN AND FREE OF TRASH OR DEBRIS AT THE END OF EACH WORKDAY.
39. CONTRACTOR IS RESPONSIBLE FOR SITE SAFETY AND SECURITY. SITE SAFETY SHALL BE IN ACCORDANCE WITH ALL LOCAL, STATE, AND FEDERAL REGULATIONS. CONTRACTOR SHALL PROVIDE CONTACT INFORMATION FOR THE SITE SAFETY REPRESENTATIVE TO OWNER AND ENGINEER.
40. PRIOR TO CONSTRUCTION, CONTRACTOR SHALL MAKE THEMSELVES AVAILABLE FOR A PRECONSTRUCTION SITE MEETING WITH THE OWNER AND ENGINEER. WORK SHALL NOT COMMENCE PRIOR TO THIS MEETING.
41. CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING ALL APPROPRIATE CONTROLS ON POLLUTANTS FROM THE WORK, INCLUDING NOISE, DUST, SEDIMENT, TURBIDITY, AND ODOR.
42. CONTRACTOR SHALL PERFORM ALL NECESSARY SURVEY AND DATA COLLECTION NECESSARY DURING AND AFTER CONSTRUCTION AND PROVIDE AS-BUILT DRAWINGS OF THE CONSTRUCTED PROJECT. ALL UNDERWATER OR EXPOSED STRUCTURES OR UTILITY INFORMATION SHALL BE RECORDED BY THE CONTRACTOR AND INCLUDED IN THE AS-BUILT DRAWINGS.
43. ALL EQUIPMENT, MATERIALS AND APPURTENANCES SHALL BE STORED AND PROTECTED IN ACCORDANCE WITH MANUFACTURER RECOMMENDATIONS AND REGULATORY REQUIREMENTS.
44. MATERIALS SHALL BE STOCKPILED IN A LOCATION SELECTED BY THE CONTRACTOR WITHIN THE STAGING AREA WHICH DOES NOT INTERFERE WITH THE SAFE AND FREE MOVEMENT OF CONSTRUCTION TRAFFIC AND OPERATIONS.
45. CONTRACTOR IS RESPONSIBLE FOR RESTORING ALL ITEMS DISTURBED DURING CONSTRUCTION TO THE NEAR NATURAL OR PRE-CONSTRUCTION CONDITIONS.

CONSTRUCTION SEQUENCING NOTES:

1. PRIOR TO COMMENCING ANY CLEARING, GRUBBING, EARTHWORK ACTIVITIES, ETC. AT THE SITE, LAYOUT THE WORK LIMITS, FLAG THE WETLANDS AND INSTALL ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES (I.E. SILT FENCES, TREE PROTECTION/BARRIER FENCES, CONSTRUCTION ENTRANCES, STORM DRAIN SEDIMENT FILTERS, DRAINAGE DITCH SEDIMENT FILTERS, ETC.) . TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES MUST BE CONSTRUCTED, STABILIZED, AND FUNCTIONAL BEFORE SITE DISTURBANCE BEGINS.
2. PRIOR TO COMMENCING CLEARING, GRUBBING AND/OR EARTHWORK ACTIVITIES IN ANY OTHER AREA OF THE SITE, INSTALL INLET AND OUTLET AND OUTLET PROTECTION MEASURES (RIP RAP OVERFLOW WEIR(S), CULVERT INLET/OUTLET PROTECTION, ETC.).
3. INSTALL TEMPORARY DIVERSION MEASURES WITH ASSOCIATED STABILIZATION MEASURES (I.E. VEGETATIVE COVER, DRAINAGE DITCH SEDIMENT FILTERS, STORM DRAIN SEDIMENT FILTERS, ETC.) PRIOR TO CONSTRUCTION.
4. LOCATE TEMPORARY DIVERSION MEASURES IN A MANNER THAT WILL ASSURE THAT THE AREA TRIBUTARY TO EACH DIVERSION DOES NOT EXCEED 5 ACRES. INSPECT THESE TEMPORARY DIVERSION MEASURES DAILY AND REPAIR/STABILIZE AS NECESSARY TO MINIMIZE EROSION.
5. COMMENCE SITE CONSTRUCTION ACTIVITIES AS REQUIRED.
6. IMMEDIATELY FOLLOWING COMPLETION OR SUSPENSION OF CONSTRUCTION ACTIVITIES IN ARY PORTION OF THE SITE, ESTABLISH PERMANENT VEGETATION ON ALL EXPOSED SOILS.
7. RESTORE SOILS THAT HAVE BEEN DISTURBED AND COMPACTED DUE TO CONSTRUCTION ACTIVITIES IN ACCORDANCE WITH THE PROJECT SWPPP (WHICH INCLUDES DE-COMPACTION, COMPOST ADDITION AND TOPSOIL PLACEMENT).
8. UPON ESTABLISHMENT OF PERMANENT VEGETATIVE COVER ON ALL DISTURBED AREAS OF THE SITE, REMOVE THE CONSTRUCTION FABRIC FROM THE PRIMARY INLET OF THE OUTLET CONTROL STRUCTURE. THIS SHALL ONLY BE DONE WHEN THE PRIMARY OUTLET IS NO LONGER SUBMERGED.
9. REMOVE ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES AND IMMEDIATELY ESTABLISH PERMANENT VEGETATION ON THE AREAS DISTURBED DURING THEIR REMOVAL.

WINTER STABILIZATION NOTES:

1. WINTER STABILIIZATION SHALL APPLY TO ALL CONSTRUCTION ACTIVITIES INVOLVED WITH ONGOING LAND DISTURBANCE AND EXPOSURE BETWEEN NOVEMBER 15TH AND APRIL 1ST.
2. MAINTAIN AN AREA FOR ADEQUATE STORAGE FOR SNOW AND CONTROL OF MELT WATER, STORE CLEARED SNOW IN A MANNER NOT AFFECTING ONGOING CONSTRUCTION ACTIVITIES.
3. MAINTAIN A MINIMUM 25 FOOT BUFFER FROM ALL PERIMETER CONTROLS. MARK SILT FENCE WITH TALL STAKES THAT ARE VISIBLE ABOVE THE SNOW BANK.
4. EDGE OF DISTURBED AREAS THAT DRAIN TO A WATER BODY WITHIN 100 FEET SHALL HAVE 2 ROWS OF SILT FENCE, INSTALLED 5 FEET APART INSTALLED PARALLEL WITH THE CONTOURS.
5. KEEP DRAINAGE STRUCTURES OPEN AND FREE OF SNOW AND ICE DAMS. REMOVE ALL DEBRIS, ICE DAMS, OR DEBRIS FROM PLOWING OPERATIONS THAT RESTRICT THE FLOW OF RUNOFF AND MELTWATER.
6. IN AREAS WHERE SOIL DISTURBANCE ACTIVITY HAS TEMPORARILY OR PERMANENTLY CEASED, SOIL STABILZATION MEASURES SHALL BE INITIATED BY THE END OF THE NEXT BUSINESS DAY AND COMPLETED WITHIN 3 DAYS. ROLLED EROSION CONTROL BLANKETS MUST BE USED ON ALL SLOPES 3 HORIZONTAL TO 1 VERTICAL OR STEEPER.
7. STABILIZE ARES OF DISTURBED SOIL AT THE END OF EACH DAY UNLESS WORK WILL RESUME WITHIN 24 HOURS IN THE SAME AREA AND NO PRECIPITATION IS FORECASTED OR THE WORK IS IN DISTURBED AREAS THAT COLLECT AND RETAIN RUNOFF
8. PLACE A MINIMUM OF 10 FOOT WIDE STONE PATH AROUND THE PERIMETER OF BUILDINGS UNDER CONSTRUCTION AND AREAS WHERE CONSTRUCTION VEHICLE TRAFFIC IS ANTICIPATED.

MULCHING NOTES:

1. MULCHING IS REQUIRED ON ALL SEEDING. MULCH WILL REDUCE EROSION BEFORE GRASS IS ESTABLISHED AND WILL PROMOTE FASTER AND EARLIER ESTABLISHMENT. THE EXISTENCE OF VEGETATION SUFFICIENT TO CONTROL SOIL EROSION SHALL BE DEEMED IN COMPLIANCE WITH THIS MULCHING REQUIREMENT.
2. SPREAD MULCH UNIFORMLY BY HAND OR MECHANICALLY SO THAT APPROXIMATELY 75% TO 95% OF THE SOIL SURFACE WILL BE COVERED. FOR UNIFORM DISTRIBUTION OF HAND-SPREAD MULCH, DIVIDE THE AREA INTO 1,000 SF SECTIONS AND DISTRIBUTE AT LEAST 90 POINTS WITHIN EACH SECTION.
3. MULCH ANCHORING SHALL BE ACCOMPLISHED IMMEDIATELY AFTER PLACEMENT TO MINIMIZE LOSS BY WIND OR WATER. APPLICATIONS SHALL BE HEAVIER AT EDGES WHERE WIND CATCHES THE MULCH, IN VALLEYS, AND AT CRESTS OF BANKS. REMAINED OF AREA SHALL BE UNIFORM IN APPEARANCE.
4. MULCH MATERIALS SHALL BE WOOD FIBER APPLIED WITH A HYDROMULCH AT 2000 POUNDS PER ACRE, OR IF DRILLING, UNROTTED SMALL GRAIN STRAW FREE OF SEEDS, OR SALTMARSH HAY APPLIED AT THE RATE OF 2 TONS PER ACRES (90 TO 100 POUNDS PER 1,000 SF).

GRADING NOTES:

1. DO NOT PLACE FILL, EMBANKMENT, OR BACKFILL MATERIAL ON FROZEN GROUND. FROZEN MATERIALS, SNOW OR ICE SHALL NOT BE PLACED IN ANY FILL OR EMBANKMENT UNLESS APPROVED IN WRITING BY THE ENGINEER.
2. PROVIDE POSITIVE DRAINAGE AWAY FROM EQUIPMENT PADS OF NO MORE THAN 1%.
3. DO NOT PLACE FILL IN WETLANDS.
4. SEED ALL DISTURBED AREAS, INCLUDING AREAS UNDER SOLAR PANELS WITH THE APPROPRIATE SEED MIX. COORDINATE WITH LANDSCAPE PLAN AND DETAILS.

UTILITY NOTES:

1. THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AS SHOW ON THESE PLANS IS BASED ON RECORDS OF THE VARIOUS UTILITY COMPANIES AND, WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THE INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE CONTRACTOR MUST CALL DIG SAFELY NEW YORK AT LEAST 72 HOURS BEFORE ANY EXCAVATION TO REQUEST EXACT FIELD LOCATION OF UTILITIES. ITS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS IN A MANNER WHICH WILL NOT NEGATIVELY AFFECT ANY EXISTING USERS OF THESE UTILITIES.
2. THE LOCATION OF EXISTING ELECTRIC LINES ARE APPROXIMATE. THE CONTRACTOR MUST CONSULT THE LOCAL UTILITY COMPANIES FOR ADDITIONAL INFORMATION. ALL PROPOSED ELECTRICAL WORK, TRANSFORMER PADS, AND ASSOCIATED APPURTENANCES SHALL BE COORDINATED WITH THE APPROPRIATE ELECTRIC COMPANY AND MUST BE IN CONFORMANCE WITH APPLICABLE LOCAL, COUNTY, STATE AND FEDERAL GUIDELINES AND REQUIREMENTS
3. PROVIDE A MINIMUM OF TWO FEET OF COVER OVER ALL UNDERGROUND ELECTRIC UTILITIES.
4. PROVIDE A KNOX-BOX® AT EACH GATED ENTRANCE FOR EMERGENCY PERSONNEL USE.
5. ELECTRICAL DESIGN PERFORMED BY PURE POWER ENGINEERING, INC. SEALED ELECTRICAL PLANS WILL BE PROVIDED UNDER SEPARATE COVER.
6. ELECTRICAL DESIGNER TO REVIEW SLAB ON GRADE DESIGN FOR PAD-MOUNT EQUIPMENT AND UPDATE/REDESIGN AS NECESSARY TO SUPPORT THE APPLIED LOADS AND PROVIDE THE CONNECTION DETAILS BETWEEN THE EQUIPMENT AND FOUNDATIONS.

TRENCHING/EXCAVATION NOTES:

1. ALL TRENCHING/EXCAVATION TO BE PERFORMED IN ACCORDANCE WITH LOCAL, STATE AND FEDERAL REGULATIONS AND SHALL BE SUPERVISED BY AN OSHA-CERTIFIED COMPETENT PERSON.
2. ALL EXCAVATION SUPPORT/SHORING DESIGN (IF REQUIRED) IS DELEGATED TO THE CONTRACTOR, AND SHALL BE APPROVED BY A PROFESSIONAL ENGINEER LICENSED IN NEW YORK STATE
3. IF PAD-MOUNT EQUIPMENT AND BURIED CONDUITS CANNOT TOLERATE SEASONAL MOVEMENT, BACKFILL TRENCHES/EXCAVATION WITH NON-FROST SUSCEPTIBLE MATERIAL.
4. CONDUIT ENCASEMENT DETAILS TO BE PROVIDED BY OTHERS.

C

ISSUED FOR PERMIT
NOT FOR CONSTRUCTION

Warning:
It is a violation of Section 7209.2 of the New York State Education Law for any person, unless acting under the direction of a licensed professional engineer, to alter in any way plans, specifications, plats or reports to which the seal of a professional engineer has been applied. If an item bearing the seal of a professional engineer is altered, the altering engineer shall affix to the item his seal and the notation "Altered By" followed by his signature, the date, and a specific description of the alteration.

Attention:
0 1"
If this scale bar does not measure 1" then drawing is not original scale.

STATE OF NEW YORK · PHILIP J. SNYDER · 100361 · LICENSED PROFESSIONAL ENGINEER

Designed:	V. DICASTELNUOVO
Drawn:	V. DICASTELNUOVO
Checked:	B. MCDEVITT
Approved:	P. SNYDER
P.E. No:	100361
GEI Project	223192

GEI Consultants
GEI CONSULTANTS, INC., P.C.
1301 TRUMANSBURG ROAD
SUITE N
ITHACA, NY 14850
(607)216-8955

NYSOLAR 07, LLC
300 W GOETHE ST
CHICAGO, ILLINOIS 60610

NYSOLAR07 LLC
WARNER SOLAR FACILITY
7859 PECK ROAD
KIRKVILLE, NY 13082

NO	DATE	ISSUE/REVISION	APP
C	3/28/2023	REVISIONS PER PB REVIEW	PJS
A	11/2/2022	SPECIAL USE PERMIT REVIEW	PJS

SHEET NAME: **GENERAL NOTES**

SHEET NO.: **G-002**

DICASTELNUOVO, VINNIE B:\Working\NYSOLAR07 LLC\223192 Warner Solar Development\00_CAD_Sheet Sets\G-002 GENERAL NOTES.dwg - 3/28/2023

NOTES:

1. BOUNDARY SURVEY AND EXISTING CONDITIONS BASED ON SURVEY PERFORMED BY SPAULDING LAND SURVEY ON OCTOBER 26, 2022.
2. EXISTING CONTOURS ARE APPROXIMATE AND SHOULD BE FIELD VERIFIED BY THE CONTRACTOR PRIOR TO STARTING EARTHWORK.
3. WETLAND DELINIATED BY GEI CONSULTANTS, INC., P.C. ON SEPTEMBER 1, 2022.

LEGEND:

- PROPERTY LINE
- WETLANDS
- EXISTING MINOR CONTOUR — 401
- EXISTING MAJOR CONTOUR — 400
- ADJACENT PROPERTY LINE
- EXISTING OVERHEAD UTILITIES — O/E
- EXISTING ROADWAY
- EXISTING DRIVEWAY
- EXISTING TREE LINE
- IRON POLE FOUND — IPF
- IRON ROD FOUND — IRF
- UTILITY POLE
- TREE DECIDIOUS
- ELECTRICAL TRANSFORMER

ISSUED FOR PERMIT
NOT FOR CONSTRUCTION

0 100 200
SCALE, FEET

SOURCE:

1. PARCEL BOUNDARIES AND TOPOGRAPHY OBTAINED FROM NYS GIS CLEARING HOUSE, ACCESSED AUGUST 22, 2022.

Attention:
0 1"
If this scale bar does not measure 1" then drawing is not original scale.

STATE OF NEW YORK · PHILIP J. SNYDER · LICENSED PROFESSIONAL ENGINEER · 100361

Designed:	V. DICASTELNUOVO
Drawn:	V. DICASTELNUOVO
Checked:	B. MCDEVITT
Approved:	P. SNYDER
P.E. No:	100361
GEI Project	223192

GEI Consultants
GEI CONSULTANTS, INC., P.C.
1301 TRUMANSBURG ROAD
SUITE N
ITHACA, NY 14850
(607)216-8955

NYSOLAR 07, LLC
300 W GOETHE ST
CHICAGO, ILLINOIS 60610

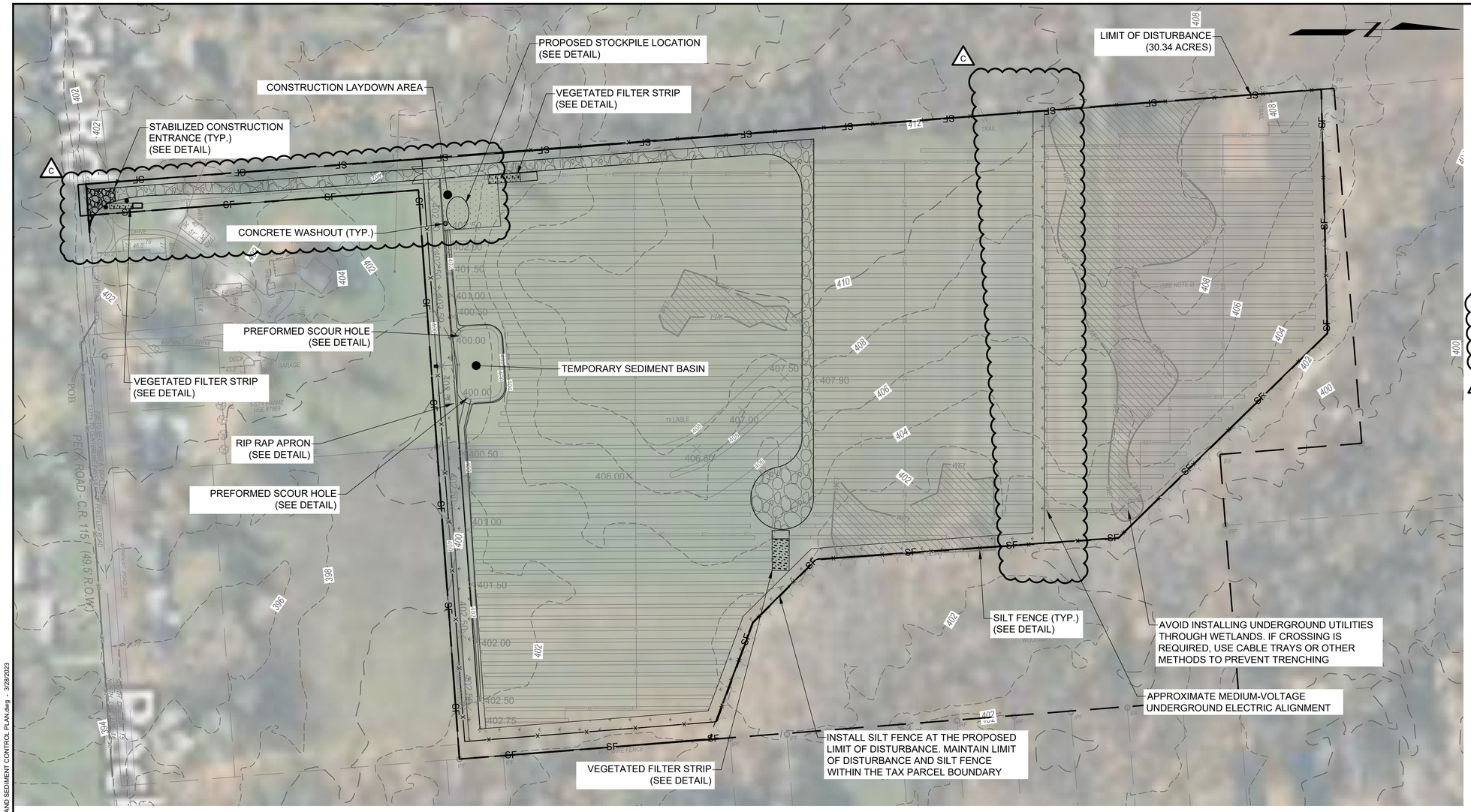
NYSOLAR07 LLC
WARNER SOLAR FACILITY
7859 PECK ROAD
KIRKVILLE, NY 13082

NO	DATE	ISSUE/REVISION	APP
B	1/10/2023	REVISIONS PER SUBDIVISION	PJS
A	11/2/2022	SPECIAL USE PERMIT REVIEW	PJS

SHEET NAME: **EXISTING CONDITIONS PLAN**

SHEET NO.: **C-101**

DICASTELNUOVO, VINNIE B:\Working\NYSOLAR07 LLC\223192 Warner Solar Development\00_CAD_Sheet Sets\C-101 EXISTING CONDITIONS.dwg - 3/28/2023



SEDIMENT & EROSION CONTROL NOTES:

1. CONDUCT SOIL DISTURBANCE IN SUCH A MANNER AS TO MINIMIZE EROSION. CONSIDER THE TIME OF YEAR, SITE CONDITIONS AND THE TEMPORARY OR PERMANENT MEASURES FOR SOIL STABILIZATION.
2. CONSTRUCT SOIL EROSION AND SEDIMENT CONTROL FEATURES PRIOR TO DISTURBING SOIL OR PERFORMING INTRUSIVE ACTIVITIES.
3. STABILIZE DISTURBED AREAS WITH TEMPORARY OR PERMANENT MEASURES WITHIN 14 CALENDAR DAYS AFTER END OF ACTIVE OR REDISTURBANCE.
4. STABILIZE SLOPES GREATER THAN OR EQUAL TO 3 HORIZONTAL : 1 VERTICAL WITH EROSION CONTROL BLANKETS IN COMBINATION WITH SEEDING.
5. STABILIZE CONSTRUCTION DITCHES AN SWALES WITH EROSION CONTROL BLANKETS IN COMBINATION WITH SEEDING.
6. ERECT SILT FENCE AROUND SOIL STOCKPILES THAT ARE TO REMAIN EXPOSED FOR PERIODS MORE THAN 3 DAYS.
7. THE EROSION CONTROL MEASURES INDICATED ON THE PLANS ARE THE MINIMUM REQUIREMENTS. ADDITIONAL MEASURES MAY BE REQUIRED, AS DIRECT BY THE QUALIFIED SWPPP INSPECTOR, ENGINEER OR GOVERNING AGENCY.
8. INSPECT AND MAINTAIN ALL TEMPORARY AND PERMANENT SEDIMENT AND EROSION CONTROL MEASURES AS NEEDED AND IN ACCORDANCE WITH THE NYSDEC SPDES GENERAL PERMIT FOR STORMWATER DISCHARGES FROM CONSTRUCTION ACTIVITY, PERMIT NO. GP-020-001 OR LATEST VERSION AVAILABLE, AND AS SPECIFIED IN THIS SWPPP.
9. CONTRACTOR SHALL SUBMIT SOIL PENETROMETER READINGS OF THE PERMEABLE HAUL ACCESS ROAD AND A MAP OF THE READING LOCATIONS, FOR APPROVAL, PRIOR TO THE RELEASE OF FUNDS FOR ANY RESTORATION PAY ITEMS TO ENSURE PREDEVELOPMENT SOIL CONDITIONS HAVE BEEN MAINTAINED (SEE NOTES 6 AND 7 FOR PERMEABLE HAUL ACCESS ROAD ON SHEET C-107.)

C

LEGEND:

PROPERTY LINE	
PROPOSED UNDERGROUND ELECTRIC	U/E
PROPOSED CHAIN LINK FENCE	X
EXISTING MINOR CONTOUR	401
EXISTING MAJOR CONTOUR	400
PROPOSED MINOR CONTOUR	401
PROPOSED MAJOR CONTOUR	400
PROPOSED VEGETATED FILTER STRIP	
PROPOSED SILT FENCE	SF
LIMIT OF DISTURBANCE	

ISSUED FOR PERMIT
NOT FOR CONSTRUCTION

0 100 200
SCALE, FEET

Warning:
It is a violation of Section 7209.2 of the New York State Education Law for any person, unless acting under the direction of a licensed professional engineer, to alter in any way plans, specifications, plats or reports to which the seal of a professional engineer has been applied. If an item bearing the seal of a professional engineer is altered, the altering engineer shall affix to the item his seal and the notation "Altered By" followed by his signature, the date, and a specific description of the alteration.

Attention:
0 1"
If this scale bar does not measure 1" then drawing is not original scale.

STATE OF NEW YORK · PHILIP J. SNYDER · 100361 · LICENSED PROFESSIONAL ENGINEER

Designed:	V. DICASTELNUOVO
Drawn:	V. DICASTELNUOVO
Checked:	B. MCDEVITT
Approved:	P. SNYDER
P.E. No:	100361
GEI Project	223192

GEI Consultants
GEI CONSULTANTS, INC., P.C.
1301 TRUMANSBURG ROAD
SUITE N
ITHACA, NY 14850
(607)216-8955

NYSOLAR 07, LLC
300 W GOETHE ST
CHICAGO, ILLINOIS 60610

NYSOLAR07 LLC
WARNER SOLAR FACILITY
7859 PECK ROAD
KIRKVILLE, NY 13082

NO	DATE	ISSUE/REVISION	APP
C	3/28/2023	REVISIONS PER PB REVIEW	PJS
B	1/10/2023	REVISIONS PER SUBDIVISION	PJS
A	11/2/2022	SPECIAL USE PERMIT REVIEW	PJS

SHEET NAME
EROSION AND SEDIMENT CONTROL PLAN

SHEET NO.
C-102

DICASTELNUOVO, VINNIE B:\Working\NYSOLAR07 LLC\223192 Warner Solar Development\00_CAD_Sheet Sets\C-102 EROSION AND SEDIMENT CONTROL PLAN.dwg - 3/28/2023

ZONING COMPLIANCE (§155-12)

PROPERTY ADDRESS	7859 PECK ROAD, KIRKVILLE, NY 13082	
TAX PARCEL ID	BLOCK 1, LOT 32.1	
ZONING DISTRICT	RESTRICTED AGRICULTURE (R-A)	
PROPOSED USE	LARGE SCALE SOLAR ENERGY SYSTEM	
ITEM	**REQUIRED**	**PROPOSED**
MINIMUM LOT AREA		1,134,990 SF
PUBLIC SEWER	40,000 SF	1,134,990 SF
SEPTIC SYSTEM	100,000 SF	1,134,990 SF
MINIMUM LOT FRONTAGE		
PUBLIC SEWER	150 FT	N/A
SEPTIC SYSTEM	200 FT	N/A
MIN. FRONT YARD SETBACK	50 FT	50 FT
MIN SIDE YARD SETBACK	50 FT	50 FT
MIN REAR YARD SETBACK	50 FT	50 FT

(1) REQUIRED ZONING INFORMATION IN THIS TABLE IS TAKEN FROM SECTION 155-12 OF THE TOWN OF MANILUS ZONING CODE
(2) GROUND-MOUNTED SOLAR ENERGY SYSTEMS ARE A PERMITTED USE WITHIN THE RESTRICTED AGRICULTURE (R-A) DISTRICT
(3) SETBACKS FOR SOLAR INSTALLATIONS ARE DEFINED IN SECTION 155-27.2.D.(4).[2] OF THE TOWN OF MANILUS ZONING CODE

NOTES:

1. INSTALL PERMANENT CHAIN LINK FENCE AT OR INSIDE LIMIT OF DISTURBANCE.
2. LIMIT OF DISTURBANCE LINE NOT SHOWN ON THIS PLAN FOR CLARITY.

LEGEND:

- *PARCEL BOUNDARY LINE*
- *WETLANDS* — WET
- SETBACK LINE
- PROPOSED CHAIN LINK FENCE — x —

ISSUED FOR PERMIT
NOT FOR CONSTRUCTION

0 100 200
SCALE, FEET

Warning:
It is a violation of Section 7209.2 of the New York State Education Law for any person, unless acting under the direction of a licensed professional engineer, to alter in any way plans, specifications, plats or reports to which the seal of a professional engineer has been applied. If an item bearing the seal of a professional engineer is altered, the altering engineer shall affix to the item his seal and the notation "Altered By" followed by his signature, the date, and a specific description of the alteration.

Attention:
0 1"
If this scale bar does not measure 1" then drawing is not original scale.

STATE OF NEW YORK · PHILIP J. SNYDER · 100361 · LICENSED PROFESSIONAL ENGINEER

Designed:	V. DICASTELNUOVO
Drawn:	V. DICASTELNUOVO
Checked:	B. MCDEVITT
Approved:	P. SNYDER
P.E. No:	100361
GEI Project	223192

GEI Consultants
GEI CONSULTANTS, INC., P.C.
1301 TRUMANSBURG ROAD
SUITE N
ITHACA, NY 14850
(607)216-8955

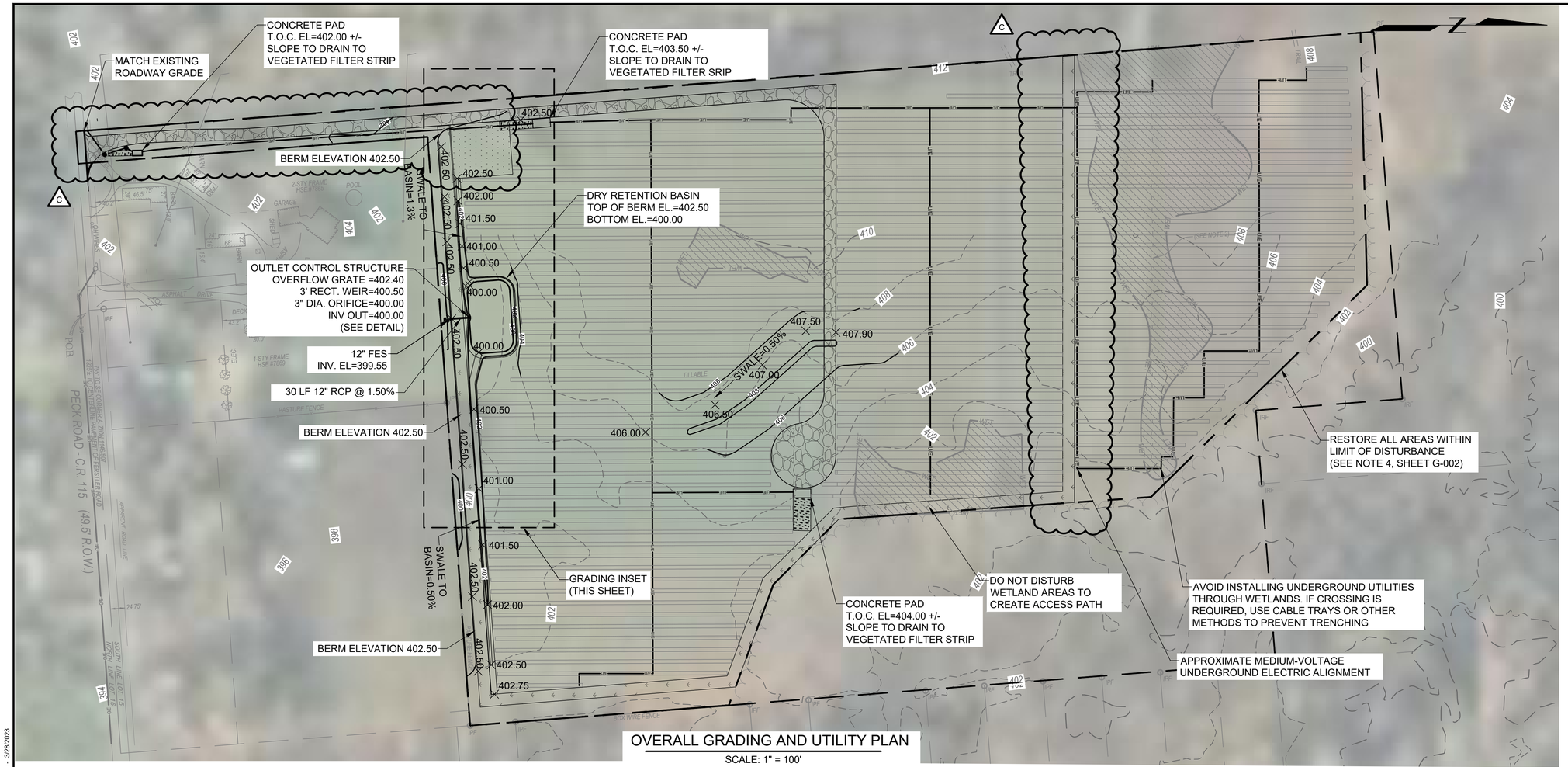
NYSOLAR 07, LLC
300 W GOETHE ST
CHICAGO, ILLINOIS 60610

NYSOLAR07 LLC
WARNER SOLAR FACILITY
7859 PECK ROAD
KIRKVILLE, NY 13082

NO	DATE	ISSUE/REVISION	APP
C	3/28/2023	REVISIONS PER PB REVIEW	PJS
B	1/10/2023	REVISIONS PER SUBDIVISION	PJS
A	11/2/2022	SPECIAL USE PERMIT REVIEW	PJS

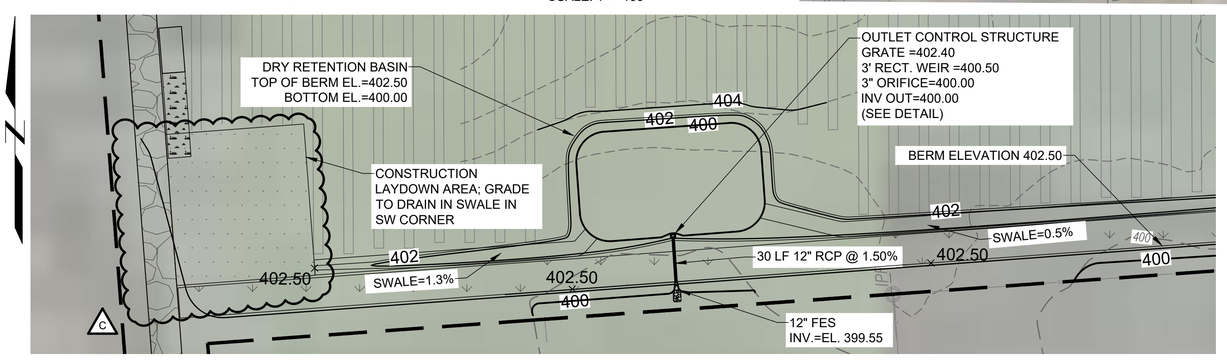
SHEET NAME: **SITE PLAN**
SHEET NO.: **C-103**

DICASTELNUOVO, VINNIE B:\Working\NYSOLAR07 LLC\223192.Warner Solar Development\00_CAD_Sheet Sets\C-103 SITE PLAN.dwg - 3/28/2023



OVERALL GRADING AND UTILITY PLAN

SCALE: 1" = 100'



GRADING INSET

SCALE: 1" = 50'

ABBREVIATIONS:
T.O.C. = TOP OF CONCRETE
FES = FLARED END SECTION
EL. = ELEVATION
RCP = REINFORCED CONCRETE
INV. = INVERT ELEVATION

LEGEND:

PROPERTY LINE	
WETLANDS	WET
SETBACK LINE	
PROPOSED UNDERGROUND ELECTRIC	U/E
LIMIT OF DISTURBANCE	
EXISTING MINOR CONTOUR	401
EXISTING MAJOR CONTOUR	400
PROPOSED MINOR CONTOUR	401
PROPOSED MAJOR CONTOUR	400
PROPOSED VEGETATED FILTER STRIP	

ISSUED FOR PERMIT
NOT FOR CONSTRUCTION

0 100 200
SCALE, FEET

0 50 100
SCALE, FEET

Warning:
It is a violation of Section 7209.2 of the New York State Education Law for any person, unless acting under the direction of a licensed professional engineer, to alter in any way plans, specifications, plats or reports to which the seal of a professional engineer has been applied. If an item bearing the seal of a professional engineer is altered, the altering engineer shall affix to the item his seal and the notation "Altered By" followed by his signature, the date, and a specific description of the alteration.

Attention:
0 1"
If this scale bar does not measure 1" then drawing is not original scale.

STATE OF NEW YORK · PHILIP J. SNYDER · 100361 · LICENSED PROFESSIONAL ENGINEER

Designed:	V. DICASTELNUOVO
Drawn:	V. DICASTELNUOVO
Checked:	B. MCDEVITT
Approved:	P. SNYDER
P.E. No:	100361
GEI Project	223192

GEI Consultants
GEI CONSULTANTS, INC., P.C.
1301 TRUMANSBURG ROAD
SUITE N
ITHACA, NY 14850
(607)216-8955

NYSOLAR 07, LLC
300 W GOETHE ST
CHICAGO, ILLINOIS 60610

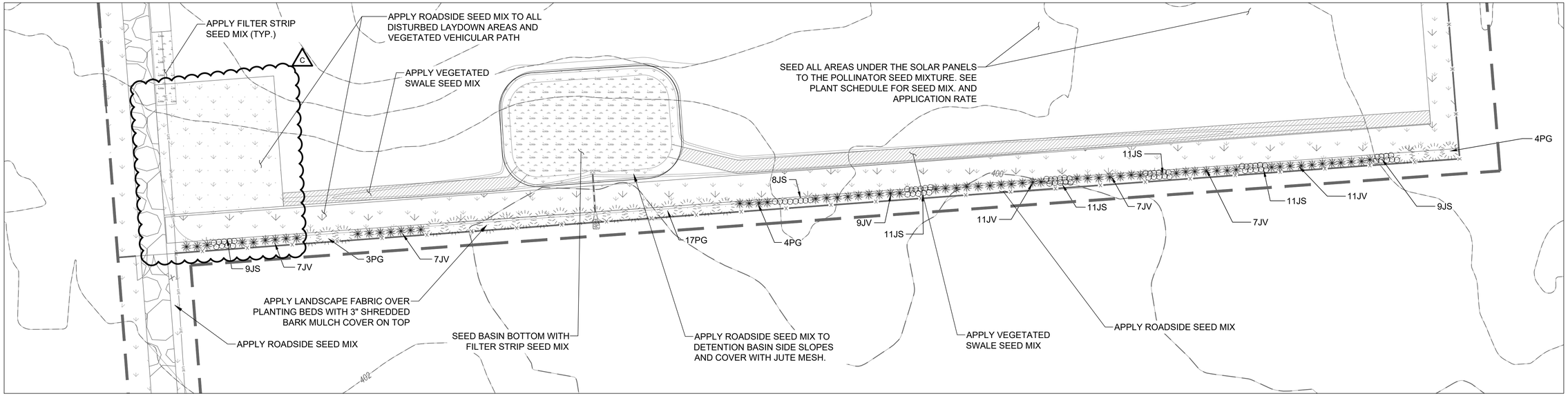
NYSOLAR07 LLC
WARNER SOLAR FACILITY
7859 PECK ROAD
KIRKVILLE, NY 13082

NO	DATE	ISSUE/REVISION	APP
C	3/28/2023	REVISIONS PER PB REVIEW	PJS
B	1/10/2023	REVISIONS PER SUBDIVISION	PJS
A	11/2/2022	SPECIAL USE PERMIT REVIEW	PJS

SHEET NAME
GRADING AND UTILITIES PLAN

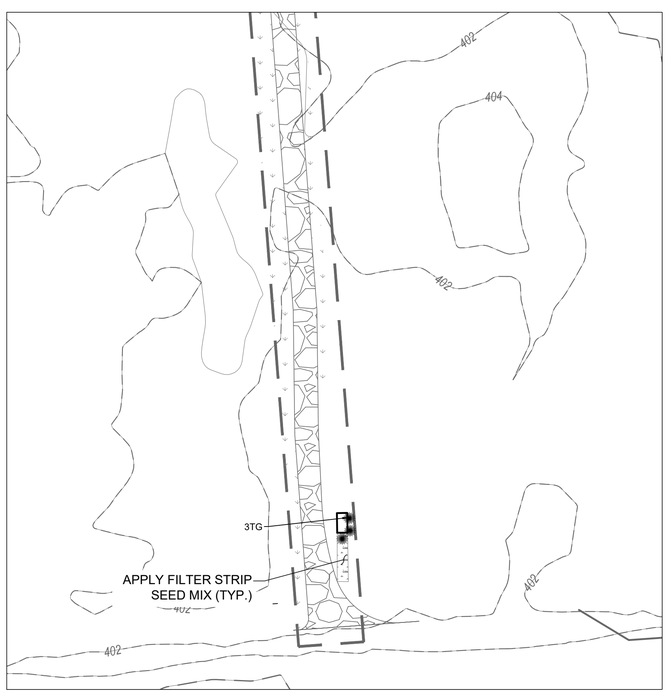
SHEET NO.
C-104

DICASTELNUOVO, VINNIE B:\Working\NYSOLAR07 LLC\223192 Warner Solar Development\00_CAD_Sheet Sets\C-104 GRADING AND UTILITY PLAN.dwg - 3/28/2023



OVERALL LANDSCAPING AND SCREENING PLAN

SCALE: 1" = 40'



DRIVEWAY LANDSCAPING PLAN

SCALE: 1" = 40'

C

C

PLANTING LIST

SYMBOL	QUANTITY	ABV	BOTANICAL NAME	COMMON NAME	SIZE	CONT	SPACING	MATURE HEIGHT	MATURE RADIUS
	65	JV	JUNIPERUS VIRGINIANA	EASTERN RED CEDAR	4'-5' HT.	#7 CONT.	8' O.C.	50'	20'
	70	JS	JUNIPERUS SXOPLURRUM 'SKYROCKET'	SKYROCKET JUNIPER	4'-5' HT.	#7 CONT.	4' O.C.	20'	3'
	24	PG	PICEA GLAUCA	WHITE SPRUCE	4'-5' HT.	#7 CONT.	12' O.C.	60'	20'
	3	TG	THUJA PLICATA X STANDISHII	THUJA GREEN GIANT	4'-5' HT.	#7 CONT.	10' O.C.	40'	6'

LEGEND:

- *PROPERTY LINE*
- *WETLANDS* — WET
- SETBACK LINE
- PROPOSED UNDERGROUND ELECTRIC — U/E
- PROPOSED CHAIN LINK FENCE — X
- *EXISTING MINOR CONTOUR* — 401
- *EXISTING MAJOR CONTOUR* — 400
- FILTER STRIP SEED MIXTURE
- PERMEABLE ACCESS ROAD
- MAINTENANCE ACCESS PATH
- VEGETATED SWALE

ISSUED FOR PERMIT
NOT FOR CONSTRUCTION

0 40 80
SCALE, FEET

Warning:
It is a violation of Section 7209.2 of the New York State Education Law for any person, unless acting under the direction of a licensed professional engineer, to alter in any way plans, specifications, plats or reports to which the seal of a professional engineer has been applied. If an item bearing the seal of a professional engineer is altered, the altering engineer shall affix to the item his seal and the notation "Altered By" followed by his signature, the date, and a specific description of the alteration.

Attention:
0 1"
If this scale bar does not measure 1" then drawing is not original scale.

STATE OF NEW YORK · PHILIP J. SNYDER · 100361 · LICENSED PROFESSIONAL ENGINEER

Designed:	L. SCHWANOF
Drawn:	D. CHECHURIN
Checked:	V. DICASTELNUOVO
Approved:	P. SNYDER
P.E. No:	100361
GEI Project	223192

GEI Consultants
GEI CONSULTANTS, INC., P.C.
1301 TRUMANSBURG ROAD
SUITE N
ITHACA, NY 14850
(607)216-8955

NYSOLAR 07, LLC
300 W GOETHE ST
CHICAGO, ILLINOIS 60610

NYSOLAR07 LLC
WARNER SOLAR FACILITY
7859 PECK ROAD
KIRKVILLE, NY 13082

NO	DATE	ISSUE/REVISION	APP
C	3/28/2023	REVISIONS PER PB REVIEW	PJS
B	1/10/2023	REVISIONS PER SUBDIVISION	PJS
A	11/2/2022	SPECIAL USE PERMIT REVIEW	PJS

SHEET NAME: **LANDSCAPING PLAN**

SHEET NO.: **C-105**

DICASTELNUOVO, VINNIE B:\Working\NYSOLAR07 LLC\223192 Warner Solar Development\00_CAD_Sheet Sets\C-105-106 LANDSCAPING PLAN, DETAIL AND NOTES.dwg - 3/28/2023

LANDSCAPE/PLANTING NOTES:

1. CONTRACTOR SHALL PERFORM WORK IN COMPLIANCE WITH ALL ENVIRONMENTAL PERMITS.
2. CONTRACTOR SHALL REQUEST UTILITY MARK-OUTS BEFORE BEGINNING WORK. CONTRACTOR IS ADVISED THAT HAND DIGGING AND SHALLOW RAKING WILL BE REQUIRED IN PROXIMITY TO BURIED UTILITIES AND HEAVY MACHINERY MAY BE PROHIBITED ON SITE DURING PLANTING OPERATIONS.
3. ACCESS TO THE SITE SHALL BE THROUGH THE EXISTING DRIVEWAY AND VEHICULAR PATHS, AND LOCATION OF TEMPORARY STAGING AREAS WILL BE DIRECTED BY THE OWNER.
4. SITE PREPARATION SHALL INCLUDE REMOVAL OF ALL WEEDS AND INVASIVE SPECIES, SURFACE DEBRIS, RUBBLE, STONES, AND COBBLES GREATER THAN 1 INCH IN SIZE, AND ANY MATERIALS DELETERIOUS TO PLANT GROWTH. PLANTING BED SHALL BE GRADED TO EXISTING SURROUNDING GRADES.

PLANTINGS:

1. PLANT INSTALLATIONS SHALL TAKE PLACE DURING DRY AND UNFROZEN GROUND CONDITIONS DURING THE FOLLOWING SEASONAL WINDOWS: MARCH 1ST TO MAY 15TH; OR AUGUST 15TH TO NOVEMBER 1ST.
2. DELIVER PLANTS IMMEDIATELY PRIOR TO PLANTING ON SITE. TEMPORARY STORAGE OF ANY PLANT MATERIALS AFTER DELIVERY SHALL NOT EXCEED ONE WEEK. PLANTS MUST REMAIN OUT OF DIRECT EXPOSURE TO SUN AND WIND, AND MOISTURE OF PLANT CONTAINERS OR ROOT BALLS MUST BE MAINTAINED BY COVERING WITH WET STRAW OR CLOTH AND PERIODIC WATERING UNTIL TIME OF PLANTING.
3. HANDLE ALL PLANT MATERIALS IN A MANNER SO AS TO AVOID DAMAGES TO THE PLANTS, ROOT BALLS AND CONTAINERS. DO NOT STACK PLANTS DURING TRANSPORT OR TEMPORARY STORAGE TO AVOID CRUSHING. ALL PLANTS THAT ARE DAMAGED, NOT IN HEALTHY GROWING CONDITIONS, OR LACKING WELL DEVELOPED ROOTS SHALL BE REJECTED AND REPLACED AT CONTRACTOR'S EXPENSE.
4. IT IS THE DESIGN INTENT THAT ALL PLANTS BE INSTALLED AT THE ON-CENTER SPACING SHOWN IN THE PLANT SCHEDULE.
5. SET PLANTS STRAIGHT OR PLUMB IN LOCATIONS INDICATED ON PLAN, AND AT A LEVEL AFTER SETTLEMENT THAT MATCHES THE FINISHED GRADE IN THE FORMER GROWING MEDIUM.
6. ABSORBENT POLYMER AND TIME RELEASE ORGANIC FERTILIZER WITH MYCORRHIZAL INOCULANT SHOULD BE ADDED TO PLANT PITS DURING PLANTING.
7. CONTAINERS AND/OR WIRE FRAMES MUST BE REMOVED FROM THE ROOT BALLS BEFORE PLANTING. TWINE AT THE TOP OF THE ROOT BALL OF BALLED AND BURLAPPED TREES SHALL BE CUT, AND THE TOP OF THE BURLAP ROLLED BACK 1/3 TO EXPOSE THE SOIL BEFORE BACKFILLING PLANT PITS.
8. STAKE TREES IN PLACE AS SHOWN IN THE TYPICAL PLANTING DETAIL.
9. WATER PLANTS DURING PLANTING OPERATIONS. ALL PLANTINGS MUST BE WATERED ONCE PER WEEK FOR 3 MONTHS DURING THE GROWING SEASON TO AVOID TRANSPLANT SHOCK, UNLESS THE PLANTED AREAS RECEIVE A MINIMUM OF 1 INCH OF RAINFALL DURING THE WEEK.
10. CONTRACTOR SHALL PROVIDE A 1-YEAR GUARANTEE TO REPLACE DEAD OR STRESSED PLANT MATERIAL.
11. ALL REPLACEMENT PLANTINGS SHALL BE COMPLETED NO LATER THAN THE NEXT CONSECUTIVE PLANTING SEASON.
12. CONTRACTOR SHALL PROVIDE ROUTINE MAINTENANCE THROUGHOUT THE 1-YEAR GUARANTEE PERIOD, WHICH INCLUDES WATERING, REMOVAL OF WEEDS AND INVASIVE SPECIES, AND REINFORCEMENT OF PLANT STAKES.

SEEDING:

1. LIGHTLY RAKE THE SEEDBED TO REMOVE ALL WEEDS, SURFACE DEBRIS, STICKS, ROOTS, RUBBISH AND ROCKS GREATER THAN 1/2 INCH IN SIZE.
2. SEEDING SHALL TAKE PLACE DURING DRY AND UNFROZEN GROUND CONDITIONS DURING THE FOLLOWING SEASONAL WINDOWS: MARCH 1ST TO MAY 15TH; OR AUGUST 15TH TO SEPTEMBER 30TH.
3. SPECIFIED POLLINATOR SEED MIX, OR APPROVED EQUAL SHALL APPLIED UNDER SOLAR PANELS AS SHOWN ON THE LANDSCAPE PLAN AFTER SITE PREPARATION AND FINE GRADING.
4. DRILL SEED, BROADCAST, HYDROSEED OR UTILIZE A METHOD THAT WILL ENSURE UNIFORM DISTRIBUTION OF ALL SEEDS IN THE MIXTURE.
5. ROADSIDE SEED MIXTURE, OR APPROVED EQUAL SHALL BE APPLIED ON DISTURBED LAYDOWN AND ROADSIDE AREAS AS SHOWN ON THE LANDSCAPE PLAN AFTER SITE PREPARATION AND FINE GRADING.
6. FILTER STRIP SEED MIX SHALL BE APPLIED IMMEDIATELY DOWNSLOPE FROM THE CONCRETE PAD AT THE RETENTION BASIN AS SHOWN ON THE LANDSCAPE PLAN AFTER SITE PREPARATION AND FINE GRADING.
7. BROADCAST SEEDED AREAS SHALL BE LIGHTLY RAKED OR TAMPED AFTER APPLICATION TO MAXIMIZE SEED/SOIL CONTACT.
8. APPLY JUTE MESH OVER ALL SEEDED AREAS THAT EXCEED A 3 FT. HORIZONTAL:1 FT. VERTICAL SLOPE.
9. PROTECT SEEDED AREAS AGAINST TRAFFIC OR OTHER USE IMMEDIATELY AFTER SEEDING BY ERECTING BARRICADES AND PLACING WARNING SIGNS.
10. SEEDED AREAS THAT ARE DAMAGED BY RUNOFF GULLIES OR RILLS SHALL BE REPAIRED, RE-SEEDED, AND COVERED WITH STRAW MULCH DURING THE SAME GROWING SEASON.

POLLINATOR SEED MIXTURE
APPLICATION RATE ~25 LBS/ACRE

% BY WEIGHT	BOTANICAL NAME	COMMON NAME	MATURE HEIGHT (FT)
5.0	*Agrostis perennans*	Autumn Bentgrass	3.5
2.0	*Eragrostis spectabilis*	Purple Lovegrass	1.5
20.0	*Schizachyrium scoparium*	Little Bluestem	3.9
23.7	*Bouteloua curtipendula*	Sideoats Grama	3.2
0.5	*Pestimone hirsutus*	Hairy Beardtongue	2.9
2.6	*Chamaecrista fasciculata*	Partridge Pea	2.9
2.0	*Coreopsis lanceolata*	Lanceleaf Coreopsis	3.3
15.0	*Gaillardia aristata*	Perennial Gaillardia (Blanket Flower)	2.3
0.2	*Oenthera speciosa*	Showy Evening Primrose	2.0
3.0	*Rudbeckia hirta*	Blackeyed Susan	3.3
2.5	*Aster prenanthoides*	Zig Zag Aster	3.3
5.0	*Monarda punctata*	Spotted Beebalm	3.3
3.0	*Anemone canadensis*	Canadian Anemone	2.3
2.0	*Aquilegia canadensis*	Eastern Columbine	2.6
3.0	*Asclepias tuberosa*	Butterfly Milkweed	2.9
3.0	*Aster laevis*	Smooth Blue Aster	3.3
3.0	*Aster oblongifolius*	Aromatic Aster	3.3
0.2	*Lupinus perennis*	Perennial Blue Lupine	2.0
2.0	*Coreopsis grandiflora*	Large Leaf Tickseed	2.6
0.3	*Pycnanthemum virginianum*	Virginia Mountainmint	3.3
2.0	*Conoclinium coelestinum*	Blue Mistflower	3.3
100	%		

ROADSIDE SEED MIXTURE
APPLICATION RATE ~33 LBS/ACRE

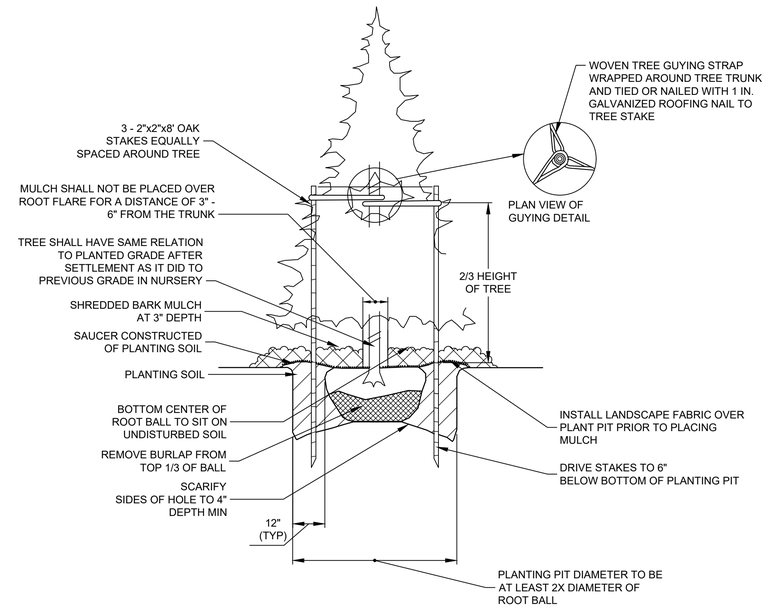
LBS/ACRE	BOTANICAL NAME	COMMON NAME	MATURE HEIGHT (FT)
20	*Festuca rubra*	Creeping Red Fescue	1 to 2
8	*Trifolium repens*	Common White Clover	0.5 to 1
5	*Lolium perenne*	Perennial Ryegrass	2.0
33	*Total*	**MOWED HEIGHT - 3 FT**	

VEGETATED FILTER STRIP SEED MIXTURE
APPLICATION RATE ~26 LBS/ACRE

LBS/ACRE	BOTANICAL NAME	COMMON NAME	MATURE HEIGHT (FT)
10	*Elymus riparius*	Riparian Wildrye	2 to 5
6	*Dichanthelium clandestinum*	Deertongue	1 to 3
6	*Panicum virgatum*	Switchgrass	3 to 5
2	*Sporobolus michauxianus*	Prairie Cordgrass	3 to 8
2	*Poa palustris*	Fowl Bluegrass	3 to 6
26	Total	**NO MOWING**	

VEGETATED SWALE SEED MIXTURE
APPLICATION RATE ~40 LBS/ACRE

LBS/ACRE	BOTANICAL NAME	COMMON NAME	MATURE HEIGHT (FT)
15	*Festuca rubra*	Creeping Red Fescue	1 to 2
15	*Festuca arundinacea*	Tall Fescue	2 to 4
8	*Lotus corniculatus*	Birdsfoot Trefoil	1 to 2.5
2	*Agrostis gigantea*	Redtop	2 to 3
40	Total	**MOWED HEIGHT - 3 FT**	



TREE PLANTING AND SUPPORT

SCALE: NTS

ISSUED FOR PERMIT
NOT FOR CONSTRUCTION

Warning:
It is a violation of Section 7209.2 of the New York State Education Law for any person, unless acting under the direction of a licensed professional engineer, to alter in any way plans, specifications, plats or reports to which the seal of a professional engineer has been applied. If an item bearing the seal of a professional engineer is altered, the altering engineer shall affix to the item his seal and the notation "Altered By" followed by his signature, the date, and a specific description of the alteration.

Attention:
0 1"
If this scale bar does not measure 1" then drawing is not original scale.

STATE OF NEW YORK · PHILIP J. SNYDER · 100361 · LICENSED PROFESSIONAL ENGINEER

Designed:	L. SCHWANOF
Drawn:	D. CHECHURIN
Checked:	V. DICASTELNUOVO
Approved:	P. SNYDER
P.E. No:	100361
GEI Project	223192

GEI Consultants
GEI CONSULTANTS, INC., P.C.
1301 TRUMANSBURG ROAD
SUITE N
ITHACA, NY 14850
(607)216-8955

NYSOLAR 07, LLC
300 W GOETHE ST
CHICAGO, ILLINOIS 60610

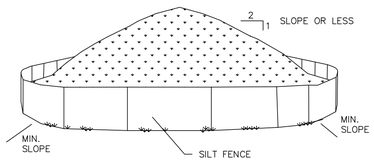
NYSOLAR07 LLC
WARNER SOLAR FACILITY
7859 PECK ROAD
KIRKVILLE, NY 13082

NO	DATE	ISSUE/REVISION	APP
A	11/2/2022	SPECIAL USE PERMIT REVIEW	PJS

SHEET NAME: **LANDSCAPING NOTES AND DETAILS**

SHEET NO.: **C-106**

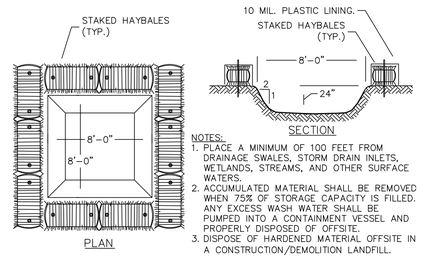
DICASTELNUOVO, VINNIE B:\Working\NYSOLAR07 LLC\223192 Warner Solar Development\00_CAD_Sheet Sets\C-105-106 LANDSCAPING PLAN, DETAIL AND NOTES.dwg - 3/28/2023



NOTES:
1. AREA CHOSEN FOR STOCKPILING OPERATIONS SHALL BE DRY AND STABLE.
2. MAXIMUM SLOPE OF STOCKPILE SHALL BE 1V:2H.
3. UPON COMPLETION OF SOIL STOCKPILING, EACH PILE SHALL BE SURROUNDE WITH SILT FENCING, THEN STABILIZED WITH VEGETATION OR COVERED.
4. SEE SPECIFICATIONS FOR INSTALLATION OF SILT FENCE.
5. HAY BALES TO BE USED WHERE STOCKPILES ARE LOCATED ON PAVED AREAS.

TEMPORARY STOCKPILE

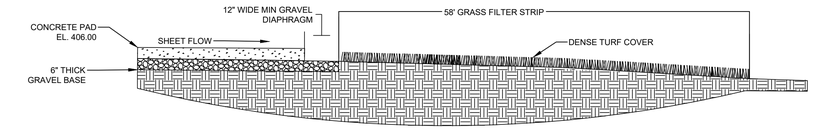
NO SCALE



NOTES:
1. PLACE A MINIMUM OF 100 FEET FROM DRAINAGE SWALES, STORM DRAIN INLETS, WETLANDS, STREAMS, AND OTHER SURFACE WATERS.
2. ACCUMULATED MATERIAL SHALL BE REMOVED WHEN 75% OF STORAGE CAPACITY IS FILLED. ANY EXCESS WASH WATER SHALL BE PUMPED INTO A CONTAINMENT VESSEL AND PROPERLY DISPOSED OF OFFSITE.
3. DISPOSE OF HARDENED MATERIAL OFFSITE IN A CONSTRUCTION/DEMOLITION LANDFILL.

TEMPORARY CONCRETE WASHOUT AREA

NO SCALE



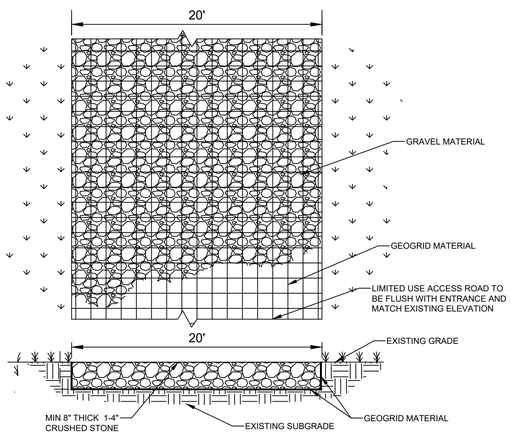
1. VEGETATED FILTER STRIP SHALL BE PLANTED OR SEEDED WITH A MIX OF GRASSES, WILDFLOWERS AND GROUND COVERS WELL-SUITED TO MOST-TO-DRY SOIL CONDITIONS.
2. ALL VEGETATION SHOULD BE SELF-SUSTAINING AND DROUGHT TOLERANT.
3. SEED MIX: ERNMX-113 "COMMERCIAL CONSERVATION MIX" OR EQUAL

25% FESTUCA RUBRA	CREEPING RED FESCUE
25% LOLIUM MULTIFORUM	ANNUAL RYEGRASS
25% LOLIUM PERENNE, 'BLACKSTONE'	PERENNIAL RYEGRASS, 'BLACKSTONE'
25% LOLIUM PERENNE, 'BLACK PEARL'	PERENNIAL RYEGRASS, 'BLACK PEARL'

SEEDING RATE: 75-150 POUNDS
4. THE FIRST TEN FEET OF THE GRASS FILTER STRIP SHALL BE 2.0% MAX.

VEGETATED FILTER STRIP

NO SCALE

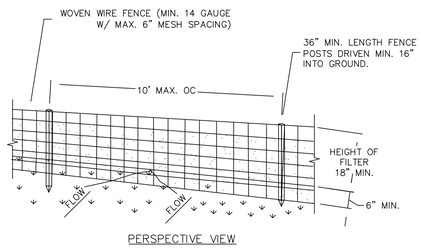


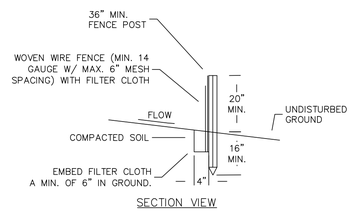
GENERAL NOTES:
1. LIMITED TO MINIMAL USE ONLY SUCH AS MAINTENANCE AND EMERGENCY RESPONSE.
2. LIMITED TO LOW TRAFFIC LOW IMPACT MAINTENANCE ACCESS ASSOCIATED WITH RENEWABLE ENERGY PROJECTS IN NEW YORK STATE.
3. WHERE NECESSARY, GRADE ROADWAY TO DESIRED ELEVATION, MINOR GRADING FOR CROSS SLOPE MAY BE REQUIRED.
4. REMOVE REFUSE SOILS AS DIRECTED BY PROJECT ENGINEER. DO NOT PLACE IN AN AREA THAT IMPEDE STORMWATER DRAINAGE.
5. CROSS SLOPE SHALL BE 2% IN MOST CASES AND SHOULD NOT EXCEED 6%. THE LONGITUDINAL SLOPE OF THE ACCESS ROAD SHOULD NOT EXCEED 13%.
6. ROAD IS NOT INTENDED TO BE UTILIZED FOR CONSTRUCTION WHICH MAY SUBJECT THE ACCESS ROAD TO SEDIMENT TRACKING. ROAD IS TO BE DEVELOPED FOR POST-CONSTRUCTION USE ONLY. SOIL RESTORATION PRACTICES MAY BE APPLICABLE TO RESTORE CONSTRUCTION RELATED COMPACTION TO PRE-EXISTING CONDITIONS AND SHOULD BE VERIFIED BY SOIL PENETROMETER READINGS. COMPARE PENETROMETER READINGS TO THE RESPECTIVE RECORDED READINGS TAKEN PRIOR TO CONSTRUCTION, EVERY 100 LINEAR FEET ALONG THE PROPOSED ROADWAY.
7. DO NOT USE CONSTRUCTION VEHICLES TRANSPORTING SOIL, FILL MATERIAL, ETC. ON ACCESS ROAD TO PREVENT SOIL FROM BEING TRACKED ONTO ACCESS ROAD. IF THE LIMITED USE PERVIOUS ACCESS ROAD IS COMPLETED DURING THE INITIAL PHASES OF CONSTRUCTION, CONSTRUCT AND UTILIZE A STANDARD NEW YOUR STATE STABILIZED CONSTRUCTION ACCESS TO REMOVE SEDIMENT FROM CONSTRUCTION VEHICLES AND EQUIPMENT PRIOR TO ENTERING THE LIMITED USE PERVIOUS ACCESS ROAD FROM ANY LOCATION ON OR OFF SITE. MAINTAIN ACCESS ROAD IF SEDIMENT IS OBSERVED WITHIN THE CLEAN STONE.

GEOGRID MATERIAL NOTES:
1. THE GEOGRID OR COMPARABLE PRODUCT, IS INTENDED FOR USE IN ALL CONDITIONS, IN ORDER TO ASSIT IN MATERIAL SEPARATION FROM NATIVE SOILS AND PRESERVE ACCESS LOADS.
2. GRAVEL FILL MATERIAL SHALL CONSIST OF 1-4" CLEAN, CURABLE SHARP-ANGLES CRUSHED STONE OF UNIFORM QUALITY, MEETING THE SPECIFICATIONS OF NYSDOT ITEM 703-02, SIZE DESIGNATION 3-5 OF TABLE 7804-4. STONE MAY BE PLACED IN FRONT OF, AND SPREAD WITH A TRACKED VEHICLE. GRAVE SHALL NOT BE COMPACTED.
3. THE GEOGRID SHALL BE MIRAFI BXG110 OR APPROVED EQUAL. GEOGRID SHALL BE DESIGNED BASED ON EXISTING SOIL CONDITIONS AND PROPOSED HAUL ROAD SLOPE.
4. IF MORE THAT ONE ROLL WIDTH IS REQUIRED, ROLLS SHOULD OVERLAP A MINIMUM OF 6".
5. REFER TO MANUFACTURER'S SPECIFICATION FOR PROPER TYING AND CONNECTIONS.
6. LIMITED USE PERVIOUS ACCESS ROAD SHALL BE TOP DRESSED AS REQUIRED WITH ONLY 1-4" CRUSHED STONE MEETING NYSDOT ITEM 703-02 SPECIFICATIONS.

PERMEABLE HAUL ACCESS ROAD

NO SCALE





CONSTRUCTION SPECIFICATIONS:

1. WOVEN WIRE FENCE TO BE FASTENED SECURELY TO FENCE POSTS WITH WIRE TIES OR STAPLES. POSTS SHALL BE STEEL, EITHER "T" OR "U" TYPE, OR HARDWOOD.
2. FILTER CLOTH TO BE FASTENED SECURELY TO WOVEN WIRE FENCE WITH TIES SPACED EVERY 24" AT TOP AND MID SECTION. FENCE SHALL BE WOVEN WIRE, 14 GAUGE, 6" MAXIMUM MESH OPENING.
3. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER THEY SHALL BE OVER-LAPPED BY SIX INCHES AND FOLDED.
4. FILTER CLOTH SHALL BE EITHER FILTER X, MIRAFI 100X, STABILINKA T140N, OR APPROVED EQUIVALENT.
5. PREFABRICATED UNITS SHALL BE GEOFAB, ENVROFENCE, OR APPROVED EQUIVALENT THAT MEETS THE MINIMUM REQUIREMENTS SHOWN.
6. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL REMOVED WHEN "BULGES" DEVELOP IN THE SILT FENCE.

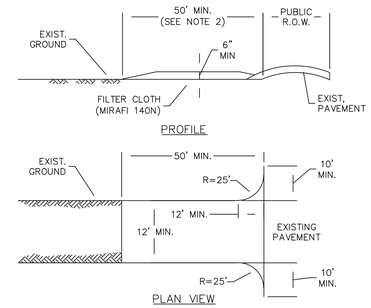
DETAIL NOTES:

1. INSTALLATION SHALL BE DONE IN ACCORDANCE WITH THE NEW YORK STATE STANDARDS AND SPECIFICATIONS FOR EROSION AND SEDIMENT CONTROL ("THE BLUE BOOK").
2. ALL SILT FENCE SHALL BE PLACED AS CLOSE TO THE DISTURBED AREA AS POSSIBLE, BUT AT LEAST 10 FEET FROM THE TOE OF A SLOPE STEEPER THAN 3H:1V, TO ALLOW FOR MAINTENANCE AND ROLL DOWN. THE AREA BEYOND THE FENCE MUST BE UNDISTURBED OR STABILIZED.
3. THE TYPE OF SILT FENCE SPECIFIED FOR EACH LOCATION ON THE PLAN SHALL NOT EXCEED THE MAXIMUM SLOPE LENGTH AND MAXIMUM FENCE LENGTH REQUIREMENTS SHOWN IN THE TABLE BELOW. IF A TYPE SILT FENCE IS NOT SPECIFIED ON THE PLANS, THE CRITERIA FOR STANDARD SILT FENCE CAN BE APPLIED.
4. SILT FENCE SHALL BE REMOVED AS SOON AS THE DISTURBED AREA HAS ACHIEVED FINAL STABILIZATION.

		SLOPE LENGTH/FENCE LENGTH (FT.)		
SLOPE	STEEPNESS	STANDARD	REINFORCED	SUPER
<2%	<50:1	300/1500	N/A	N/A
2-10%	50:1 TO 10:1	125/1000	250/2000	300/2500
10-20%	10:1 TO 5:1	100/750	150/1000	200/1000
20-33%	5:1 TO 3:1	60/500	80/750	100/1000
33-50%	3:1 TO 2:1	40/250	70/350	100/500
>50%	>2:1	20/125	30/175	50/250

SILT FENCE

NO SCALE

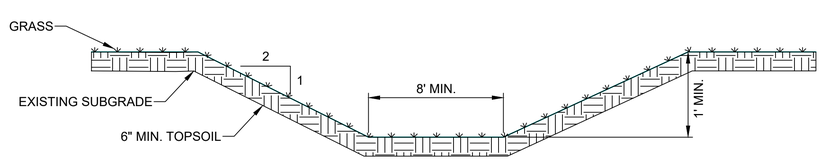


NOTE:
PROVIDE APPROPRIATE TRANSITION BETWEEN STABILIZED CONSTRUCTION ENTRANCE AND PUBLIC R.O.W.

CONSTRUCTION SPECIFICATIONS
1. STONE SIZE – USE 3" STONE (NYSDOT ITEM #623.11 SIZE DESIGNATION #2, OR RECLAIMED OR RECYCLED CONCRETE EQUIVALENT.
2. LENGTH – NOT LESS THAN 50-FEET (EXCEPT ON SINGLE FAMILY LOT, 30-FEET MINIMUM LENGTH WOULD APPLY.)
3. THICKNESS – NOT LESS THAN SIX (6) INCHES.
4. WIDTH – TWELVE (12) FOOT MINIMUM, BUT NOT LESS THAN THE FULL WIDTH AT POINTS WHERE INGRESS OR EGRESS OCCURS. TWENTY-FOUR (24) FOOT IF SINGL ENTRANCE TO SIGHT.
5. FILTER CLOTH – WILL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING C STONE.
6. SURFACE WATER – ALL SURFACE WATER FLOWING OR DIVERTED TOWARD CONSTRUCTION ENTRANCES SHALL BE PIPED ACROSS THE ENTRANCE. IF PIPING IMPRACTICAL, A MOUNTABLE BERM WITH 5:1 SLOPES WILL BE PERMITTED
7. MAINTENANCE – THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTC PUBLIC RIGHTS-OF-WAY MUST BE REMOVED IMMEDIATELY.
8. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON A AREA STABILIZED WITH STONE AND WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE.
9. PERIODIC INSPECTION AND NEEDED MAINTENANCE SHALL BE PROVIDED AFTER EACH RAIN.

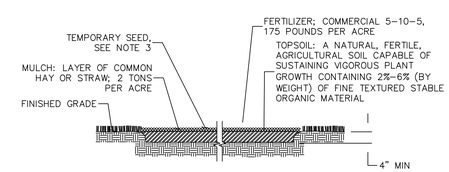
STABILIZED CONSTRUCTION ENTRANCE

NO SCALE



TYPICAL VEGETATED SWALE SECTION

NO SCALE



NOTES:
1. TO BE USED ON DISTURBED SOIL AREAS THAT WILL BE LEFT EXPOSED FOR 7 DAYS OR MORE AND WILL BE RE-DISTURBED DURING CONSTRUCTION.
2. FERTILIZER OR LIME ARE NOT TYPICALLY USED FOR TEMPORARY SEEDINGS.
3. SEED MIX:
   A. IF SPRING, SUMMER OR EARLY FALL: SEED WITH ANNUAL OR PERENNIAL RYEGRASS AT A RATE OF 1 LB PER 1000 SF.
   B. IF LATE FALL OR WINTER: SEED WITH CERTIFIED "ARGOSTOOK" WINTER (CEREAL RYE) AT A RATE OF 2.5 LBS PER 1000 SF.

TEMPORARY VEGETATIVE COVER

NO SCALE

ISSUED FOR PERMIT
NOT FOR CONSTRUCTION

DICASTELNUOVO, VINNIE B:\Working\NYSOLAR07 LLC\2203192 Warner Solar Development\00_CAD_Sheet Sets\C-105-107 CONSTRUCTION DETAILS.dwg - 3/28/2023

Warning:
It is a violation of Section 7209.2 of the New York State Education Law for any person, unless acting under the direction of a licensed professional engineer, to alter in any way plans, specifications, plats or reports to which the seal of a professional engineer has been applied. If an item bearing the seal of a professional engineer is altered, the altering engineer shall affix to the item his seal and the notation "Altered By" followed by his signature, the date, and a specific description of the alteration.

Attention:
0 1"
If this scale bar does not measure 1" then drawing is not original scale.

STATE OF NEW YORK · PHILIP J. SNYDER · 100361 · LICENSED PROFESSIONAL ENGINEER

Designed:	V. DICASTELNUOVO
Drawn:	V. DICASTELNUOVO
Checked:	B. MCDEVITT
Approved:	P. SNYDER
P.E. No:	100361
GEI Project	223192

GEI Consultants
GEI CONSULTANTS, INC., P.C.
1301 TRUMANSBURG ROAD
SUITE N
ITHACA, NY 14850
(607)216-8955

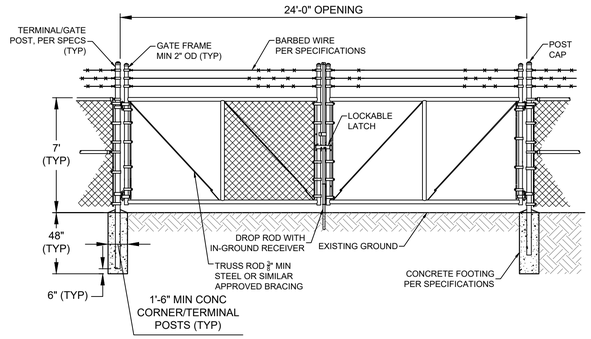
NYSOLAR 07, LLC
300 W GOETHE ST
CHICAGO, ILLINOIS 60610

NYSOLAR07 LLC
WARNER SOLAR FACILITY
7859 PECK ROAD
KIRKVILLE, NY 13082

NO	DATE	ISSUE/REVISION	APP
B	1/10/2023	REVISIONS PER SUBDIVISION	PJS
A	11/2/2022	SPECIAL USE PERMIT REVIEW	PJS

SHEET NAME: **TYPICAL DETAILS DETAILS 1 OF 2**

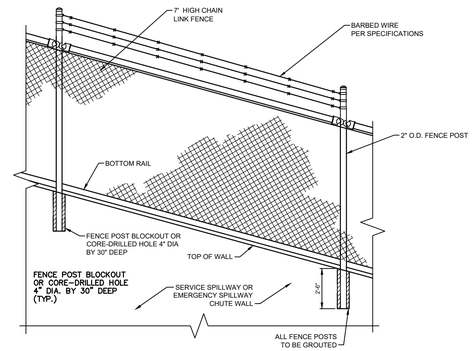
SHEET NO.: **C-107**



NOTE:
1. CHAIN LINK FENCE FABRIC FOR GATE: 9 GA. 2" MESH (TYP) TOP SELVAGE TWISTED, BOTTOM SELVAGE KNUCKLED
2. SEE SPECIFICATION SECTION 02821 CHAIN LINK FENCES AND GATES FOR ADDITIONAL REQUIREMENTS

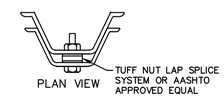
DOUBLE SWING GATE

SCALE: NTS



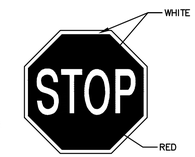
CHAIN LINK FENCE

SCALE: NTS

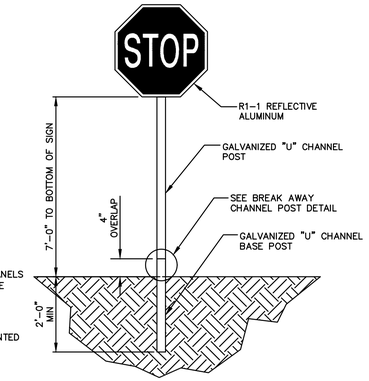


BREAK AWAY CHANNEL POST

NTS



R1-1
30" X 30"
WHITE LEGEND
RED BACKGROUND

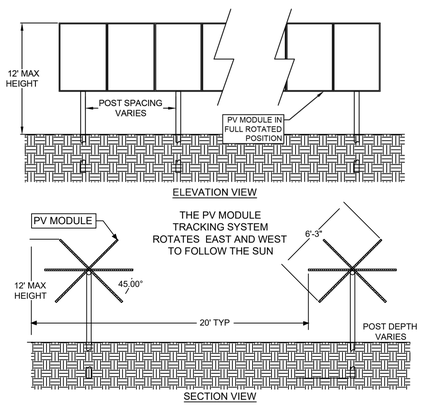


GENERAL NOTES:

1. DIMENSIONS, COLORS, AND DETAILS OF VARIOUS SIZE SIGNS, SHIELDS AND ACCESSORY PANELS TO FOLLOW STANDARDS IN THE CURRENT "STANDARD HIGHWAY SIGNS PUBLICATION" AND THE CURRENT "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS".
2. ALL SIGNS SHALL BE OF THE ENCAPSULATED LENS TYPE.
3. ALL SIGN MATERIALS SHALL BE MADE OF REFLECTIVE SHEETING ON ALUMINUM BLANKS MOUNTED ON GALVANIZED STEEL POSTS, ALL CONFORMING TO NJDOT STANDARD SPECIFICATIONS.
4. ALL CONCRETE SHALL HAVE A 28-DAY COMPRESSIVE STRENGTH OF 4,000 PSI.

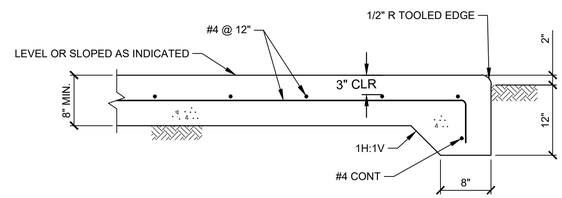
STOP SIGN DETAIL

NO SCALE



TRACKER RACK DETAIL

NO SCALE



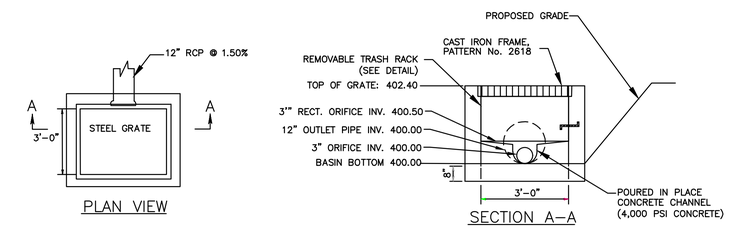
SLAB ON GRADE EQUIPMENT PAD

NO SCALE

C

NOTE:

1. ELECTRICAL DESIGNER TO REVIEW SLAB ON GRADE DESIGN FOR PAD-MOUNT EQUIPMENT AND UPDATE/REDESIGN AS NECESSARY TO SUPPORT THE APPLIED LOADS AND PROVIDE CONNECTION DETAILS BETWEEN THE EQUIPMENT AND FOUNDATIONS.

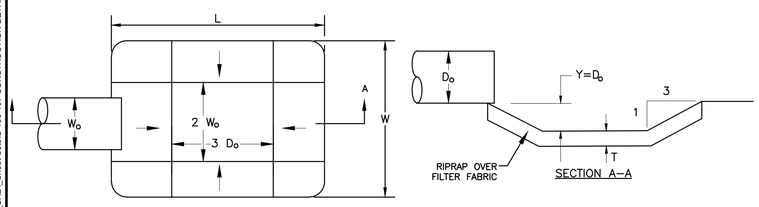


NOTES:

1. OUTLET STRUCTURE IS A MODIFIED TYPE A INLET.
2. DETAIL IS ONLY TO BE USED TO PROVIDE INVERT ELEVATIONS. TYPE A INLET TO BE BUILD IN ACCORDANCE WITH NYS STANDARDS FOR DRAINAGE STRUCTURES

OUTLET CONTROL STRUCTURE

NO SCALE

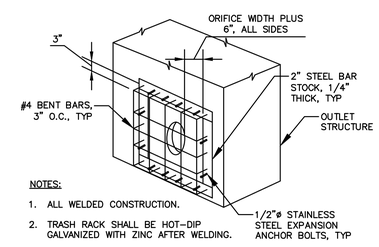


PLAN

STRUCTURE	L	W	DEPTH (Y)	Do	Wo	d50	RIPRAP THICKNESS (T)
FES	6'	5'	6"	12"	12"	9"	18"

PREFORMED SCOUR HOLE DETAIL

NO SCALE



NOTES:

1. ALL WELDED CONSTRUCTION.
2. TRASH RACK SHALL BE HOT-DIP GALVANIZED WITH ZINC AFTER WELDING.

TRASH RACK DETAIL

NO SCALE

ISSUED FOR PERMIT
NOT FOR CONSTRUCTION

Warning:
It is a violation of Section 7209.2 of the New York State Education Law for any person, unless acting under the direction of a licensed professional engineer, to alter in any way plans, specifications, plats or reports to which the seal of a professional engineer has been applied. If an item bearing the seal of a professional engineer is altered, the altering engineer shall affix to the item his seal and the notation "Altered By" followed by his signature, the date, and a specific description of the alteration.

Attention:
0 — 1"
If this scale bar does not measure 1" then drawing is not original scale.

STATE OF NEW YORK · PHILIP J. SNYDER · 100361 · LICENSED PROFESSIONAL ENGINEER

Designed:	V. DICASTELNUOVO
Drawn:	V. DICASTELNUOVO
Checked:	B. MCDEVITT
Approved:	P. SNYDER
P.E. No:	100361
GEI Project	223192

GEI Consultants
GEI CONSULTANTS, INC., P.C.
1301 TRUMANSBURG ROAD
SUITE N
ITHACA, NY 14850
(607)216-8955

NYSOLAR 07, LLC
300 W GOETHE ST
CHICAGO, ILLINOIS 60610

NYSOLAR07 LLC
WARNER SOLAR FACILITY
7859 PECK ROAD
KIRKVILLE, NY 13082

NO	DATE	ISSUE/REVISION	APP
C	3/28/2023	REVISIONS PER PB REVIEW	PJS
B	1/10/2023	REVISIONS PER SUBDIVISION	PJS
A	11/2/2022	SPECIAL USE PERMIT REVIEW	PJS

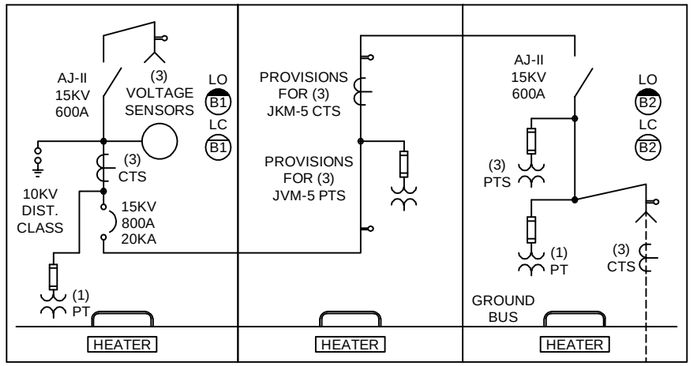
SHEET NAME: **TYPICAL DETAILS DETAILS 2 OF 2**

SHEET NO.: **C-108**

DICASTELNUOVO, VINNIE B:\Working\NYSOLAR07 LLC\2203192 Warner Solar Development\00_CAD_Sheet Sets\C-108-107 CONSTRUCTION DETAILS.dwg - 3/28/2023

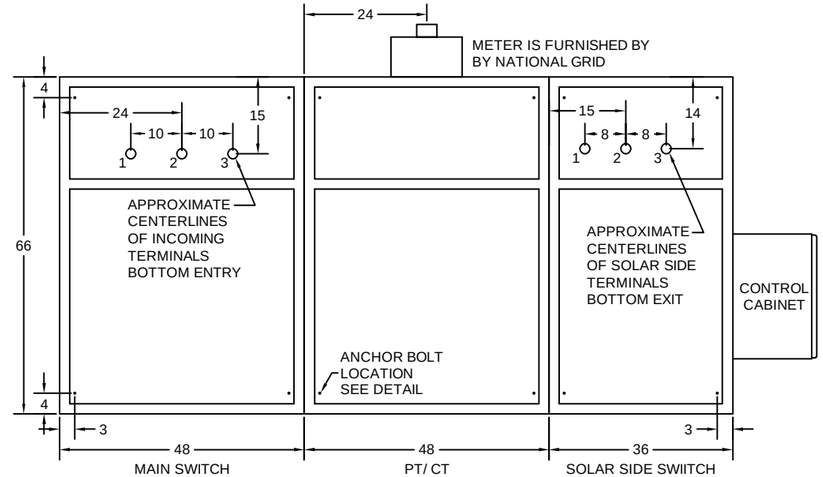
THIS DOCUMENT CONTAINS PROPRIETARY INFORMATION OF ELECTRO MECHANICAL CORP. OR ITS OPERATING DIVISIONS IN WHOM TITLE REMAINS. ANY REPRODUCTION, DISTRIBUTION, DISCLOSURE OR USE NOT OTHERWISE EXPRESSLY APPROVED IN WRITING IS STRICTLY PROHIBITED. FEDERAL PACIFIC, ELECTRIC MOTOR REPAIR & SALES, LINE POWER MANUFACTURING, LINE POWER REBUILD, METAL CASTINGS COMPANY, MACHINERY COMPONENTS COMPANY ARE DIVISIONS OF ELECTRO-MECHANICAL CORPORATION.

SYM.	DATE	ECR#	REVISION RECORD	DR.	CK.
-	-		-	-	-



MAIN SWITCH COMPARTMENT — PT/ CT COMPARTMENT — SOLAR SIDE SWIITCH

ONE LINE DIAGRAM



PAD LAYOUT

NOTE: ALL CONDUIT ROUTED IN OR UNDER THE CABINET SHALL BE MINIMUM OF 1-1/2" SCHEDULE 80 PVC WITH BUSHINGS ON EACH END AND SHALL TRANSITON TO MINIMUM 1-1/2" RIGID GALVANIZED STEEL CONDUIT IF EXPOSED OUSIDE THE CABINET. A MAXIMUM OF TWO 90 DEGREE BENDS IN THE CONDUIT IS PERMITTED.

C1585

Bill of Material

Level Components Parent: C1585	Description 15KV ME CUSTOM (3 BAYS)	UM	Quantity
1******* C1585-M	MECHANICAL BOM FOR C1585	EA	1.0000
1******* 0037-4-53152	SWIH ASSY. AUTOJET-II, 600A MJEA		2.0000
1******* ISM15_LD_1(55)	15KV 800A TAVRIDA VCB	EA	1.0000
1******* CM16_DC_ISM15	TAVRIDA P/N:CM_16_1(50)	EA	1.0000
1******* S10581DY	INTERLOCK. TYPE B-6003-1	EA	2.0000
1******* S10581JY	INTERLOCK. TYPE B-5003-1	EA	2.0000
1******* DC1	DUST COVER. INTERLOCK	EA	4.0000
1******* LA10HDPLYDIST	LIGHTNING ARRESTER. 10KV. POLY	EA	3.0000
1******* C600-2102	BALL STUD. 1/2-13 X 1". UNC	ea	12.0000
1******* 0086-1-02877-C	GROUND BAR FUSE COMP., COPPER	EA	3.0000
1******* 41060200/4	TRMNL.TAP LUG. 0.125-0.419 DAE	A	2.0000
1******* SS-2PL	DUAL PADLOCK ADAPTER SQUARE D	EA	1.0000
1******* MTPTGS-1-SD–	PT.7620:120.63:5:1.IE FUSE	EA	5.0000
1******* CTX-00-014	CTW16-A-110-T150-301	EA	3.0000
1******* 1K1A5	TERMINAL BLOCK. SHORTING	EA	1.0000
1******* RLY-00-113	RELAY SEL 751IN4K8	EA	1.0000
1******* RLY-00-030	RELAY. PQM 735. KEY. 2266	EA	1.0000
1******* 95E20122	INSULATOR,VOLTAGE SENSING,15KV	EA	3.0000
1******* 129A514G01	SWITCH. FT-1 FLEXITEST	EA	1.0000
1******* FT4A14T06CN4046	TEST SWITCH. FT14.STYLE	EA	1.0000
1******* 2K38D	CIRCUIT BREAKER CONTROL SWITCH	EA	1.0000
1******* LIT-00-002	MULTI-VOLTAGE PILOT LIGHT.30MM	EA	1.0000
1******* LIT-00-003	MULTI-VOLTAGE PILOT LIGHT.30MM	EA	1.0000
1******* 265039	SWITCH, SERIES 26, 2-SECTIONS	EA	1.0000
1******* CB2-420A	POWER SUPPLY,UPS,120VAC IN	EA	1.0000
1******* 20-0330	BATTERY HOLDER (PKI)	EA	2.0000
1******* PS1270	BATTERY POWERSONIC 7AH	EA	4.0000
1******* CBIR2TEMP453	BATTERY TEMP PROBE W/ 3 METER	EA	1.0000
1******* FAZ-B16-1-NA-SP	BKR, 240/415VAC, 16A, 1P	EA	1.0000
1******* USM3I	FUSEHOLDER. ULTRASAFE. 3 POLE	EA	1.0000
1******* USM1I	FUSEHOLDER. ULTRASAFE. 1 POLE	EA	5.0000
1******* ATM15	FUSE. FAST ACTING. 15A. 600V	EA	2.0000
1******* ATM10	FUSE. FAST ACTING. 10A. 600V	EA	3.0000
1******* ATM2	FUSE. FAST ACTING. 02A. 600V	EA	3.0000
1******* 276-3	HEATER. SPACE. UL. 250W. 125V	EA	3.0000
1******* KT110	THERMOSTAT. SPST. NEG 10-100F	EA	1.0000
1******* PVCTA150	MALE ADAPTER 1 1/2 PVC	EA	1.0000
1******* 1J45	LOCKNUT. 1-1/2"	EA	1.0000
1******* BU505	BUSHING FEMALE	EA	1.0000
1******* CBL-00-009	CABLE,#2 SHIELDED,CU,7STRAND	FT	20.0000
1******* 54107-TB	LUG. STNDRD BARREL. 2AWG. 1/4"	EA	1.0000
1******* 54145-TB	LUG. STNDRD BARREL. 2AWG. 1/2"	EA	1.0000
1******* 40-3895-190	27kV STRESS RELIEF	EA	2.0000
1******* ETL LABEL 1	LABEL, IND CTRL PANEL 4008016	EA	1.0000
1******* B16-2706	NAMEPLATE. F-25 8.00"X6.00"	EA	1.0000
1******* B16-2705	NAMEPLATE. F-33 4.00"X1.50"	EA	2.0000
1******* B16-5305	NAMEPLATE.F-22 6.00"X4.00"	EA	1.0000
1******* B16-5300-1	NAMEPLATE. F-15 4.00"X1.50"	EA	2.0000
1******* BL102	LABEL. DANGER! HIGH VOLTAGE	EA	7.0000
1******* BLC102-1	LABEL. DANGER. HAZARDOUS	EA	5.0000
1******* BLC102-2	LABEL. SWITCH	EA	2.0000

INTERLOCK LEGEND

- INTERLOCK W/ KEY HELD
- INTERLOCK W/ KEY REMOVED

LC - LOCKS DEVICE CLOSED W/ KEY REMOVED

LO - LOCKS DEVICE OPEN W/ KEY REMOVED

KEY INTERLOCK SCHEME:
THE SWITCH MUST BE LOCKED IN THE OPEN POSITION BEFORE THE ACCESS DOOR MAY BE OPENED. THE ACCESS DOOR MUST BE LOCKED CLOSED BEFORE THE SWITCH MAY BE CLOSED.
INITIAL CONDITIONS:
THE SWITCH IS CLOSED. KEY IS HELD AT SWITCH LO INTERLOCK. ACCESS DOOR IS LOCKED CLOSED.
SEQUENCE OF OPERATION:
OPEN SWITCH. KEY IS RELEASED AT SWITCH LO INTERLOCK. THE SWITCH IS LOCKED IN THE OPEN POSITION WHEN LO INTERLOCK IS OPERATED AND KEY IS REMOVED. KEY TO DOOR LC INTERLOCK. OPEN DOOR. KEY IS HELD AT DOOR LC INTERLOCK.
REVERSE SEQUENCE OF OPERATION TO RETURN TO INITIAL CONDITIONS.

CIRCUIT BREAKER	
RATED VOLTAGE	15KV
BASIC IMPULSE LEVEL	95 KV
CONTINUOUS CURRENT	800A
INTERRUPTING CURRENT RMS SYM	20 KA

AUTO JET SWITCH RATINGS	
NOMINAL VOLTAGE	14.4 KV
MAXIMUM DESIGN VOLTAGE	17 KV
BASIC IMPULSE LEVEL	95 KV
CONTINUOUS CURRENT	600 A
LOADBREAK CURRENT	600 A
MOMENTARY CURRENT RMS ASYM	40 KA
FAULT CLOSE CURRENT RMS ASYM	40 KA

INSTALL IN AREAS ACCESSIBLE TO QUALIFIED PERSONNEL ONLY

FEDERAL PACIFIC
POWER TO DELIVER
BRISTOL,VA

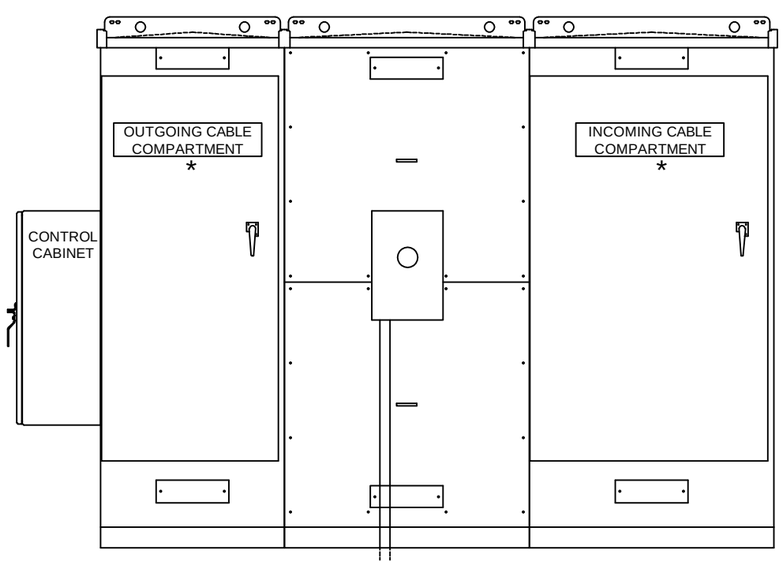
METAL ENCLOSED EQUIPMENT

ENCLOSURE TYPE: OUTDOOR
CATEGORY TYPE: B
SERIAL NO: C1615
MFG. DATE:

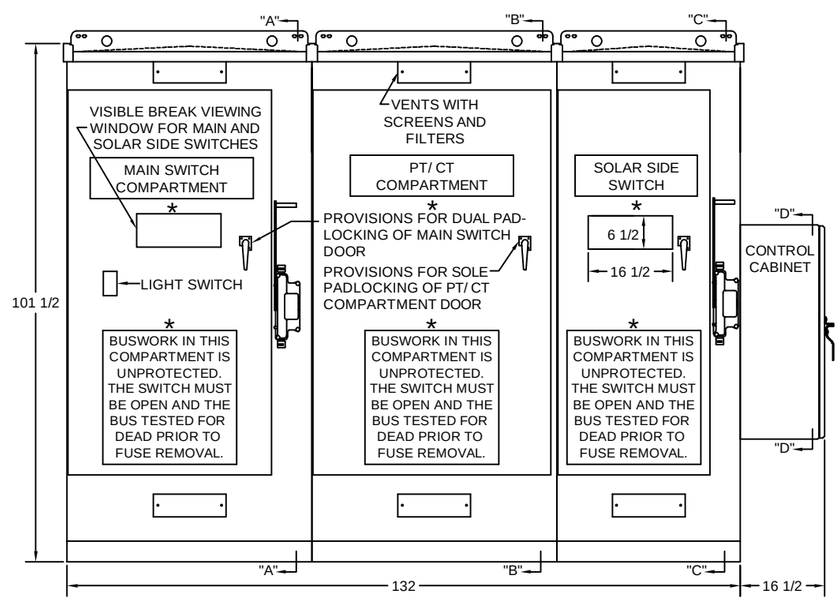
SUITABLE FOR USE ON A CIRCUIT CAPABLE OF DELIVERING NOT MORE THAN 20000 RMS SYM. AMPS

MAIN BUS CURRENT: 600 AMPS
RATED MAXIMUM VOLTAGE: 15 KV
RATED FREQUENCY: 60 Hz
RATED INSULATION LEVEL: 95 KV
RATED CONTINUOUS CURRENT: 600 AMPS
RATED LOAD CURRENT INTER.: 600 AMPS
RATED SHORT TIME: 20 KA RMS SYM
RATED MOMENTARY: 32 KA RMS ASYM
FAULT CLOSING: 32 KA RMS ASYM
DIELECTRIC STRENGTH: 36 KV
SHORT TIME CURRENT: 20 KA RMS SYM
EXCITATION CURRENT: N/A
MVA 3Ø SYM.: 520

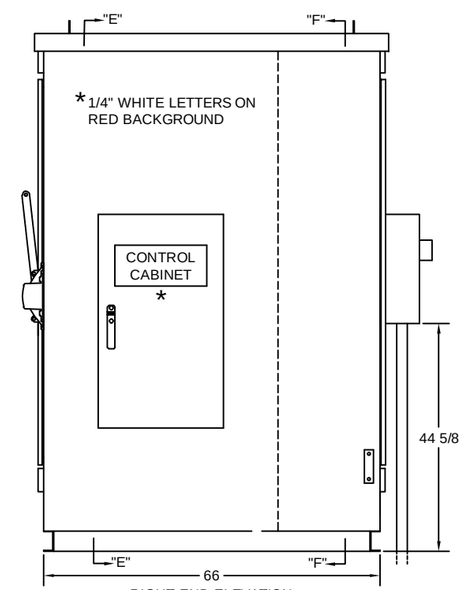
SWITCH SHALL BE MOUNTED ON A NONCOMBUSTIBLE SURFACE.



REAR ELEVATION



FRONT ELEVATION



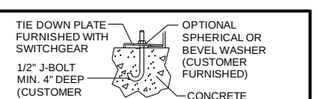
RIGHT END ELEVATION

ENCLOSURE RATING	☐ INDOOR	☒ OUTDOOR	
UL LISTED	☐		
ENCLOSURE CATEGORY	☐ A	☒ B	☐ C
ENCLOSURE MATERIAL	☒ 11 GA HR P&O STEEL		
ENCLOSURE FINISH	☒ ANSI 61 LIGHT GRAY		

DOOR MECHANISM	☒ PADLOCKABLE 3-POINT	
INTERLOCKING	☒ MECHANICAL	☒ KEY
MAIN BUS MATERIAL	☐ TIN PLATED ALUMINUM	☒ SILVER PLATED COPPER
GROUND BUS MATERIAL	☐ TIN PLATED ALUMINUM	☒ SILVER PLATED COPPER
APPROXIMATE WEIGHT:	5200 POUNDS	

GENERAL NOTES:

1. SWITCH IS INTERLOCKED SUCH THAT THE SWITCH MUST BE IN THE OPEN POSITION BEFORE ALLOWING ACCESS TO THE COMPARTMENT.
2. WARNING AND INFORMATION LABELS ARE APPLIED TO REMOVABLE COVERS AND INTERNAL AND EXTERNAL DOORS.



ANCHOR BOLT DETAIL

Drawing is for reference only.

FEDERAL PACIFIC
POWER TO DELIVER
BRISTOL, VIRGINIA
A DIVISION OF ELECTRO-MECHANICAL CORPORATION

15KV METAL ENCLOSED SWITCHGEAR

DATE	3-8-23
SCALE	NTS
DRN.BY	SLF
CHK.BY	LEB
JOB NO.	
FILENAME	1615-900-1
DWG. NO.	D48-1615-900
REV.	-

J.Ryan McMahon, II
County Executive

Onondaga County Planning Board

RESOLUTION OF THE
ONONDAGA COUNTY PLANNING BOARD

Meeting Date: March 15, 2023
OCPB Case # Z-23-63

WHEREAS, the Onondaga County Planning Board, pursuant to General Municipal Law, Section 239 l, m and n, has considered and reviewed the referral for a SPECIAL PERMIT from the Town of Manlius Planning Board at the request of Horizon Solar Power and Catalyze Energy for the property located at 7869 Peck Road; and

WHEREAS, General Municipal Law Section 239-m allows the County Planning Board to review issuance of special permits and the site is located within 500 feet of Peck Road (Route 115), a county highway; and

WHEREAS, the applicant is requesting a special permit to allow installation of a 4.25 mega watt solar array on a proposed 37.625-acre parcel in a Restricted Agricultural (RA) zoning district; and

WHEREAS, the Board is concurrently reviewing Site Plan (Z-23-62), Special Permit (Z-23-63), and Subdivision (S-23-8) referrals for the project; 5 variances requested by the applicant have been approved by the Town of Manlius Board of Zoning Appeals; the variances were not referred to this Board; and

WHEREAS, the site is a mostly vacant parcel on Peck Road, near the intersections with North Manlius Road to the west and Ferstler Road to the east; the area is characterized by a mix of land uses including woodlands and wetlands, agriculture, and low-density housing; the site lies approximately one mile north of the NYS Thruway; the site is generally comprised of tilled agricultural land, with wooded lands along the rear, and a house, garage, and barn/storage buildings closer to the Peck Road frontage; and

WHEREAS, the Resubdivision & Lot Line Adjustment Map dated December 17, 2022 shows the 39.75-acre parcel, along with adjacent tax parcel 042.-01-32.4 under separate ownership, would be resubdivided into three new lots: Lot 2A (37.625 acres) would comprise the majority of the site, including existing agricultural and wooded lands, and have 55' of frontage onto Peck Road; new Lot 2B (2.171 acres) would be a flag lot to contain the existing house and garage and a shared asphalt driveway onto Peck Road; Tax Parcel 042.-01-32.4 would be modified to be a flag lot and add lands containing three barn structures, a gravel driveway and 90 feet of frontage onto Peck Road; and

WHEREAS, the Site Plan dated 11/2/2022, shows the solar project would occur entirely on Proposed Lot 2A; the arrays will be arranged in three large sections, accessed by a stabilized gravel access road from Peck Road; and
ADVISORY NOTE: Per the Onondaga County Department of Transportation, all existing or proposed driveways onto Peck Road must meet Department requirements; and

WHEREAS, the solar modules will be mounted on horizontal supports, attached to vertical steel posts driven or screwed into the ground, the applicant states this method "minimizes excavation and concrete foundations"; pollinator-friendly groundcover would be planted, and vegetative screening is noted along the southern and eastern edges of the project area; the solar panels appear to avoid placement

within currently wooded area; and

WHEREAS, the Site Plan notes the entirety of the solar project would be fenced with an access gate set back from Peck Road; transformers would be located on pads at two locations within the site; and the project would connect to the existing utility switch and pole at the Peck Road frontage; and

WHEREAS, the Site Plan and Existing Conditions Plan show the location of multiple areas of wetlands to be located within the solar array area; the wetlands are noted as being delineated by GEI Consultants, PC on September 1, 2022; and
ADVISORY NOTE: Any proposed development in, placement of fill in, or drainage of a state and/or federal wetland or 100-foot state wetland buffer requires appropriate permits from the NYS Department of Environmental Conservation and/or the US Army Corps of Engineers; and

WHEREAS, per the Grading and Utilities Plan, a dry retention basin would be constructed on the southern boundary of proposed lot 2A, along the boundary with proposed lot 2B; per the Erosion and Sediment Control Plan, a silt fence is to be constructed around proposed lot 2A; and

WHEREAS, the referral states the site has no current water or sewer servicing the site with none proposed, per the Onondaga County Department of Finance Office of Real Property Services, the site is served by municipal water and individual septic system; it is assumed proposed Lot 2B will maintain municipal water provided by OCWA and their septic system while proposed Lot 2A will remain without that infrastructure; and

WHEREAS, the applicant neglected to specify how much land would be physically disturbed as a part of this project, but did submit a Stormwater Pollution Prevention Plan (SWPPP) with their application;
ADVISORY NOTE: Any project that cumulatively disturbs one acre or more of land must be covered under the NYS SPDES Permit; the municipality is advised to ensure that the applicant has obtained the appropriate permits from the NYS Department of Environmental Conservation prior to municipal approval; and

WHEREAS, the site may contain the Bald Eagle, or its associated habitat, which has been listed by the state or federal government as a threatened or endangered animal species (per EAF Mapper);
ADVISORY NOTE: Per the NYS Department of Environmental Conservation (DEC), if the site contains a threatened or endangered species and/or associated habitat, and the project requires review under the State Environmental Quality Review Act (SEQRA), a request for a project screening should be submitted to the New York Natural Heritage Program or to the regional DEC Division of Environmental Permits office; and

WHEREAS, the site or a portion of it is located in or adjacent to an area designated as sensitive for archaeological sites on the NYS Historic Preservation Office archaeological site inventory (per EAF Mapper);
ADVISORY NOTE: The applicant and/or municipality is advised to contact the NYS Historic Preservation Office to determine if the project should be submitted to the Office for review as part of the State Environmental Quality Review (SEQR) process; and

NOW THEREFORE BE IT RESOLVED, that the Onondaga County Planning Board recommends the following MODIFICATION(S) to the proposed action prior to local board approval of the proposed action:

1. Per the Onondaga County Department of Transportation, a drainage study or Stormwater Pollution Prevention Plan (SWPPP) is required to show that the proposed development would not create additional stormwater runoff into the county's drainage system. The applicant must contact the Department to determine the scope of the study. The municipality must ensure any mitigation as may be determined by the Department is reflected on the project plans prior to, or as a condition of, municipal approval.

2. The applicant must contact the U.S. Army Corps of Engineers and/or NYS Department of Environmental Conservation to confirm the presence of federal and/or state wetlands and/or the 100-foot state wetland buffer on the site. All confirmed wetlands should be shown on the plans for the site and any necessary permits should be obtained for any proposed development or placement of fill in a wetland, or drainage of any confirmed wetlands and buffers.

Related thereto, the project as proposed presumably includes significant construction activity and permanent placement of solar arrays using drilled pilings within several acres of federal and or state wetlands and potential buffer areas. Given the large scale of the proposed project and extent of proposed wetland and related potential habitat disturbance, the applicant must revise project plans to further minimize encroachment into wetland areas, and/or provide high-quality mitigation to preserve these important and sensitive environmental areas to the extent possible.

The Board also offers the following comment:

The Town should ensure that any shared driveway access from adjacent parcels be formalized with agreements, noted on plans and filed with the subdivision plan.

Martin E. Voss, Chairman
Onondaga County Planning Board

1100 Civic Center, 421 Montgomery Street, Syracuse, NY 13202 (315) 435-2611, Fax (315) 435-2439

E-mail Address: countyplanning@ongov.ne

GML 239 Report of Final Action

NYS GML § 239-m.6. and n.6. require the referring body to file a report of the final action it has taken on a referred matter with the county planning agency within 30 days after the final action (separate from the minutes taken at the meeting). A referring body which acts contrary to a County Planning Board recommendation of MODIFICATION or DISAPPROVAL of a referred matter shall also set forth the reasons for the contrary action in such report.

This section to be completed by the Syracuse-Onondaga County Planning Agency

To: Onondaga County Planning Board **From:** Town of Manlius Planning Board

Fax: 435-2439 **Phone:** 435-2611

Re:

Applicant: Horizon Solar Power and Catalyze Energy
Address: at 7869 Peck Road
Referral Type: SPECIAL PERMIT
OCPB Date: March 15, 2023
OCPB Action: Modification
OCPB Case #: Z-23-63

The local board took the following action regarding the above referenced referral (Check one box. If checking Other, please specify the final action taken. Use the space at the bottom of the report to identify reasons if acting contrary to the OCPB recommendation.):

☐ Approved the proposed action with regard to the OCPB's No Position or No Position with Comment.
☐ Approved the proposed action as modified by the OCPB.
☐ Approved the proposed action contrary to some of the modifications recommended by the OCPB.*
☐ Approved the proposed action contrary to all of the modifications recommended by the OCPB.*
☐ Approved the proposed action contrary to the disapproval recommended by the OCPB.*

☐ Disapproved the proposed action with regard to the OCPB's no position or no position with comment.
☐ Disapproved the proposed action with regard to the recommended modification(s) by the OCPB.
☐ Disapproved the proposed action as recommended and for reasons set forth by the OCPB.
☐ Disapproved the proposed action as recommended but for reasons other than those set forth by the OCPB. (Please list reasons below for local disapproval.)

☐ Other _____

Local Board Date: _____

*List reasons for acting contrary to the OCPB recommendation and include a copy of the local board resolution. Attach additional reasons on a separate sheet of paper as necessary.

_____
_____
_____
_____

J.Ryan McMahon, II
County Executive

Onondaga County Planning Board

RESOLUTION OF THE
ONONDAGA COUNTY PLANNING BOARD

Meeting Date: March 15, 2023
OCPB Case # Z-23-62

WHEREAS, the Onondaga County Planning Board, pursuant to General Municipal Law, Section 239 l, m and n, has considered and reviewed the referral for a SITE PLAN from the Town of Manlius Planning Board at the request of Horizon Solar Power and Catalyze Energy for the property located at 7869 Peck Road; and

WHEREAS, General Municipal Law Section 239-m allows the County Planning Board to review approval of site plans and the site is located within 500 feet of Peck Road (Route 115), a county highway; and

WHEREAS, the applicant is proposing to install a 4.25 mega watt solar array on a proposed 37.625-acre parcel in a Restricted Agricultural (RA) zoning district; and

WHEREAS, the Board is concurrently reviewing Site Plan (Z-23-62), Special Permit (Z-23-63), and Subdivision (S-23-8) referrals for the project; 5 variances requested by the applicant have been approved by the Town of Manlius Board of Zoning Appeals; the variances were not referred to this Board; and

WHEREAS, the site is a mostly vacant parcel on Peck Road, near the intersections with North Manlius Road to the west and Ferstler Road to the east; the area is characterized by a mix of land uses including woodlands and wetlands, agriculture, and low-density housing; the site lies approximately one mile north of the NYS Thruway; the site is generally comprised of tilled agricultural land, with wooded lands along the rear, and a house, garage, and barn/storage buildings closer to the Peck Road frontage; and

WHEREAS, the Resubdivision & Lot Line Adjustment Map dated December 17, 2022 shows the 39.75-acre parcel, along with adjacent tax parcel 042.-01-32.4 under separate ownership, would be resubdivided into three new lots: Lot 2A (37.625 acres) would comprise the majority of the site, including existing agricultural and wooded lands, and have 55' of frontage onto Peck Road; new Lot 2B (2.171 acres) would be a flag lot to contain the existing house and garage and a shared asphalt driveway onto Peck Road; Tax Parcel 042.-01-32.4 would be modified to be a flag lot and add lands containing three barn structures, a gravel driveway and 90 feet of frontage onto Peck Road; and

WHEREAS, the Site Plan dated 11/2/2022, shows the solar project would occur entirely on Proposed Lot 2A; the arrays will be arranged in three large sections, accessed by a stabilized gravel access road from Peck Road; and
ADVISORY NOTE: Per the Onondaga County Department of Transportation, all existing or proposed driveways onto Peck Road must meet Department requirements; and

WHEREAS, the solar modules will be mounted on horizontal supports, attached to vertical steel posts driven or screwed into the ground, the applicant states this method "minimizes excavation and concrete foundations"; pollinator-friendly groundcover would be planted, and vegetative screening is noted along the southern and eastern edges of the project area; the solar panels appear to avoid placement within currently wooded area; and

WHEREAS, the Site Plan notes the entirety of the solar project would be fenced with an access gate set back from Peck Road; transformers would be located on pads at two locations within the site; and the project would connect to the existing utility switch and pole at the Peck Road frontage; and

WHEREAS, the Site Plan and Existing Conditions Plan show the location of multiple areas of wetlands to be located within the solar array area; the wetlands are noted as being delineated by GEI Consultants, PC on September 1, 2022; and
ADVISORY NOTE: Any proposed development in, placement of fill in, or drainage of a state and/or federal wetland or 100-foot state wetland buffer requires appropriate permits from the NYS Department of Environmental Conservation and/or the US Army Corps of Engineers; and

WHEREAS, per the Grading and Utilities Plan, a dry retention basin would be constructed on the southern boundary of proposed lot 2A, along the boundary with proposed lot 2B; per the Erosion and Sediment Control Plan, a silt fence is to be constructed around proposed lot 2A; and

WHEREAS, the referral states the site has no current water or sewer servicing the site with none proposed, per the Onondaga County Department of Finance Office of Real Property Services, the site is served by municipal water and individual septic system; it is assumed proposed Lot 2B will maintain municipal water provided by OCWA and their septic system while proposed Lot 2A will remain without that infrastructure; and

WHEREAS, the applicant neglected to specify how much land would be physically disturbed as a part of this project, but did submit a Stormwater Pollution Prevention Plan (SWPPP) with their application;
ADVISORY NOTE: Any project that cumulatively disturbs one acre or more of land must be covered under the NYS SPDES Permit; the municipality is advised to ensure that the applicant has obtained the appropriate permits from the NYS Department of Environmental Conservation prior to municipal approval; and

WHEREAS, the site may contain the Bald Eagle, or its associated habitat, which has been listed by the state or federal government as a threatened or endangered animal species (per EAF Mapper);
ADVISORY NOTE: Per the NYS Department of Environmental Conservation (DEC), if the site contains a threatened or endangered species and/or associated habitat, and the project requires review under the State Environmental Quality Review Act (SEQRA), a request for a project screening should be submitted to the New York Natural Heritage Program or to the regional DEC Division of Environmental Permits office; and

WHEREAS, the site or a portion of it is located in or adjacent to an area designated as sensitive for archaeological sites on the NYS Historic Preservation Office archaeological site inventory (per EAF Mapper);
ADVISORY NOTE: The applicant and/or municipality is advised to contact the NYS Historic Preservation Office to determine if the project should be submitted to the Office for review as part of the State Environmental Quality Review (SEQR) process; and

NOW THEREFORE BE IT RESOLVED, that the Onondaga County Planning Board recommends the following MODIFICATION(S) to the proposed action prior to local board approval of the proposed action:

1. Per the Onondaga County Department of Transportation, a drainage study or

Stormwater Pollution Prevention Plan (SWPPP) is required to show that the proposed development would not create additional stormwater runoff into the county's drainage system. The applicant must contact the Department to determine the scope of the study. The municipality must ensure any mitigation as may be determined by the Department is reflected on the project plans prior to, or as a condition of, municipal approval.

2. The applicant must contact the U.S. Army Corps of Engineers and/or NYS Department of Environmental Conservation to confirm the presence of federal and/or state wetlands and/or the 100-foot state wetland buffer on the site. All confirmed wetlands should be shown on the plans for the site and any necessary permits should be obtained for any proposed development or placement of fill in a wetland, or drainage of any confirmed wetlands and buffers.

Related thereto, the project as proposed presumably includes significant construction activity and permanent placement of solar arrays using drilled pilings within several acres of federal and or state wetlands and potential buffer areas. Given the large scale of the proposed project and extent of proposed wetland and related potential habitat disturbance, the applicant must revise project plans to further minimize encroachment into wetland areas, and/or provide high-quality mitigation to preserve these important and sensitive environmental areas to the extent possible.

The Board also offers the following comment:

1. The Town should ensure that any shared driveway access from adjacent parcels be formalized with agreements, noted on plans and filed with the subdivision plan.

Martin E. Voss, Chairman
Onondaga County Planning Board

1100 Civic Center, 421 Montgomery Street, Syracuse, NY 13202 (315) 435-2611, Fax (315) 435-2439

E-mail Address: countyplanning@ongov.ne

GML 239 Report of Final Action

NYS GML § 239-m.6. and n.6. require the referring body to file a report of the final action it has taken on a referred matter with the county planning agency within 30 days after the final action (separate from the minutes taken at the meeting). A referring body which acts contrary to a County Planning Board recommendation of MODIFICATION or DISAPPROVAL of a referred matter shall also set forth the reasons for the contrary action in such report.

This section to be completed by the Syracuse-Onondaga County Planning Agency

To: Onondaga County Planning Board **From:** Town of Manlius Planning Board

Fax: 435-2439 **Phone:** 435-2611

Re:

Applicant: Horizon Solar Power and Catalyze Energy
Address: at 7869 Peck Road
Referral Type: SITE PLAN
OCPB Date: March 15, 2023
OCPB Action: Modification
OCPB Case #: Z-23-62

The local board took the following action regarding the above referenced referral (Check one box. If checking Other, please specify the final action taken. Use the space at the bottom of the report to identify reasons if acting contrary to the OCPB recommendation.):

☐ Approved the proposed action with regard to the OCPB's No Position or No Position with Comment.
☐ Approved the proposed action as modified by the OCPB.
☐ Approved the proposed action contrary to some of the modifications recommended by the OCPB.*
☐ Approved the proposed action contrary to all of the modifications recommended by the OCPB.*
☐ Approved the proposed action contrary to the disapproval recommended by the OCPB.*

☐ Disapproved the proposed action with regard to the OCPB's no position or no position with comment.
☐ Disapproved the proposed action with regard to the recommended modification(s) by the OCPB.
☐ Disapproved the proposed action as recommended and for reasons set forth by the OCPB.
☐ Disapproved the proposed action as recommended but for reasons other than those set forth by the OCPB. (Please list reasons below for local disapproval.)

☐ Other _____

Local Board Date: _____

*List reasons for acting contrary to the OCPB recommendation and include a copy of the local board resolution. Attach additional reasons on a separate sheet of paper as necessary.

_____
_____
_____
_____

J.Ryan McMahon, II
County Executive

Onondaga County Planning Board

RESOLUTION OF THE
ONONDAGA COUNTY PLANNING BOARD

Meeting Date: March 15, 2023
OCPB Case # S-23-8

WHEREAS, the Onondaga County Planning Board, pursuant to General Municipal Law, Section 239 l, m and n, has considered and reviewed the referral for a FINAL SUBDIVISION from the Town of Manlius Planning Board at the request of Horizon Solar Power and Catalyze Energy for the property located at 7869 Peck Road; and

WHEREAS, General Municipal Law Section 239-n allows the County Planning Board to review the approval of subdivisions and the site is located within 500 feet of Peck Road (Route 115), a county highway; and

WHEREAS, the applicant is proposing to subdivide a 39.42-acre parcel into two new lots, Proposed New Lot 2A (37.625 acres) and Proposed New Lot 2B (2.17 acres), and convey 0.617 acres to an adjacent parcel in a Restricted Agricultural (RA) zoning district; and

WHEREAS, the Board is concurrently reviewing Site Plan (Z-23-62), Special Permit (Z-23-63), and Subdivision (S-23-8) referrals for the project; five variances requested by the applicant have been approved by the Town of Manlius Board of Zoning Appeals; the variances were not referred to this Board; and

WHEREAS, the site is a mostly vacant parcel on Peck Road, near the intersections with North Manlius Road to the west and Ferstler Road to the east; the area is characterized by a mix of land uses including woodlands and wetlands, agriculture, and low-density housing; the site lies approximately one mile north of the NYS Thruway; the site is generally comprised of tilled agricultural land, with wooded lands along the rear, and a house, garage, and barn/storage buildings closer to the Peck Road frontage; and

WHEREAS, the Resubdivision & Lot Line Adjustment Map dated December 17, 2022 shows the 39.75-acre parcel, along with adjacent tax parcel 042.-01-32.4 under separate ownership, would be resubdivided into three new lots: Lot 2A (37.625 acres) would comprise the majority of the site, including existing agricultural and wooded lands, and have 55' of frontage onto Peck Road; new Lot 2B (2.171 acres) would be a flag lot to contain the existing house and garage and a shared asphalt driveway onto Peck Road; Tax Parcel 042.-01-32.4 would be modified to be a flag lot and add lands containing three barn structures, a gravel driveway and 90 feet of frontage onto Peck Road; and

WHEREAS, the Site Plan dated 11/2/2022, shows the solar project would occur entirely on Proposed Lot 2A; the arrays will be arranged in three large sections, accessed by a stabilized gravel access road from Peck Road; and
ADVISORY NOTE: Per the Onondaga County Department of Transportation, all existing or proposed driveways onto Peck Road must meet Department requirements; and

WHEREAS, the solar modules will be mounted on horizontal supports, attached to vertical steel posts driven or screwed into the ground, the applicant states this method "minimizes excavation and concrete foundations"; pollinator-friendly groundcover would be planted, and vegetative screening is noted along the southern and

eastern edges of the project area; the solar panels appear to avoid placement within currently wooded area; and

WHEREAS, the Site Plan notes the entirety of the solar project would be fenced with an access gate set back from Peck Road; transformers would be located on pads at two locations within the site; and the project would connect to the existing utility switch and pole at the Peck Road frontage; and

WHEREAS, the Site Plan and Existing Conditions Plan show the location of multiple areas of wetlands to be located within the solar array area; the wetlands are noted as being delineated by GEI Consultants, PC on September 1, 2022; and
ADVISORY NOTE: Any proposed development in, placement of fill in, or drainage of a state and/or federal wetland or 100-foot state wetland buffer requires appropriate permits from the NYS Department of Environmental Conservation and/or the US Army Corps of Engineers; and

WHEREAS, per the Grading and Utilities Plan, a dry retention basin would be constructed on the southern boundary of proposed lot 2A, along the boundary with proposed lot 2B; per the Erosion and Sediment Control Plan, a silt fence is to be constructed around proposed lot 2A; and

WHEREAS, the referral states the site has no current water or sewer servicing the site, and no new facilities are proposed, presumably on proposed lot 2A; it is also presumed that proposed Lot 2B will maintain its current OCWA drinking water and septic system serving the exsiting house; and that no changes are proposed; and

WHEREAS, the applicant neglected to specify how much land would be physically disturbed as a part of this project, but did submit a Stormwater Pollution Prevention Plan (SWPPP) with their application;
ADVISORY NOTE: Any project that cumulatively disturbs one acre or more of land must be covered under the NYS SPDES Permit; the municipality is advised to ensure that the applicant has obtained the appropriate permits from the NYS Department of Environmental Conservation prior to municipal approval; and

WHEREAS, the site may contain the Bald Eagle, or its associated habitat, which has been listed by the state or federal government as a threatened or endangered animal species (per EAF Mapper);
ADVISORY NOTE: Per the NYS Department of Environmental Conservation (DEC), if the site contains a threatened or endangered species and/or associated habitat, and the project requires review under the State Environmental Quality Review Act (SEQRA), a request for a project screening should be submitted to the New York Natural Heritage Program or to the regional DEC Division of Environmental Permits office; and

WHEREAS, the site or a portion of it is located in or adjacent to an area designated as sensitive for archaeological sites on the NYS Historic Preservation Office archaeological site inventory (per EAF Mapper);
ADVISORY NOTE: The applicant and/or municipality is advised to contact the NYS Historic Preservation Office to determine if the project should be submitted to the Office for review as part of the State Environmental Quality Review (SEQR) process; and

NOW THEREFORE BE IT RESOLVED, that the Onondaga County Planning Board recommends the following MODIFICATION(S) to the proposed action prior to local board approval of the proposed action:

1. Per the Onondaga County Department of Transportation, a drainage study or Stormwater Pollution Prevention Plan (SWPPP) is required to show that the proposed development would not create additional stormwater runoff into the county's drainage system. The applicant must contact the Department to determine the scope of the study. The municipality must ensure any mitigation as may be determined by the Department is reflected on the project plans prior to, or as a condition of, municipal approval.

2. The applicant must contact the U.S. Army Corps of Engineers and/or NYS Department of Environmental Conservation to confirm the presence of federal and/or state wetlands and/or the 100-foot state wetland buffer on the site. All confirmed wetlands should be shown on the plans for the site and any necessary permits should be obtained for any proposed development or placement of fill in a wetland, or drainage of any confirmed wetlands and buffers.

Related thereto, the project as proposed presumably includes significant construction activity and permanent placement of solar arrays using drilled pilings within several acres of federal and or state wetlands and potential buffer areas. Given the large scale of the proposed project and extent of proposed wetland and related potential habitat disturbance, the applicant must revise project plans to further minimize encroachment into wetland areas, and/or provide high-quality mitigation to preserve these important and sensitive environmental areas to the extent possible.

The Board also offers the following comment:

The Town should ensure that any shared driveway access from adjacent parcels be formalized with agreements, noted on plans and filed with the subdivision plan.

Martin E. Voss, Chairman
Onondaga County Planning Board

1100 Civic Center, 421 Montgomery Street, Syracuse, NY 13202 (315) 435-2611, Fax (315) 435-2439

E-mail Address: countyplanning@ongov.ne

GML 239 Report of Final Action

NYS GML § 239-m.6. and n.6. require the referring body to file a report of the final action it has taken on a referred matter with the county planning agency within 30 days after the final action (separate from the minutes taken at the meeting). A referring body which acts contrary to a County Planning Board recommendation of MODIFICATION or DISAPPROVAL of a referred matter shall also set forth the reasons for the contrary action in such report.

This section to be completed by the Syracuse-Onondaga County Planning Agency

To: Onondaga County Planning Board **From:** Town of Manlius Planning Board

Fax: 435-2439 **Phone:** 435-2611

Re:

Applicant: Horizon Solar Power and Catalyze Energy
Address: at 7869 Peck Road
Referral Type: FINAL SUBDIVISION
OCPB Date: March 15, 2023
OCPB Action: Modification
OCPB Case #: S-23-8

The local board took the following action regarding the above referenced referral (Check one box. If checking Other, please specify the final action taken. Use the space at the bottom of the report to identify reasons if acting contrary to the OCPB recommendation.):

☐ Approved the proposed action with regard to the OCPB's No Position or No Position with Comment.
☐ Approved the proposed action as modified by the OCPB.
☐ Approved the proposed action contrary to some of the modifications recommended by the OCPB.*
☐ Approved the proposed action contrary to all of the modifications recommended by the OCPB.*
☐ Approved the proposed action contrary to the disapproval recommended by the OCPB.*

☐ Disapproved the proposed action with regard to the OCPB's no position or no position with comment.
☐ Disapproved the proposed action with regard to the recommended modification(s) by the OCPB.
☐ Disapproved the proposed action as recommended and for reasons set forth by the OCPB.
☐ Disapproved the proposed action as recommended but for reasons other than those set forth by the OCPB. (Please list reasons below for local disapproval.)

☐ Other _____

Local Board Date: _____

*List reasons for acting contrary to the OCPB recommendation and include a copy of the local board resolution. Attach additional reasons on a separate sheet of paper as necessary.

_____
_____
_____
_____

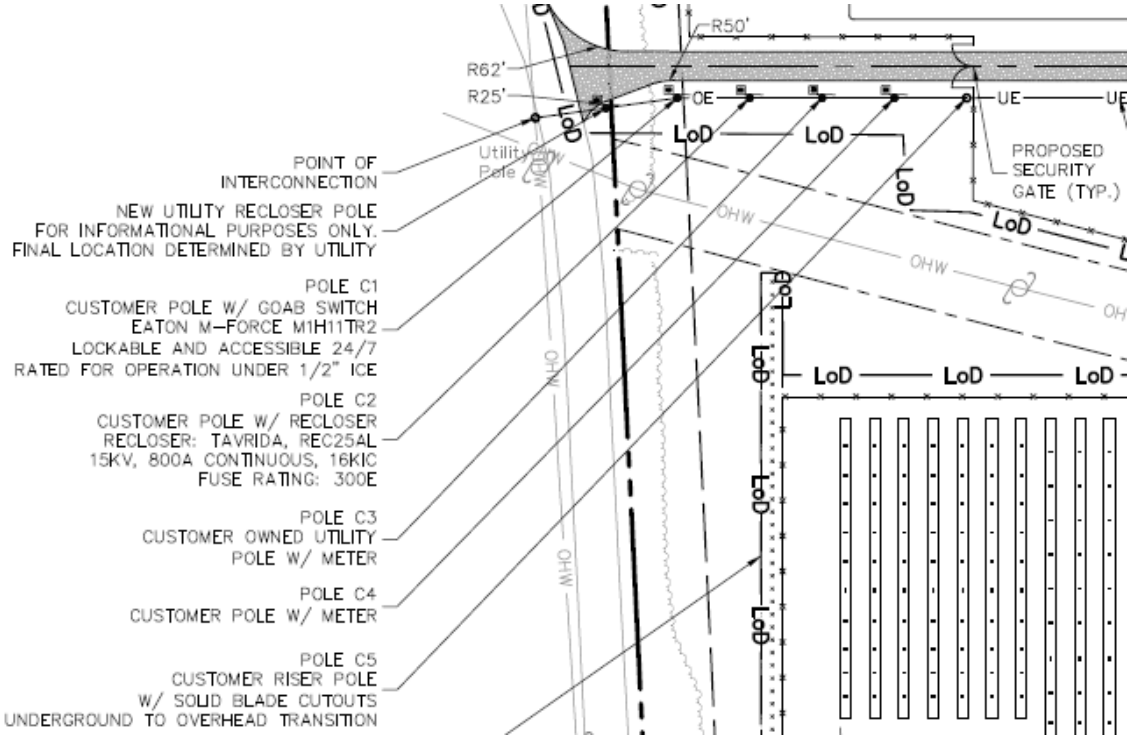
Chairman Joseph Lupia
Town of Manlius Planning Board
March 29, 2023

Dear Chairman Lupia and Members of the Planning Board:

As you know, Cypress Creek appeared before the Planning Board on February 13, 2023, with respect to certain field changes to a solar facility previously approved on May 23, 2022. At that meeting, the Planning Board requested that we provide a more detailed explanation as to the feasibility of converting the POI electric pole-line up into underground wiring given the proposed reduction in pole-to-pole distance from 50ft to 40ft. Please allow this correspondence to serve as a response to the Planning Board's concerns raised at that meeting.

Review of Project History:

On May 23, 2022, the Town of Manlius Planning Board issued a Site Plan Approval decision to Meltwater Solar, LLC. Drawings submitted as part of Meltwater's application had assumed the following "Point of Interconnection" or "POI" design:



On July 19, 2022, Meltwater Solar, LLC conducted a site visit with National Grid representatives to confirm final locations for the POI installation. This site visit instead resulted in Meltwater Solar, LLC receiving the following feedback from the utility:

1. The overall proposal will work.
   1. National Grid will set a midline pole across the street to feed the site. Note: Should this pole/anchor need to be placed on 3rd party property, the developer will be responsible to obtain the easement/ROW.

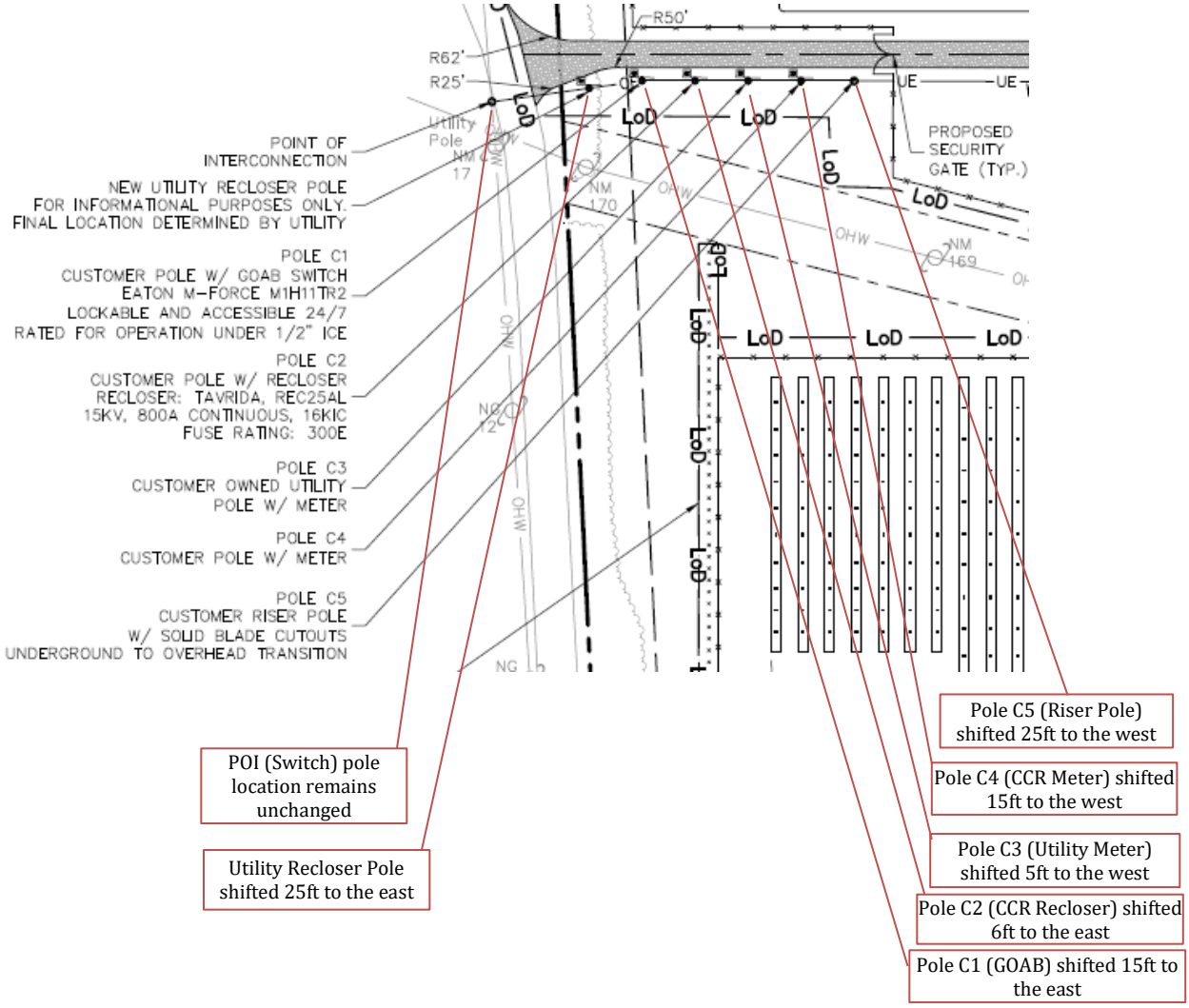
2. The pole line up needs to be a minimum of 10 feet off the access road.
   a. Developer will update the site plan to incorporate this distance.

3. National Grid Recloser pole location TBD. National Grid wants to make sure this pole is on the developer's property as well as outside the swale and requires the following:
   a. Developer is going to locate the existing town ROW from centerline on street to their property.
   b. Once National Grid determines the location of the recloser pole, all poles after that pole will be 50 feet apart.

4. Developer to resubmit site plan with changes for review.

On October 12, 2022, Meltwater Solar, LLC submitted a revised site plan (POI diagram shown below) to National Grid, which was subsequently accepted and approved for the development of a utility easement ahead of construction.

[Continued on next page]



Note: Because Point #3a required shifting the utility recloser pole 25ft to the east to avoid the town ROW, there was not enough room between the first pole in the POI lineup and the project fence. As a result, the pole-to-pole spacing for the six poles to the east of Kirkville Rd was reduced from 50ft to 40ft. National Grid was accepting of this change given the site constraints (see separate attachment for email confirmation).

On January 13, 2023, Meltwater Solar, LLC notified the Town of Manlius of these field changes. The Town of Manlius subsequently requested that Meltwater Solar, LLC attend their February 13, 2023, Planning Board meeting to review these changes in more detail. At this meeting, Meltwater Solar, LLC provided a side-by-side comparison of the new vs. old POI design (included as Appendix A) and fielded several questions from Planning Board members. At the end of the

meeting, the Town Planning Board requested that Meltwater Solar, LLC return with a more detailed explanation as to the feasibility of moving all wiring at the front of the site underground, to mitigate the Planning Board's aesthetics concerns of having these poles spaced too closely together.

Below is Meltwater Solar, LLC's response to such an inquiry:

At a high level, the central goal of the Point of Interconnection ("POI") design is to ensure that the local utility has safe and convenient access to a certain set of standardized equipment that will allow them to:

1. Keep track of (or "meter") the amount of electricity generated or consumed, and
2. Disconnect the facility (for either emergency or maintenance purposes).

Given these dual priorities of safety and convenience, it should not come as a surprise that POIs are often pole-mounted and as close to the public ROW as possible.

Though there may be an option to pad-mount some of this equipment, it is generally not recommended for the following reasons:

1. <u>Pole-mounted equipment is the industry standard, and as such, the lead times to procure, build and maintain it are significantly shorter than for pad-mounted equipment.</u>
    - This is of particular concern to Meltwater Solar, LLC, as National Grid has warned that any further changes beyond what they had requested following the site visit will put the project at risk of not being able to interconnect this year.
2. <u>Using industry-standard equipment mitigates the impact of operational malfunctions.</u>
    - If the interconnection equipment needed replacement, pole-mounted equipment would usually be readily available in the utility's inventory, as it is the industry standard. Pad-mounted equipment, on the other hand, is custom-made, and as such, involves significantly longer lead times to be delivered. This presents a risk that the solar facility could shut down for months in the event of an equipment malfunction in a pad-mounted POI lineup.

3. Pole-mounted equipment takes up less space and blends in with existing infrastructure.

    - This is a notable consideration, particularly in Meltwater's case, where there is already an existing sub-transmission line that cuts diagonally across the property. It is also important to note that, to the untrained eye, these poles will look very similar to the existing overhead utility poles that run parallel to Kirkville Road. This contrasts with a pad-mounted POI scenario in which each piece of equipment would require its own concrete pad, which would be secured from public access either via steel encapsulation or by perimeter fencing. To the untrained eye, this would resemble a series of commercial-grade backup generators at the site's entrance.

4. Pole-mounted equipment is less impactful from a stormwater perspective.

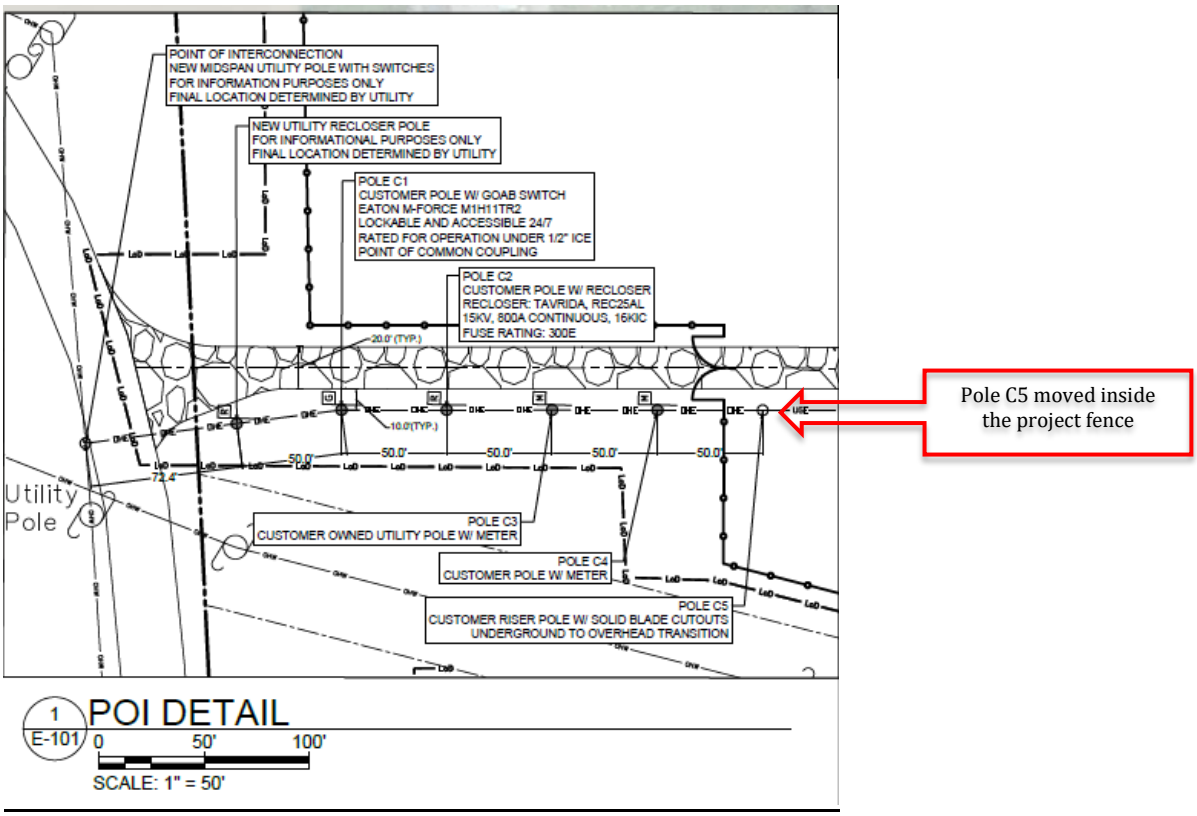
    - As discussed above, the only alternative to pole-mounted equipment is pad-mounted equipment. As the terminology suggests, this requires mounting the same interconnection equipment on a concrete pad, which would result in an increase of impervious surface.

    - Moreover, the addition of new impervious surface would invalidate previous stormwater calculations that had been incorporated into Meltwater's Stormwater Pollution Prevention Plan (SWPPP), and cause need for further analysis. This could result in construction delays and poses a threat to Meltwater's ability to be commissioned before the end of the year.

In addition to these general concerns, there are also project-specific concerns with changing Meltwater's POI design to use ground-mounted equipment, as it would make the project vulnerable to supply chain risks, which in turn are expected to translate into material construction delays. Please see the email correspondence with National Grid (provided separately), in which National Grid provides confirmation that a change to ground-mounted equipment would delay the construction timeline.

Proposed Solution: Given the above considerations, Meltwater Solar, LLC proposes restoring the 50ft pole-to-pole distance that was originally approved by the Planning

Board. This can be achieved by moving Pole C5 inside the fence and moving eastward the remaining poles to the east of the Utility Recloser Pole, as shown below. This would mitigate the aesthetics concerns prompted by the revised POI design presented at the February 13, 2023 meeting, while still adhering to National Grid's requirement to move the Utility Recloser Pole outside of the ROW.



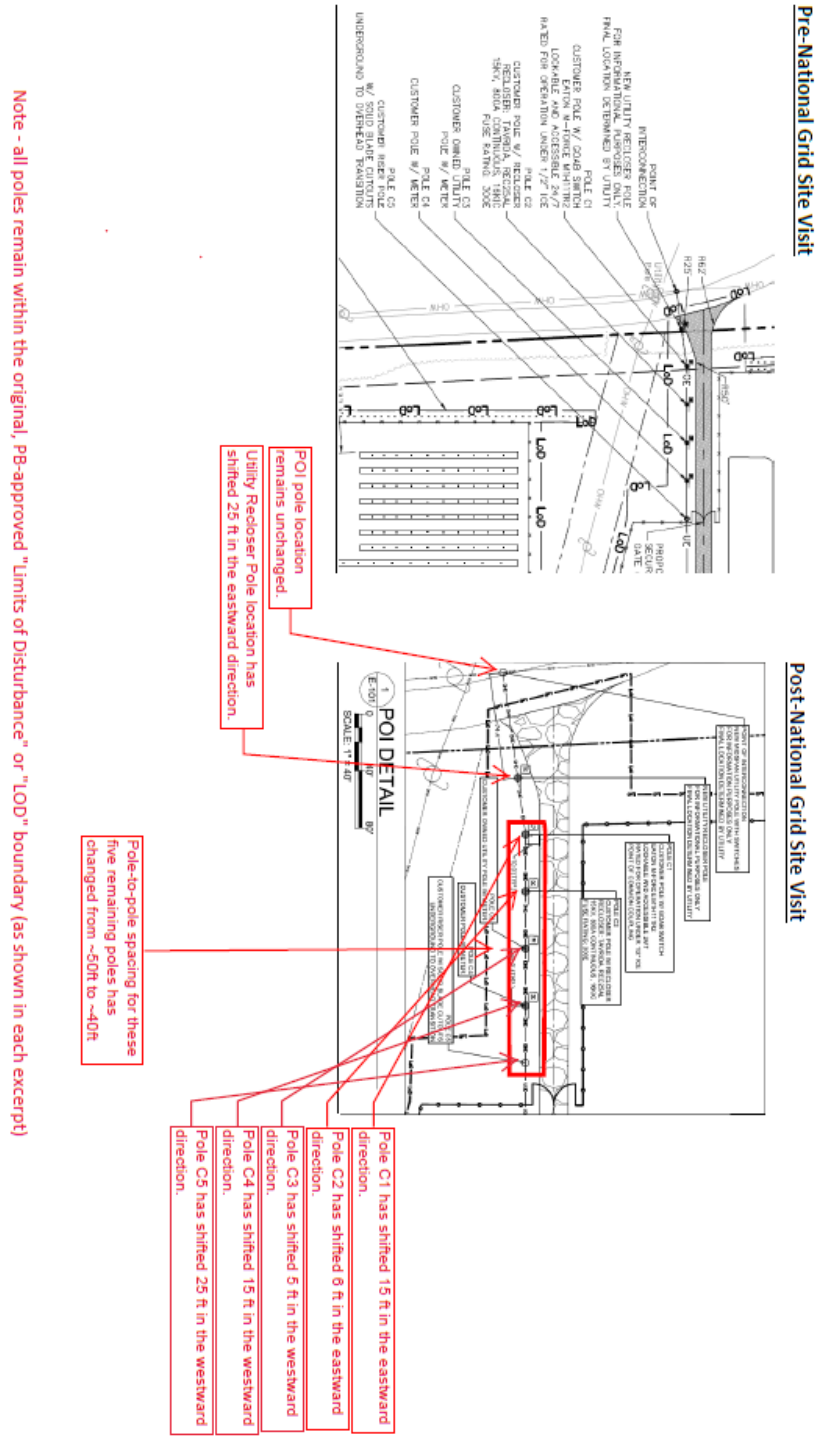
Meltwater Solar, LLC respectfully requests that the Town of Manlius Planning Board consider all the above factors and allow for the project to proceed with this newly revised POI design.

Please let us know if you have any further questions or concerns.

Sincerely,

Bernardo Urdaneta

Appendix A


Pre-National Grid Site Visit
Post-National Grid Site Visit
POI DETAIL
POI pole location remains unchanged.
Utility Recloser Pole location has shifted 25 ft in the eastward direction.
Pole-to-pole spacing for these five remaining poles has changed from ~50ft to ~40ft.
Pole C1 has shifted 15 ft in the eastward direction.
Pole C2 has shifted 6 ft in the eastward direction.
Pole C3 has shifted 5 ft in the westward direction.
Pole C4 has shifted 15 ft in the westward direction.
Pole C5 has shifted 25 ft in the westward direction.
Note - all poles remain within the original, PB-approved "Limits of Disturbance" or "LOD" boundary (as shown in each excerpt)

LAW OFFICES OF
SNYDER & SNYDER, LLP
94 WHITE PLAINS ROAD
TARRYTOWN, NEW YORK 10591
(914) 333-0700
FAX (914) 333-0743

NEW YORK OFFICE
445 PARK AVENUE, 9TH FLOOR
NEW YORK, NEW YORK 10022
(212) 749-1448
FAX (212) 932-2693

LESLIE J. SNYDER
ROBERT D. GAUDIOSO
DOUGLAS W. WARDEN
JORDAN M. FRY

DAVID L. SNYDER
(1956-2012)

WRITER'S E-MAIL ADDRESS

email to **DWarden@snyderlaw.net**

NEW JERSEY OFFICE
ONE GATEWAY CENTER, SUITE 2600
NEWARK, NEW JERSEY 07102
(973) 824-9772
FAX (973) 824-9774

REPLY TO:

Tarrytown Office

March 29, 20223

Chairman Joseph Lupia
and Members of the Planning Board
Town of Manlius
301 Brooklea Drive
Fayetteville, New York 13066

RE: Meltwater Solar, LLC Solar Farm
6101 Kirkville Road North, Kirkville, New York 13082
Response to Planning Board re: Underground Utility Relocation

Dear Chairman Lupia
and Members of the Planning Board:

We represent Meltwater Solar, LLC ("Meltwater") in connection with its efforts to obtain approval for certain field changes to the Ground-Mounted Solar Energy System ("Project") approved by the Planning Board on May 23, 2022 and to be located at the above-referenced property. The proposed field changes relate to the spacing of the utility poles at the Point of Interconnection ("POI") and were necessitated by a meeting with National Grid—the incumbent utility with final authority to approve or deny a given POI pole lineup. On February 13, 2023 we appeared before the Planning Board to explain the necessity for the proposed changes and provide a comparison of the original POI pole lineup with the proposed revisions. At that meeting the Planning Board asked for additional information as to why the transmission utility lines cannot be placed underground. Please allow this correspondence, in addition to the accompanying correspondence of Project Developer Bernardo Urdaneta ("Urdaneta Letter"), to serve as a response to the Board's request for additional information.

Section 155-27.2(D)[5] of the Town's Solar Law indicates that "on-site utility and transmission lines shall, **to the extent feasible**, be placed underground." (emphasis supplied). We respectfully submit that, for the following reasons, relocation of the POI utility lines underground is not feasible within the meaning of Section 155-27.2(D)[5].

The utility poles at the POI support not only utility transmission lines but also additional equipment ("Additional Equipment") that must be located above ground by its very nature. This Additional Equipment provides two of the essential functions of a POI lineup which are: i) to track and meter the amount of electricity generated; and ii) to disconnect the facility for either emergency or maintenance purposes. Therefore, even if the utility transmission lines could be buried underground, this Additional Equipment would need to remain above ground on concrete pads. These additional concrete pads would require the preparation and Town Approval of a new Stormwater Pollution Prevention Plan ("SWPPP") as well as revisions to the existing negative declaration under the State Environmental Quality Review Act. As more fully set forth in the Urdaneta Letter, the pad-mounted Additional Equipment would create a greater visual impact than the proposed revisions to the POI poles.

Moreover, requiring underground transmission lines will introduce significant delays and costs that would be potentially fatal to the Project. As such, we respectfully submit that the requested revisions are not "feasible" within the meaning of Section 155-27.2(D)[5] of the Solar Code.

In reliance upon the Planning Board's May 23, 2022 Approval, which did not require an underground POI, Meltwater has ordered approximately $215,000.00 worth of pole-mounted equipment. Pad-mounted equipment is not the industry standard and so must be custom-ordered. Relocating the transmission lines underground would therefore create significant new costs and risks resulting from canceling and replacing the current purchase orders for pole-mounted equipment and reassessing delivery timelines for the new, custom-made, pad-mounted equipment. Custom pad-mounted equipment orders have much longer delivery lead times.

Meltwater's engineering, procurement, and construction ("EPC") contractors and subcontractors are planning to begin work in June with equipment deliveries based on a June start date. Any material delay (more than a month) in obtaining the Building Permit in May will require Meltwater to find costly storage solutions for <u>all</u> equipment acquired to date and is likely to cause the Project to lose subcontractors slated to begin work in June. Meltwater will need to pay a premium to retain or replace the subcontractors at a later date and potentially compensate subcontractors already retained based upon the existing timeline. It is impossible to quantify the losses that will result at this time, but material delays have triggered $300,000.00 to $500,000.00 in additional costs for similar projects.

The additional delays and costs noted above would jeopardize not only the viability of the Project itself but also the significant amounts Meltwater has agreed to provide the Town in connection with the Project. The attached executed Host Community Agreement between Meltwater and the Town entails a payment of $95,500.00 to the Town to be paid upon Substantial Completion of the Project. The attached Payment in Lieu of Taxes ("PILOT") Agreement commits Meltwater to annual PILOT payments over fifteen years totaling $54,679.00.

To summarize, Meltwater has reasonably and justifiably relied upon the May 23, 2022 Approval Resolution, which did not require underground utility lines and expended significant financial resources in that reliance. Imposing underground utilities at this stage in the Project would impose massive additional costs and delays that we believe render the proposed revisions not "feasible" within the meaning of Section 155-27.2(D)[5] of the Solar Code.

We thank you for your consideration and look forward to discussing this matter with you further at the Planning Board's next regularly scheduled meeting.

Respectfully submitted,
SNYDER & SNYDER, LLP

Douglas W. Warden

Douglas W. Warden, Esq.

DWW/bto
cc: Meltwater Solar, LLC

Exhibit A

DocuSign Envelope ID: 2F31C899-7D6F-482C-A8F8-47AB1A88A5D0

MELTWATER SOLAR, LLC
TOWN OF MANLIUS – HOST COMMUNITY AGREEMENT

THIS HOST COMMUNITY AGREEMENT ("Agreement") is entered into by and between, **TOWN OF MANLIUS**, having a principal business address of 301 Brooklea Drive, Fayetteville, New York, 13066, a municipal corporation organized and existing under the laws of the State of New York acting by and through its town board (the "Town"), and **MELTWATER SOLAR, LLC,** a Delaware limited liability company, with an address of 3402 Pico Boulevard, Santa Monica, CA 90405 (the "Company").

RECITALS

WHEREAS, the Company wishes to locate an approximately 5 MW AC solar photovoltaic facility at 6101 Kirkville Rd. North, Manlius, NY 13082 ("Project"), in accordance with and pursuant to applicable state laws and regulations, and such approvals as may be issued by the Town in accordance with its zoning laws, the Town's Uniform Development Code ("UDC") and other applicable regulations; and

WHEREAS, the Company desires to provide certain benefits to the Town in the event that it is able to develop and operate the Project and receives all local permits and approvals from the Town.

NOW, THEREFORE, in consideration of the mutual covenants and promises as set forth herein, and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the Town and Company hereby agree as follows:

AGREEMENT

1. The Parties agree that the above recitals are true and accurate and that they are incorporated herein and made part hereof.
2. Within thirty (30) days of the Project achieving Substantial Completion, which shall occur when the system is capable of delivering energy for four (4) continuous hours using such

DocuSign Envelope ID: 2F31C899-7D6F-482C-A8F8-47AB1A88A5D0

instruments and meters as have been installed for such purposes, and the Project has been approved for interconnected operation by the local distribution company). Company shall provide to the Town a donation of funds ("Fund"), which Fund the Town agrees to accept. If the Project never achieves Substantial Completion, Company shall not be obligated to make a donation of funds.

3. The Fund will be a set payment of $95,500. The Town will provide a receipt to the Company of the payment. The Town shall use the Fund in its sole discretion but shall make a good faith effort to allocate said Fund to off-set costs related to road and other infrastructure systems, fire protection services, inspection services, public health and consulting services, as well as unforeseen impacts upon the Town.
4. This Agreement may be executed in counterparts, each of which shall be deemed an original, but all of which, taken together, shall constitute one integrated and sole agreement. Facsimile and electronic signatures affixed to this Agreement shall have the same weight and authority as an original signature.

Signature Pages Follow

DocuSign Envelope ID: 2F31C899-7D6F-482C-A8F8-47AB1A88A5D0

IN WITNESS WHEREOF, the parties hereto have executed this Agreement as of the date and year set forth below.

TOWN OF MANLIUS

By: John T Deer
Name: John Deer
Title: Town Supervisor
Date: 11/17/2022

MELTWATER SOLAR, LLC

DocuSigned by:
By: Geoff Johnson
536AA49AC84942D...
Name: Geoff Johnson
Title: Authorized Person
Date: 1/12/2023

Exhibit B

DocuSign Envelope ID: 4F9E5526-57C7-414C-8169-1BD68600C5ED

PAYMENT IN LIEU OF TAXES AGREEMENT

FOR SOLAR ENERGY SYSTEMS

between

Town of Manlius

and

Meltwater Solar, LLC

Dated as of January 12, 2023

RELATING TO THE PREMISES LOCATED AT 6101 KIRKVILLE ROAD NORTH, MANLIUS, NY 13082 (SBL: 313889 071.-02-09.0) IN THE TOWN OF MANLIUS, ONONDAGA COUNTY, NEW YORK.

DocuSign Envelope ID: 4F9E5526-57C7-414C-8169-1BD68600C5ED

PAYMENT IN LIEU OF TAXES AGREEMENT FOR SOLAR ENERGY SYSTEMS PURSUANT TO REAL PROPERTY TAX LAW § 487

THIS AGREEMENT FOR PAYMENT IN LIEU OF TAXES FOR REAL PROPERTY, effective as of the date on the cover page, above, by and between Meltwater Solar, LLC (the "Owner"), a Delaware limited liability company, with a principal place of business located at 3402 Pico Boulevard, Santa Monica, CA 90405; and the Town of Manlius (the "Taxing Jurisdiction" or "Town"), a municipal corporation duly established in Onondaga County with a principal place of business located at 301 Brooklea Drive, Fayetteville, NY 13066. Owner and the Taxing Jurisdiction are collectively referred to in this Agreement as the "Parties" and are individually referred to as a "Party."

RECITALS

WHEREAS, Owner has submitted a Notice of Intent to the Taxing Jurisdiction that it plans to build and operate a "Solar Energy System" as defined in New York Real Property Tax Law ("RPTL") Section 487 (1)(b) (herein the "Project") with an expected nameplate capacity ("Capacity'') of approximately five (5) Megawatts AC on a portion of a parcel of land located within the physical boundaries of the Taxing Jurisdiction at 6101 Kirkville Rd. North, Manlius, NY 13082 (SBL: 313889 071.-02-09.0) as more particularly described in Exhibit A (herein the "Property"); and;

WHEREAS, the Taxing Jurisdiction has not opted out of RPTL Section 487; and

WHEREAS, pursuant to RPTL Section 487 (9)(a), the Taxing Jurisdiction has indicated its intent to require a Payment in Lieu of Taxes ("PILOT") Agreement with the Owner, under which the Owner (or any successor owner of the Project) will be required to make annual payments to the Taxing Jurisdiction for each year during the term of this Agreement; and

WHEREAS, the Owner has submitted or will submit to the assessor of the Town a RP-487 Application for Tax Exemption of Solar or Wind Energy Systems or Farm Waste Energy Systems, demonstrating its eligibility for a real property tax exemption pursuant to RPTL Section 487; and

WHEREAS, the Parties intend that, during the term of this Agreement, the Project will be placed on an exempt portion of the assessment roll and the Owner will not be assessed for any statutory real property taxes for which it might otherwise be subjected under New York law with respect to the Project.

NOW THEREFORE, for and in consideration of the mutual covenants hereinafter contained, the receipt and sufficiency of which are hereby acknowledged, the Parties hereby agree as follows:

DocuSign Envelope ID: 4F9E5526-57C7-414C-8169-1BD68600C5ED

1. Representations of the Parties.

(a) The Owner hereby represents, warrants, and covenants that, as of the date of this Agreement:

i. The Owner is duly organized, and a validly existing Delaware limited liability company duly authorized to do business in the State of New York, has requisite authority to conduct its business as presently conducted or proposed to be conducted under this Agreement, and has full legal right, power, and authority to execute, deliver, and perform all applicable terms and provisions of this Agreement.

ii. All necessary action has been taken to authorize the Owner's execution, delivery, and performance of this Agreement and this Agreement constitutes the Owner's legal, valid, and binding obligation enforceable against it in accordance with its terms.

iii. Upon information and belief, none of the execution or delivery of this Agreement, the performance of the obligations in connection with the transactions contemplated hereby, or the fulfillment of the terms and conditions hereof will (i) conflict with or violate any provision of the Owner's Certificate of Incorporation, Certificate of Formation, bylaws or other organizational documents or of any restriction or any agreement or instrument to which the Owner is a party and by which it is bound; (ii) conflict with, violate, or result in a breach of any applicable law, rule, regulation, or order of any court or other taxing jurisdiction or authority of government or ordinance of the State or any political subdivision thereof; or (iii) conflict with, violate, or result in a breach of or constitute a default under or result in the imposition or creation of any mortgage, pledge, lien, security interest, or other encumbrance under this Agreement or under any term or condition of any mortgage, indenture, or any other agreement or instrument to which it is a party or by which it or any of the Owner's properties or assets are bound. To the best of the Owner's knowledge there is no action, suit, or proceeding, at law or in equity, or official investigation before or by any government authority pending or, to its knowledge, threatened against the Owner, wherein an anticipated decision, ruling, or finding would result in a material adverse effect on the Owner's ability to perform its obligations under this Agreement or on the validity or enforceability of this Agreement.

(b) The Taxing Jurisdiction hereby represents, warrants, and covenants that, as of the date of this Agreement:

i. The Taxing Jurisdiction is duly organized, validly existing, and in good standing under the laws of the State of New York and has full legal right, power, and authority to execute, deliver, and perform all applicable terms and provisions of this Agreement.

ii. All necessary action has been taken to authorize the Taxing Jurisdiction's execution, delivery, and performance of this Agreement, and this Agreement constitutes the Taxing Jurisdiction's legal, valid, and binding obligation enforceable against it in accordance with its terms.

iii. No governmental approval by or with any government authority is required for the

DocuSign Envelope ID: 4F9E5526-57C7-414C-8169-1BD68600C5ED

valid execution, delivery, and performance under this Agreement by the Taxing Jurisdiction except such as have been duly or will be obtained or made.

iv. There is no action, suit, or proceeding, at law or in equity, or official investigation before or by any government authority pending or, to its knowledge, threatened against the Taxing Jurisdiction, wherein an anticipated decision, ruling, or finding would result in a material adverse effect on the Taxing Jurisdiction's ability to perform its obligations under this Agreement or on the validity or enforceability of this Agreement.

2. Tax Exemption; Payment in Lieu of Real Property Taxes.

(a) Tax-Exempt Status of the Project. Pursuant to RPTL 487 the Parties hereto agree that the Project shall be placed by the Taxing Jurisdiction as exempt upon the assessment rolls of the Taxing Jurisdiction. A Real Property Tax Exemption Form (RP 487) has or will be filed with the Assessor responsible for the Taxing Jurisdiction and the Project is eligible for exemption pursuant to RPTL 487 (4).

(b) Owner agrees to make annual payments (the "Annual Payments") to the Taxing Jurisdiction which the Taxing Jurisdiction agrees shall be in lieu of real property taxes for the Project for a period of fifteen (15) consecutive fiscal tax years; Annual Payments may not exceed the amounts that would otherwise be payable in connection with the Project but for the RPTL 487 exemption. Such 15-year term shall commence on the first taxable status date selected by Owner following the date when the Project is mechanically complete (the "Completion Date"), and shall end the fifteenth fiscal year following the Completion Date. Each Annual Payment shall be as set forth in Exhibit B, unless adjusted as set forth in Section 3 below. Each Annual Payment will be paid to the Taxing Jurisdiction in accordance with Section 4 of this Agreement; and the Annual Payment amount and payment date will be noted on an annual bill in accord with Exhibit B issued by the Taxing Jurisdiction to the Owner.

(c) Owner agrees that the payments in lieu of taxes under this Agreement will not be reduced on account of a depreciation factor or reduction in the Taxing Jurisdiction tax rate, and the Taxing Jurisdiction agrees that the payments in lieu of taxes will not be increased on account of an inflation factor or increase in the Taxing Jurisdiction tax rate, all of which factors have been considered in arriving at the payment amounts reflected in this Agreement.

3. Change in Capacity After Mechanical Completion: Adjustments to Annual Payments. If after the Completion Date the Capacity is increased or decreased, the Annual Payments set forth in Exhibit B shall be increased or decreased on a pro rata basis for the remaining years of the Agreement.

4. Payment Collection. Annual Payments shall be made payable to Town of Manlius and mailed thereto, c/o Town Supervisor located at 301 Brooklea Drive, Fayetteville, NY 13066, and are due January 31 of each calendar year. All late payments shall accrue interest at the statutory rate for late tax payments under New York Law. Owner shall pay the reasonable attorney fees, court and other costs incurred by the Taxing Jurisdiction in the collection of the unpaid amounts. All payments by the Owner hereunder shall be paid in lawful money of the United States of America.

DocuSign Envelope ID: 4F9E5526-57C7-414C-8169-1BD68600C5ED

5. Tax Status. Separate Tax Lot. The Taxing Jurisdiction agrees that during the term of this Agreement, the Taxing Jurisdiction will not assess Owner for any real property taxes with respect to the Project to which Owner might otherwise be subject under New York law, and the Taxing Jurisdiction agrees that this Agreement will exclusively govern the payments of all such taxes, provided, however, that this Agreement is not intended to affect, and will not preclude the Taxing Jurisdiction from assessing or Owner from challenging, any other taxes, fees, charges, rates or assessments which the Owner is obligated to pay, including, but not limited to, special assessments or special district assessments, fees, or charges for services provided by the Taxing Jurisdiction to the Project.

6. No Assignments Without Prior Notice; Binding Effect.

(a) This Agreement may not be assigned by Owner without the prior written consent of the Taxing Jurisdiction; such consent may not be unreasonably withheld if the Assignee has agreed in writing to accept all obligations of the Owner. Notwithstanding the foregoing, in the event that (i) this Agreement is assumed by a third party in connection with any change in control of the ownership interests of the Owner or (ii) this Agreement is assigned in connection with the sale of all or substantially all of the Owner's assets to a third party, the consent of the Taxing Jurisdiction shall not be required. If Owner assigns this Agreement with the advance written consent of the Taxing Jurisdiction, or in connection with any assignment which does not require the consent of the Taxing Jurisdiction, the Owner shall be released from all obligations under this Agreement upon assumption hereof in writing by an assignee. A Notice of this Agreement may be recorded by Owner and the Taxing Jurisdiction shall cooperate in the execution of required Assignments with the Owner and its successors. Owner may, with advance written notice to the Taxing Jurisdiction and without prior consent, assign this Agreement to an affiliate of Owner or to any party who has provided or is providing financing to Owner for the construction, operation and/or maintenance of the Project.

(b) Binding Effect. This PILOT Agreement shall inure to the benefit of, and shall be binding upon, the Taxing Jurisdiction, the Owner and their respective successors and assigns.

7. Statement of Good Faith. The Parties agree that the payment obligations established by this Agreement have been negotiated in good faith in recognition of and with due consideration of the full and fair taxable value of the Project.

8. Additional Documentation and Actions. Subject to applicable laws and regulations, each Party will, from time to time hereafter, execute and deliver or cause to be executed and delivered, such reasonable additional instruments and documents as the other Party reasonably requests for the purpose of implementing or effectuating the provisions of this Agreement.

9. Notices. All notices, consents, requests, or other communications provided for or permitted to be given hereunder by a Party must be in writing and will be deemed to have been properly given or served upon the personal delivery thereof, via courier delivery service, by hand, or by certified mail, return receipt requested. Such notices shall be addressed or delivered to the

DocuSign Envelope ID: 4F9E5526-57C7-414C-8169-1BD68600C5ED

Parties at their respective addresses shown below.

If to Owner:

Meltwater Solar, LLC
c/o Cypress Creek Renewables
3402 Pico Boulevard, Suite 300
Santa Monica, CA 90405
Attn: Geoff Johnson

If to the Taxing Jurisdiction:

Town of Manlius
301 Brooklea Drive
Fayetteville, NY 13066
Attn: Town Supervisor

With a copy to:

Any such addresses for the giving of notices may be changed by either Party by giving written notice as provided above to the other Party. Notice given by counsel to a Party shall be effective as notice from such Party.

10. Applicable Law. This Agreement will be made and interpreted in accordance with the laws of the State of New York. Owner and the Taxing Jurisdiction each consent to the jurisdiction of the New York courts in and for the County in which the Project is located regarding any and all matters, including interpretation or enforcement of this Agreement or any of its provisions. Accordingly, any litigation arising hereunder shall be brought solely in such courts.

11. Termination Rights of the Owner. Owner may terminate this Agreement at any time by Notice to the Taxing Jurisdiction. Upon receipt of the Notice of Termination, the Project shall be placed on the taxable portion of the tax roll effective on the next taxable status date of the Taxing Jurisdiction. Owner shall be liable for all PILOT payments due in the year of termination, except that if Owner is required to pay any part-year real property taxes, the PILOT payment for that year shall be reduced pro rata so that the Owner is not required to pay both PILOT payments and real property taxes for any period of time.

12. Termination Rights of Taxing Jurisdiction. Notwithstanding anything to the contrary in this Agreement, the Taxing Jurisdiction may terminate this Agreement on thirty (30) days written notice to Owner if:

(a) Owner fails to make timely payments required under this Agreement, unless such payment is received by the Taxing Jurisdiction within the 30-day notice period referenced in Section 12 above with interest as stated in this Agreement; or

DocuSign Envelope ID: 4F9E5526-57C7-414C-8169-1BD68600C5ED

(b) Owner has filed, or has had filed against it, a petition in Bankruptcy, or is otherwise insolvent.

13. Remedies; Waiver And Notice.

(a) No Remedy Exclusive. No remedy herein conferred upon or reserved to Party is intended to be exclusive of any other available remedy or remedies, but each and every such remedy shall be cumulative and shall be in addition to every other remedy given under this Agreement or now or hereafter existing at law or in equity or by statute.

(b) Delay. No delay or omission in exercising any right or power accruing upon the occurrence of any breach of an obligation hereunder shall impair any such right or power or shall be construed to be a waiver thereof, but any such right or power may be exercised from time to time and as often as otherwise authorized by this Agreement and/or controlling law or authorities.

(c) No Waiver. In the event any provision contained in this Agreement should be breached by any party and thereafter duly waived by the other party so empowered to act, such waiver shall be limited to the particular breach so waived and shall not be deemed to be a waiver of any other breach hereunder. No waiver, amendment, release or modification of this Agreement shall be established by conduct, custom or course of dealing.

14. Entire Agreement. The Parties agree that this is the entire, fully integrated Agreement between them with respect to payments in lieu of taxes for the Project.

15. Amendments. This Agreement may not be effectively amended, changed, modified, altered or terminated except by an instrument in writing executed by the parties hereto.

16. No Third Party Beneficiaries. The Parties state that there are no third-party beneficiaries to this Agreement.

17. Severability. If any article, section, subdivision, paragraph, sentence, clause, phrase, provision or portion of this Agreement shall for any reason be held or adjudged to be invalid or illegal or unenforceable by any court of competent jurisdiction, such article, section, subdivision, paragraph, sentence, clause, phrase, provision or portion so adjudged invalid, illegal or unenforceable shall be deemed separate, distinct and independent and the remainder of this Agreement shall be and remain in full force and effect and shall not be invalidated or rendered illegal or unenforceable or otherwise affected by such holding or adjudication.

18. Counterparts. This Agreement may be simultaneously executed in several counterparts, each of which shall be an original and all of which shall constitute but one and the same instrument.

(Signature Page Follows)

DocuSign Envelope ID: 4F9E5526-57C7-414C-8169-1BD68600C5ED

Executed by the undersigned as of the day and year first written above, each of whom represents that it is fully and duly authorized to act on behalf of and bind its principals.

MELTWATER SOLAR, LLC

DocuSigned by:
Geoff Johnson
53BA440AC640420...

By: Geoff Johnson

Its: Authorized Person

1/12/2023

Date

TOWN OF MANLIUS

John T Sees

By

Its: Town Supervisor

11/17/2022

Date

DocuSign Envelope ID: 4F9E5526-57C7-414C-8169-1BD68600C5ED

EXHIBIT A

Meltwater Solar, LLC

Description of Land – TBD

[6101 Kirkville Rd. North, Manlius, NY / SBL: 313889 071.-02-09.0]
Ref: Title report

DocuSign Envelope ID: 4F9E5526-57C7-414C-8169-1BD68600C5ED

EXHIBIT B

ANNUAL PAYMENTS TO TOWN

Year	Payment
1	$ 3,162
2	$ 3,225
3	$ 3,290
4	$ 3,355
5	$ 3,422
6	$ 3,491
7	$ 3,561
8	$ 3,632
9	$ 3,705
10	$ 3,779
11	$ 3,854
12	$ 3,931
13	$ 4,010
14	$ 4,090
15	$ 4,172

From: Carbone, Rocco A.
To: Bernardo Urdaneta
Cc: NY.Utility@ccrenew.com; Noel Swanson; Finnegan, Debbie M.
Subject: RE: [EXTERNAL] RE: CASE# 331484 Site Visit Notes from July 18th, 2022
Date: Wednesday, March 15, 2023 9:50:13 AM

Hi Bernardo,

The distances below will be ok. (40 feet).

There will be a need for an additional easement to the west of the POI (15' to 20' guy anchor) because of the 75 foot span to the national grid recloser pole.

And yes, underground equipment would delay the project.

I hope this answers your questions.

Thanks.

Rocco.

Rocco A. Carbone
Lead Energy Integration Consultant
nationalgrid
Customer Energy Integration - NY
144 Kensington Ave.
Buffalo , NY 14214
Office: 1-716-831-7662
Cell: 1-716-472-6333

Key Links:
National Grid Customer Application Portal
National Grid Electric Service Bulletins (ESB)
National Grid Hosting Capacity Maps
NY State Standard Interconnection Requirements NYS SIR Document
NY State SIR DG Inventory

From: Bernardo Urdaneta <bernardo.urdaneta@ccrenew.com>
Sent: Tuesday, March 14, 2023 2:34 PM
To: Carbone, Rocco A. <Rocco.Carbone@nationalgrid.com>
Cc: NY.Utility@ccrenew.com; Noel Swanson <noel.swanson@ccrenew.com>; Finnegan, Debbie M. <Debbie.Finnegan@nationalgrid.com>
Subject: [EXTERNAL] RE: CASE# 331484 Site Visit Notes from July 18th, 2022

CAUTION: This email originated from outside of the organisation. Do not click links or open attachments unless you recognise the sender and know the content is safe. If you suspect this email is malicious, please use the 'Report Phish' button.

Hi Rocco,

Circling back to the below email we received immediately following last summer's site visit for the Meltwater project (Case #331484) to ask a couple of follow-up questions:

1. **Would you please confirm that the attached site plan, submitted to National Grid's portal on 10/12/22 (then resubmitted on 02/02/23 with an equipment update), is sufficient to proceed with the development of National Grid's easement?**
    - You'll note that the pole-to-pole spacing is 40 feet apart, rather than the 50 feet distance requested below **– can you confirm that this is acceptable to National Grid given that we have otherwise addressed the need to shift the National Grid Recloser pole outside of the Town ROW boundary?**

2. As previously discussed, we are seeking the Town of Manlius's approval of these same field changes. We presented the revised POI design at the Planning Board's February 13 meeting, but were met with resistance. As an action item from this meeting, the Town Planning Board asked that we explain why this interconnection equipment could not be sited completely underground
    - Our understanding is that while some of the wiring could be sited underground, the only alternative to pole-mounted POI equipment is a pad-mounted equivalent, and that this alternative would create considerable construction cost & timeline impacts – particularly if we were otherwise intending to place this system into service before the end of 2023. **Would you please confirm that you share this same understanding?**

Thank you,

Bernardo

From: Carbone, Rocco A. <Rocco.Carbone@nationalgrid.com>
Sent: Tuesday, July 19, 2022 8:51 AM
To: Noel Swanson <noel.swanson@ccrenew.com>
Cc: NY.Utility@ccrenew.com; Jim Geddis <jim.geddis@ccrenew.com>; Finnegan, Debbie M. <Debbie.Finnegan@nationalgrid.com>
Subject: CASE# 331484 Site Visit Notes from July 18th, 2022

Hi Noel,

Here are the field notes from the Site Visit:

1. The overall proposal will work.
    1. National Grid will set a midline pole across the street to feed the site. Note: Should this pole/anchor fall on 3rd party property, the developer will be responsible to obtain the easement/ROW.
2. The pole line up needs to be a minimum of 10 feet off the access road.
    a. Developer will update the site plan to incorporate this distance.
3. National Grid Recloser pole location TBD. National Grid wants to make sure this pole is on the developers property as well as outside the swale and requires the following:
    a. Developer is going to locate the existing town ROW from centerline on street to their property.
    b. Once National Grid determines the location of the recloser pole, all poles after that pole will be 50 feet apart.
4. Developer to resubmit site plan with changes for review.

If you have any questions, please let me know.

Thanks.

Rocco.

Rocco A. Carbone
Energy Integration Consultant
nationalgrid
Customer Energy Integration - NY
144 Kensington Ave.
Buffalo , NY 14214
Office: 1-716-831-7662
Cell: 1-716-472-6333

This e-mail, and any attachments are strictly confidential and intended for the addressee(s) only. The content may also contain legal, professional or other privileged information. If you are not the intended recipient, please notify the sender immediately and then delete the e-mail and any attachments. You should not disclose, copy or take any action in reliance on this transmission.

You may report the matter by contacting us via our UK Contacts Page or our US Contacts Page (accessed by clicking on the appropriate link)

Please ensure you have adequate virus protection before you open or detach any documents from this transmission. National Grid plc and its affiliates do not accept any liability for viruses. An e-mail reply to this address may be subject to monitoring for operational reasons or lawful business practices.

For the registered information on the UK operating companies within the National Grid group please use the attached link: https://www.nationalgrid.com/group/about-us/corporate-registrations

CAUTION: This email originated from outside of the organization. Please use caution opening links or attachments. If you notice anything suspicious, please contact us at help@ccrenew.com or via phone.

GENERAL SITE NOTES

1. THE CONTRACTOR SHALL FURNISH, INSTALL, TEST AND COMPLETE ALL WORK TO THE SATISFACTION OF THE ENGINEER AND OWNER IN ACCORDANCE WITH THE CONTRACT DOCUMENTS. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR MEANS AND METHODS OF CONSTRUCTION; AS SUCH, THESE PLANS DO NOT COMPLETELY REPRESENT, NOR ARE THEY INTENDED TO REPRESENT, ALL SPECIFIC INSTRUCTIONS REQUIRED FOR SITEWORK CONSTRUCTION. THE CONTRACTOR IS RESPONSIBLE TO CONSTRUCT ALL IMPROVEMENTS DEPICTED ON THESE PLANS IN ACCORDANCE WITH ALL APPLICABLE RULES, REGULATIONS AND LAWS IN EFFECT AT THE TIME OF CONSTRUCTION.
2. THE CONTRACTOR SHALL ACCEPT THE SITE AS IS. THE CONTRACTOR SHALL ASSESS CONDITIONS, AND THE KIND, QUALITY AND QUANTITY OF WORK REQUIRED. THE OWNER AND ENGINEER MAKE NO GUARANTEE IN REGARD TO THE ACCURACY OF ANY INFORMATION THAT WAS OBTAINED DURING INVESTIGATIONS. THE CONTRACTOR SHALL: MAKE A THOROUGH SITE INSPECTION IN ORDER TO FIELD CHECK EXISTING SITE CONDITIONS; CORRELATE CONDITIONS WITH THE DRAWINGS; AND, RESOLVE ANY POSSIBLE CONSTRUCTION CONFLICTS WITH THE OWNER AND ENGINEER PRIOR TO COMMENCEMENT OF WORK. THE CONTRACTOR SHALL PERFORM ADDITIONAL TOPOGRAPHIC SURVEYS IF HE/SHE DEEMS NECESSARY, PROVIDED THEY ARE COORDINATED WITH THE OWNER. ANY CONDITIONS DETERMINED BY THE CONTRACTOR THAT DIFFER FROM THE INFORMATION SHOWN ON THE DRAWINGS THAT ARE NOT BROUGHT TO THE ATTENTION OF THE OWNER AND ENGINEER PRIOR TO THE START OF WORK SHALL NOT BE CONSIDERED GROUNDS FOR ADDITIONAL PAYMENT OR CHANGES TO THE CONTRACT DURATION, OR ANY OTHER CLAIMS AGAINST THE OWNER OR OWNER'S ENGINEER.
3. THE CONTRACTOR SHALL, WHEN HE/SHE DEEMS NECESSARY, PROVIDE A WRITTEN REQUEST FOR INFORMATION (RFI) TO THE OWNER AND/OR OWNER'S DESIGNATED REPRESENTATIVE, AND ENGINEER PRIOR TO THE CONSTRUCTION OF ANY SPECIFIC SITEWORK ITEM. THE (RFI) SHALL BE IN A FORM ACCEPTABLE TO OWNER AND/OR OWNER'S DESIGNATED REPRESENTATIVE, AND ENGINEER AND SHALL ALLOW FOR A MINIMUM OF THREE WORK DAYS FOR A WRITTEN REPLY. RFIS SHALL BE NUMBERED CONSECUTIVELY BY DATE SUBMITTED. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR SITEWORK ITEMS CONSTRUCTED DIFFERENTLY THAN INTENDED OR AS DEPICTED ON THE PLANS.
4. INFORMATION RELATED TO ELEVATIONS AND PROPOSED UTILITIES (SUCH AS ROADWAY GRADES, INVERT ELEVATIONS, RIM ELEVATIONS, GRATE ELEVATIONS, BUILDING FINISHED FLOOR ELEVATIONS, ETC.) MAY BE FOUND IN MORE THAN ONE LOCATION IN THE CONTRACT DOCUMENTS. THE CONTRACTOR SHALL SUFFICIENTLY REVIEW ALL PLANS, PROFILES AND ANY OTHER INFORMATION IN THE CONTRACT DOCUMENTS FOR CONSISTENCY PRIOR TO BID. ANY INCONSISTENCIES OR DISCREPANCIES THAT ARE FOUND BY THE CONTRACTOR OR HIS ASSIGNS SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE OWNER AND ENGINEER IN WRITING, IN THE FORMAT OF AN RFI PRIOR TO BID.
5. THERE ARE ADDITIONAL NOTES, SPECIFICATIONS AND REQUIREMENTS CONTAINED THROUGHOUT THE PLAN SET AS WELL AS REFERENCES TO SPECIFICATIONS FROM APPLICABLE GOVERNING AUTHORITIES AND INDUSTRY STANDARDS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN, REVIEW AND ADHERE TO ALL THESE DOCUMENTS.
6. THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT ALL CONSTRUCTION STAKEOUT FOR THIS PROJECT MUST BE COMPLETED FROM THE SITE SPECIFIC SURVEY CONTROL (HORIZONTAL AND VERTICAL) UPON WHICH THE DESIGN IS BASED. THE CONTRACTOR SHOULD NOT RELY ON OR RE-ESTABLISH SURVEY CONTROL BY GPS OR OTHER METHODS FOR USE IN CONSTRUCTION STAKEOUT OR ANY OTHER PURPOSE FOR THIS PROJECT. ANY DISCREPANCIES BETWEEN THE EXISTING HORIZONTAL OR VERTICAL DATA SHOWN ON THESE DRAWINGS AND THAT ENCOUNTERED IN THE FIELD MUST BE REPORTED TO THE DESIGN TEAM PRIOR TO CONSTRUCTION FOR RESOLUTION.

UTILITY NOTES

1. THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF THE VARIOUS UTILITY COMPANIES AND, WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THE INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE CONTRACTOR MUST CALL THE APPROPRIATE UTILITY COMPANY AT LEAST 72 HOURS BEFORE ANY EXCAVATION TO REQUEST EXACT FIELD LOCATION OF UTILITIES. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS IN A MANNER WHICH WILL NOT NEGATIVELY AFFECT ANY EXISTING USERS OF THESE UTILITIES.
2. THE LOCATION OF EXISTING ELECTRIC LINES ARE APPROXIMATE. THE CONTRACTOR MUST CONSULT THE LOCAL UTILITY COMPANIES FOR ADDITIONAL INFORMATION. ALL PROPOSED ELECTRICAL WORK, TRANSFORMER PADS, AND ASSOCIATED APPURTENANCES WILL BE IN CONFORMANCE WITH APPLICABLE LOCAL, COUNTY, STATE AND FEDERAL GUIDELINES AND REQUIREMENTS.
3. MIN. DEPTH OF COVER OVER ELECTRIC SERVICES SHALL BE TWO (2) FT.
4. PROVIDE A KNOX BOX AT EACH GATED ENTRANCE FOR FIRE DEPARTMENT USE.

ZONING COMPLIANCE TABLE (1)

Property Address(es):	6061 Kirkville Road North, Manlius, NY	
Zoning District(s):	Restricted Agriculture (R-A)	
Structure / Site Use(s):	Large-scale Solar Energy System(2)	
Item	**Required / Permitted**	**Proposed**
Minimum Lot Area	--	4,716,562.1 sq. ft
Public Sewer	40,000 sq. ft	N/A
Septic System	100,000 sq. ft	N/A
Minimum Lot Frontage		160 ft
Public Sewer	150 ft	N/A
Septic System	200 ft	N/A
Min. Front Yard Setback	50 ft	137.3 ft
Min. Side Yard Setback	50 ft	331.4 ft
Min. Rear Yard Setback	50 ft	229.0 ft

(1) Required zoning information in this table is taken from Section 155-12 of the Town of Manlius zoning code
(2) Ground-mounted Solar Energy Systems are permitted within Restricted Agriculture (R-A) District through the issuance of a special use permit.

LEGEND

EXISTING CONDITIONS	PROPOSED CONDITIONS
PROPERTY LINE	SECURITY FENCE
ADJACENT PROPERTY LINE	ELECTRICAL (OVERHEAD)
WETLAND	ELECTRICAL (UNDERGROUND)
TREE LINE	EQUIPMENT PAD
WETLAND BUFFER	PERMEABLE HAUL ROAD
	SETBACK LINE

GRAPHIC SCALE

100 0 50 100

SCALE: 1 INCH = 100 FEET

NORTH

N

CYPRESS CREEK RENEWABLES
P.O. BOX 173 : LATHAM, NY 12110

LANGAN
Langan Engineering and Environmental Services, Inc.
One North Broadway, Suite 910
White Plains, NY 10601
T: 914.323.7400 F: 914.323.7401 www.langan.com

SEAL

STATE OF NEW YORK · MICHAEL J. PINTO · 081479 · LICENSED PROFESSIONAL ENGINEER

PROJECT DRAWING COMMENTS

RELEASED FOR CONSTRUCTION

SEAL

ELECTRONIC FILES ARE INSTRUMENTS OF SERVICE PROVIDED BY CYPRESS CREEK RENEWABLES, LLC FOR THE CONVENIENCE OF THE INTENDED RECIPIENT(S). AND NO REPRESENTATIONS OR WARRANTIES ARE IMPLIED. ANY REUSE OR REDISTRIBUTION OF THIS DOCUMENT IN WHOLE OR PART WITHOUT THE WRITTEN AUTHORIZATION OF CYPRESS CREEK RENEWABLES, LLC, WILL BE AT THE SOLE RISK OF THE RECIPIENT. IF THERE IS A DISCREPANCY BETWEEN THE ELECTRONIC FILES AND THE SIGNED AND SEALED HARD COPIES, THE HARD COPIES SHALL GOVERN. USE OF THE ELECTRONIC FILES GENERATED OR PROVIDED BY CYPRESS CREEK RENEWABLES, LLC, CONSTITUTES AN ACCEPTANCE OF THESE TERMS AND CONDITIONS.

CONSULTANT

REVISIONS

NO.	DATE	DESCRIPTION
1.	03/24/22	REVISED PER CLIENT COMMENTS
2.	04/25/22	REVISED PER CLIENT COMMENTS
3.	05/11/22	REVISED PER CLIENT COMMENTS
4.	01/11/23	REVISED PER UTILITY PROVIDER COMMENTS

LANGAN NO.: 170077301

REVISIONS

NO.	DATE	DESCRIPTION

WARNING: IT IS A VIOLATION OF THE NYS EDUCATION LAW ARTICLE 145 FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS ITEM IN ANY WAY.

PROJECT

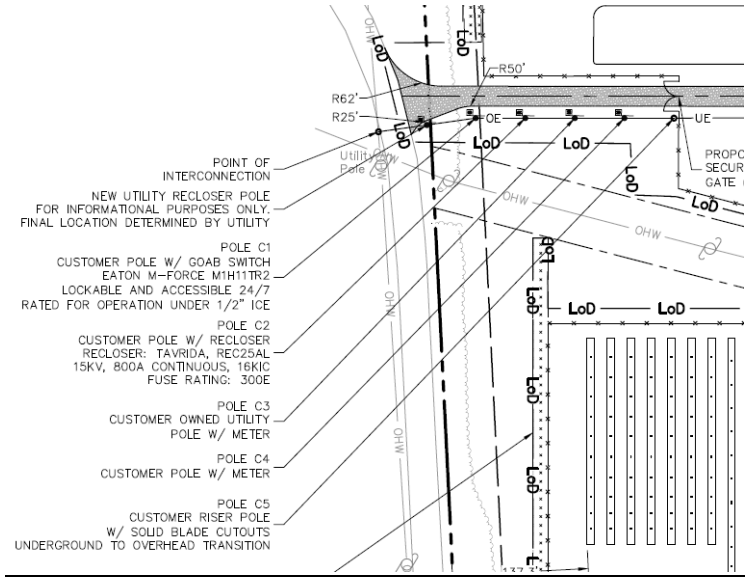
MELTWATER SOLAR, LLC
6101 KIRKVILLE ROAD NORTH
MANLIUS, NEW YORK 13082

DATE:	02/14/2022
DRAWN BY:	SS
CHECKED BY:	CZ

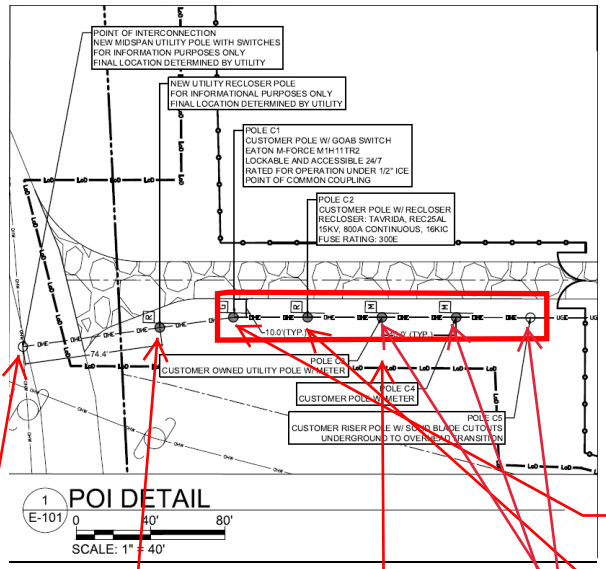
SITE LAYOUT & MATERIALS PLAN

C-200

Pre-National Grid Site Visit



Post-National Grid Site Visit



POI pole location remains unchanged.

Utility Recloser Pole location has shifted 25 ft in the eastward direction.

Pole C1 has shifted 15 ft in the eastward direction.

Pole C2 has shifted 6 ft in the eastward direction.

Pole C3 has shifted 5 ft in the westward direction.

Pole C4 has shifted 15 ft in the westward direction.

Pole C5 has shifted 25 ft in the westward direction.

Pole-to-pole spacing for these five remaining poles has changed from ~50ft to ~40ft

Note - all poles remain within the original, PB-approved "Limits of Disturbance" or "LOD" boundary (as shown in each excerpt)

MIXED USE CONVERSION PROJECT

4600 ENDERS ROAD
MANLIUS, NY 13104

TAX MAP ID: 117.20-01-04.0

DRAWING LIST

- COVER SHEET
- OVERALL SITE PLAN
- SITE GRADING AND DRAINAGE PLAN
- EROSION CONTROL PLAN
- LOWER LEVEL PLAN
- MAIN LEVEL PLAN
- MAIN LEVEL LOFT / OFFICE AREA PLANS
- EXTERIOR ELEVATIONS
- EXISTING PROPERTY SURVEY

CORE LEVEL ARCHITECTURE
831 JAMES STREET,
SYRACUSE, NEW YORK 13203

LEGEND

- INDICATES NEW GREENSCAPE AREA CREATED FROM REMOVAL OF EXISTING ASPHALT PAVEMENT AREA **APPROX. 48,536 SF**
- INDICATES EXISTING GREENSCAPE AREA TO REMAIN
- INDICATES AREA OF NEW LANDSCAPING AREAS
- INDICATES AREA OF EXISTING AND NEW PAVEMENT AREAS
- INDICATES NEW CONCRETE WALKWAYS
- INDICATES EXISTING CONCRETE WALKWAYS TO REMAIN
- INDICATES EXISTING STONE GRAVEL TO REMAIN

SITE INFORMATION

		EXISTING	PROPOSED	CHANGE
LOT SIZE, MINIMUM:	40,000 SF	150,036 SF	NO CHANGE	NO CHANGE
LOT FRONTAGE, MINIMUM:	150 FT.	354.5 FT.	NO CHANGE	NO CHANGE
SETBACKS, MINIMUM:				
FRONT YARD (ROAD):	40 FT.	81.25 FT.	NO CHANGE	NO CHANGE
SIDE YARD (N):	20 FT.	136.6 FT.	NO CHANGE	NO CHANGE
SIDE YARD (S):	20 FT.	73.9 FT.	NO CHANGE	NO CHANGE
REAR YARD:	40 FT.	174.8 FT.	NO CHANGE	NO CHANGE
COVERAGE, MAXIMUM TOTAL	35%	66.7%	34.4%	-31.9%
EXISTING APPROX. IMPERVIOUS AREA		100,130 SF		
PROPOSED APPROX. IMPERVIOUS AREA		51,594 SF		

PARKING REQUIREMENTS

(2) PARKING SPACES PER EACH BEDROOM OF AN APARTMENT

(22) BEDROOMS EQUALS (44) PARKING SPACES

OFFICE AREA WILL REQUIRE (1) SPACE PER 300 SF

2,260 SF EQUALS (8) PARKING SPACES

TOTAL PARKING SPACES REQUIRED	52 PARKING SPACES
TOTAL PARKING SPACES PROVIDED	56 PARKING SPACES

1 OVERALL PROPOSED SITE PLAN

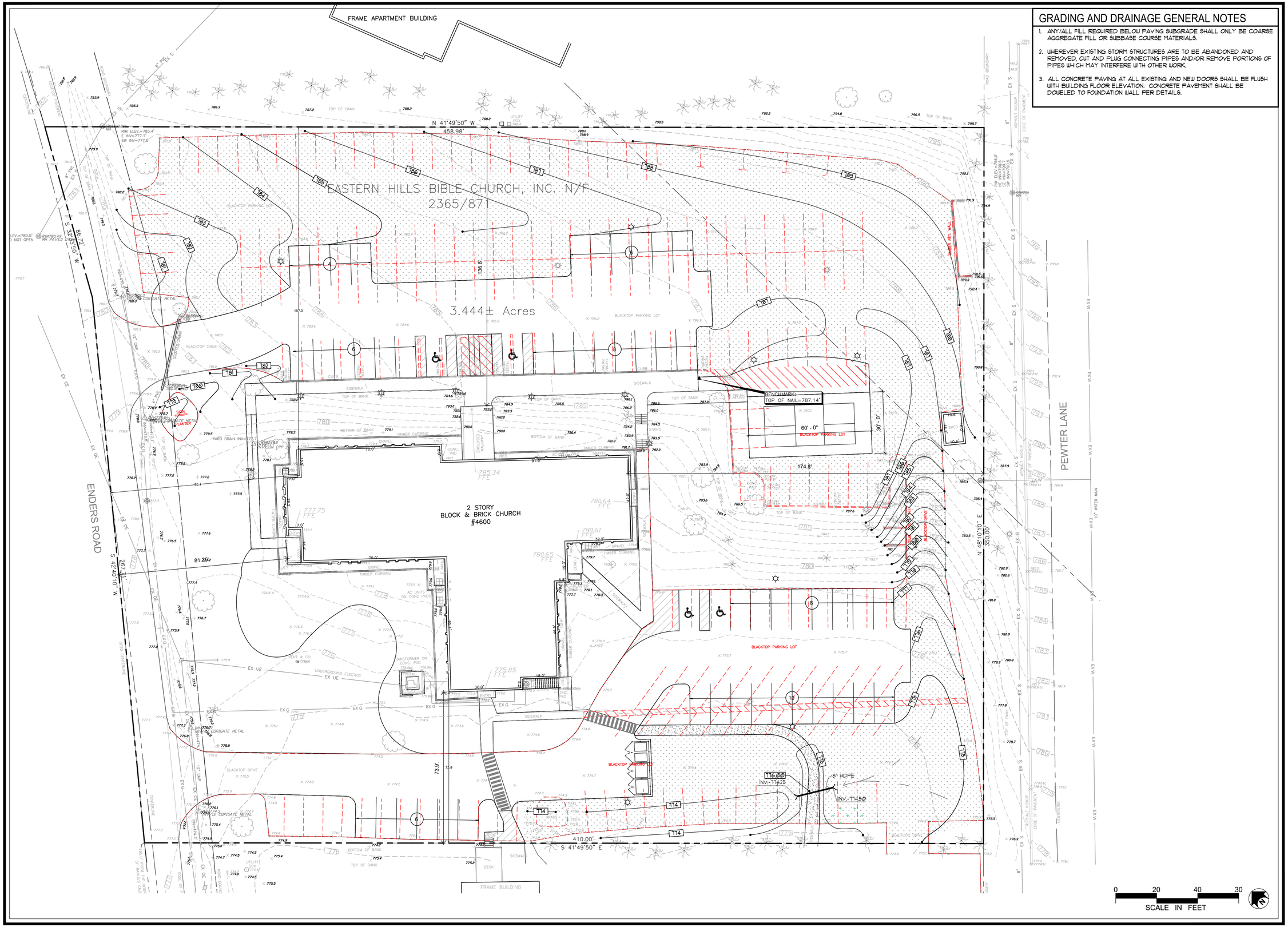
1" = 20'-0"

N

MIXED USE CONVERSION PROJECT

4600 ENDERS ROAD MANLIUS, NY 13104

CORE LEVEL ARCHITECTURE
831 JAMES STREET,
SYRACUSE, NEW YORK 13203



GRADING AND DRAINAGE GENERAL NOTES

1. ANY/ALL FILL REQUIRED BELOW PAVING SUBGRADE SHALL ONLY BE COARSE AGGREGATE FILL OR SUBBASE COURSE MATERIALS.
2. WHEREVER EXISTING STORM STRUCTURES ARE TO BE ABANDONED AND REMOVED, CUT AND PLUG CONNECTING PIPES AND/OR REMOVE PORTIONS OF PIPES WHICH MAY INTERFERE WITH OTHER WORK.
3. ALL CONCRETE PAVING AT ALL EXISTING AND NEW DOORS SHALL BE FLUSH WITH BUILDING FLOOR ELEVATION. CONCRETE PAVEMENT SHALL BE DOWELED TO FOUNDATION WALL PER DETAILS.

KEPLINGER FREEMAN ASSOCIATES
LANDSCAPE ARCHITECTURE & LAND PLANNING
6320 FLY ROAD, SUITE 109 EAST SYRACUSE, NEW YORK 13057
PHONE: (315) 445-7980 FAX: (315) 445-7981

Client:
CORE

ISSUE TO PLANNING BOARD 3/28/2023

SITE IMPROVEMENTS ENDERS ROAD

4600 ENDERS ROAD
MANLIUS, NEW YORK 13104

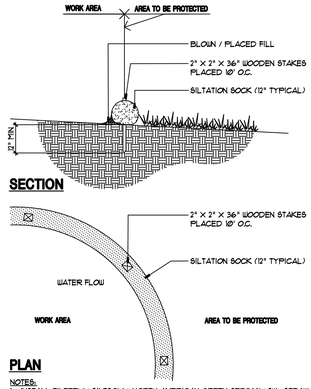
REVISIONS

Drawn By:	JPR
Checked By:	EGK
KFA Proj. No.:	43037
Date:	3/28/2023
Scale:	AS NOTED

Title:

SITE GRADING AND DRAINAGE PLAN

L1.1



NOTES:
1. INSTALL FILTREXX SILTSOXX, NORTH AMERICAN GREEN SEDIMAX SU- STRAW WATTLE OR APPROVED EQUAL PER MANUFACTURER'S SPECIFICATIONS.
2. FILL TO MEET APPLICATION REQUIREMENTS.
3. COMPOST MATERIAL TO BE DISPERSED ON SITE, AS DETERMINED BY ENGINEER.

3 / L2.1 **SILTATION SOCK SEDIMENT CONTROL**
NOT TO SCALE — 31-1001-11

EROSION CONTROL NOTES and EROSION CONTROL SEQUENCING

EROSION AND SEDIMENT CONTROL NOTES

1. PRIOR TO THE START OF CONSTRUCTION AND UNTIL ALL DISTURBED AREAS ARE STABILIZED, ALL EROSION AND SEDIMENT CONTROL MEASURES, AS SHOWN ON THE SITE PLAN AND AS OTHERWISE REQUIRED, SHALL BE INSTALLED AND MAINTAINED BY THE CONTRACTOR, AND SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE NEW YORK STATE GUIDELINES FOR URBAN EROSION AND SEDIMENTATION CONTROL AND THE SWPPP PREPARED FOR THE PROJECT, PRIOR TO THE COMMENCEMENT OF CONSTRUCTION.

2. BARE SOILS SHALL BE MULCHED WITH HAY AT A RATE OF TWO TONS PER ACRE WITHIN 7 DAYS OF EXPOSURE, IF CONSTRUCTION ON AN AREA IS SUSPENDED, THE AREA SHALL BE SEEDED IMMEDIATELY.

3. SITE PREPARATION SHALL INCLUDE:
   A. SEEDBED PREPARATION - SCARIFY IF COMPACTED, REMOVE DEBRIS AND OBSTACLES SUCH AS ROOTS OR STUMPS.
   B. SOIL AMENDMENTS
      1. LIME TO pH 6.0
      2. FERTILIZE WITH 600 LBS OF 5-10-10 OR EQUIVALENT PER ACRE (14 LBS/1000 SQ FT.)
   C. SEED MIXTURES
      1. TEMPORARY SEEDINGS
         a. RYEGRASS (ANNUAL OR PERENNIAL) @ 30 LBS/ACRE (0.7 LBS/1000 SQ FT.)
         b. CERTIFIED "AROOSTOOK" WINTER RYE (CEREAL RYE) @ 100 LBS/ACRE (2.5 LBS/1000 SQ FT.)
      2. PERMANENT SEEDINGS
         a. ROUGH OR OCCASIONALLY MOWED AREAS:

	LBS/ACRE	LBS/1000 SQ FT
EMPIRE BIRDSFOOT (TREFOIL OR COMMON)	8	0.20
WHITE CLOVER PLUS*	8	0.20
TALL FESCUE PLUS	20	0.45
REDTOP	2	0.05
RYEGRASS (PERENNIAL)	5	0.10

*ADD INOCULANT IMMEDIATELY PRIOR TO SEEDING

   D. METHOD OF SEEDING:
      BROADCASTING, DRILLING WITH CULTIPACK TYPE SEEDER OR HYDROSEEDING ARE ACCEPTABLE.

4. DISTURBED AREAS SHALL BE SEEDED AS NOTED ABOVE AND MULCHED WITH CLEAN STRAW AS OUTLINED IN THE NEW YORK STATE GUIDELINES FOR URBAN EROSION AND SEDIMENTATION CONTROL. ON SLOPES GREATER THAN 3:1 SEEDED AREAS SHALL BE STAKED WITH JUTE MESH OR SODDED.

5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR KEEPING THE STREET PAVEMENT AREAS CLEAN OF DIRT AND DEBRIS.

6. ACCESS TO DISTURBED AREAS SHALL BE LIMITED TO THE AREAS SHOWN ON THE PLAN. THE CONTRACTOR SHALL INSTALL THE STABILIZED CONSTRUCTION ENTRANCE AT THE LOCATION SHOWN ON THE PLAN AND ANY OTHER LOCATIONS THE CONTRACTOR INTENDS TO ENTER THE SITE FROM THE ADJACENT ROADWAYS.

7. ANY EXISTING DRAINAGE FACILITIES DISRUPTED BY CONSTRUCTION OR IMPACTED BY INSTALLATION OF EROSION CONTROL MEASURES SHALL BE REPLACED TO MATCH EXISTING CONDITIONS OR BETTER.

8. TEMPORARY EROSION AND SEDIMENTATION CONTROL FACILITIES - AS SEDIMENT ACCUMULATES TO ½ THE DEPTH OF THE STORMWATER BASIN, SEDIMENT SHALL BE REMOVED AS OUTLINED IN THE NYS GUIDELINES FOR URBAN EROSION AND SEDIMENT CONTROL.

9. DIRECT ACCESS SHALL BE PROVIDED TO ALL BASIN AREAS FOR MAINTENANCE AND REHABILITATION.

10. ALL DESIGN AND MAINTENANCE MEASURES OUTLINED IN THE SWPPP PREPARED FOR THIS PROJECT SHALL BE IMPLEMENTED AND CARRIED OUT BY THE PARTIES DEEMED RESPONSIBLE FOR THOSE DUTIES.

11. THE PERMITEE + ITS SUBCONTRACTORS ARE RESPONSIBLE FOR MEANS + METHODS OF EROSION CONTROL FACILITIES DURING CONSTRUCTION. IT SHOULD BE NOTED THAT FACILITIES ON THIS DRAWING ARE CONSIDERED MINIMUM + ADDITIONAL EROSION CONTROL MEASURES MAY BE REQUIRED AS CONSTRUCTION PROGRESSES. THE PERMITEE + ITS SUBCONTRACTORS ARE RESPONSIBLE FOR ANY ADDITIONAL MEASURES DEEMED NECESSARY BY THE ENGINEER, TOWN OR NYSDEC.

12. PROVIDE EROSION CONTROL MEASURES AS NOTED ON THE PLANS AND AS OTHERWISE REQUIRED TO PREVENT EROSION AND SEDIMENTATION ONTO ADJOINING PROPERTY, STREETS, WATERWAYS, AND ON SITE IMPROVEMENTS BEYOND THE LIMITS OF WORK. COMPLY WITH THE LATEST ISSUE OF "NEW YORK GUIDELINES FOR URBAN EROSION AND SEDIMENT CONTROL" AND THE NYSDEC'S "REDUCING THE IMPACTS OF STORMWATER RUNOFF FROM NEW DEVELOPMENT".

13. MAINTENANCE - THE CONTRACTOR SHALL INSPECT ALL DRAINAGE STRUCTURES AND EROSION CONTROLS ON A WEEKLY BASIS AND AFTER ALL STORMS (½" RAINFALL OR GREATER) INCLUDING BUT NOT LIMITED TO THE FOLLOWING: REPLACING DAMAGED OR SILTED IN EROSION CONTROLS, CLEANING OUT STRUCTURES, AND STABILIZING ERODED OR WASHED OUT SLOPED AREAS.

14. CONTRACTOR SHALL MAINTAIN EROSION CONTROL MEASURES UNTIL CONSTRUCTION IS COMPLETE, LAWNS HAVE BECOME ESTABLISHED AND ALL SOURCES OF EROSION HAVE BEEN PERMANENTLY STABILIZED.

15. CONTRACTOR SHALL PROVIDE DUST CONTROL IN ACCORDANCE WITH THE LATEST ISSUE OF "NEW YORK GUIDELINES FOR URBAN EROSION AND SEDIMENT CONTROL."

EROSION CONTROL and CONSTRUCTION SEQUENCE

THE PROJECT WILL CREATE A TOTAL SITE DISTURBANCE OF APPROXIMATELY 3.1 ACRES. THE SITE DISTURBANCE WILL BE PHASED TO LIMIT THE POTENTIAL FOR EROSION AND SEDIMENTATION ISSUES DURING THE CONSTRUCTION PROCESS. BELOW IS A LISTING OF THE ANTICIPATED PHASING:

THE SEQUENCE OF CONSTRUCTION FOR EACH AREA SHALL BE:

1. PRIOR TO ANY SITE DISTURBANCE, CONSTRUCT A STABILIZED CONSTRUCTION ENTRANCE AT THE PROPOSED SITE ENTRANCE LOCATION AS SHOWN ON THE DRAWING.

2. SILT FENCE - INSTALL PERIMETER SILT FENCE AS SHOWN ON PLAN PRIOR TO EARTHWORK. SILT FENCE SHALL BE UTILIZED ONLY AS A TEMPORARY MEASURE. DISTURBED AREAS SHALL BE SEEDED IMMEDIATELY FOLLOWING THE COMPLETION OF ANY EARTHWORK PHASE.

3. CLEARING AND GRUBBING - REMOVE ALL TREES, STUMPS AND BRUSH PRIOR TO EARTHWORK.

4. INSTALL TEMPORARY SEDIMENT TRAP IN THE LOCATIONS SHOWN ON THE PLANS. SEDIMENT TRAPS SHALL BE SIZED APPROPRIATELY TO THE UPSTREAM DRAINAGE AREA. ADHERE TO THE INSPECTION AND MAINTENANCE REQUIREMENTS ASSOCIATED WITH THE TEMPORARY SEDIMENT TRAP DETAIL.

5. PROVIDE ALL DRAINAGE CHANNELS AND INSTALL EROSION CONTROL MEASURES WITHIN DRAINAGEWAYS. INSTALL CHECK DAMS WHERE INDICATED ON THE PLANS. INSTALL BYPASS SWALE INCLUDING LIGHT STONE FILL.

6. STRIP AND STOCKPILE TOPSOIL IN AREA SHOWN ON PLAN AND / OR AGREED UPON LOCATION WITH OWNER. ENCLOSE TOPSOIL STOCKPILE AREAS WITH SILT FENCE. PROVIDE TEMPORARY MEASURES TO PROTECT WATER LINE AT CROSSING.

7. PROVIDE DRAINAGE STRUCTURES AND PIPING, INCLUDING DRAINAGE INLET PROTECTION AS SHOWN ON THE DRAWING.

8. PREPARE BUILDING PAD AREA, DRIVEWAYS AND PARKING AREA SUBGRADE.

9. EXCAVATE AND FILL REST OF SITE AREAS. FINE GRADE, SEED AND MULCH ALL DISTURBED AREAS WITHIN SEVEN (7) DAYS OF DISTURBANCE. AREAS TO RECEIVE ASPHALT PAVEMENT SHOULD BE PAVED WITH AT LEAST THE ASPHALT BINDER COURSE WITHIN SEVEN (7) DAYS OF PLACEMENT OF THE SUBBASE COURSE. MAINTAIN ALL DISTURBED SOIL AREAS AND DRAINAGE FACILITIES UNTIL AREAS ARE COMPLETELY STABILIZED AND VEGETATION IS ACHIEVED.

12. REMOVE TEMPORARY CONSTRUCTION ENTRANCE AFTER ASPHALT BINDER COURSE IS PLACED.

13. CLEAN TEMPORARY SEDIMENT TRAPS BASIN AFTER ALL UPSTREAM CONTRIBUTORY DRAINAGE AREAS ARE COMPLETELY STABILIZED AND VEGETATION IS ACHIEVED.

13. FINE GRADE AND SEED AREAS OF TEMPORARY SEDIMENT TRAPS AS NOTED ON THE PLANTING PLAN AND ON THE DETAILS.

14 REMOVE TEMPORARY SILT FENCING AND ROCK CHECK DAMS AFTER SITE IS COMPLETELY STABILIZED AND VEGETATION IS ACHIEVED. PROVIDE UNDERDRAIN WITHIN DETENTION BASIN PER PLANS.

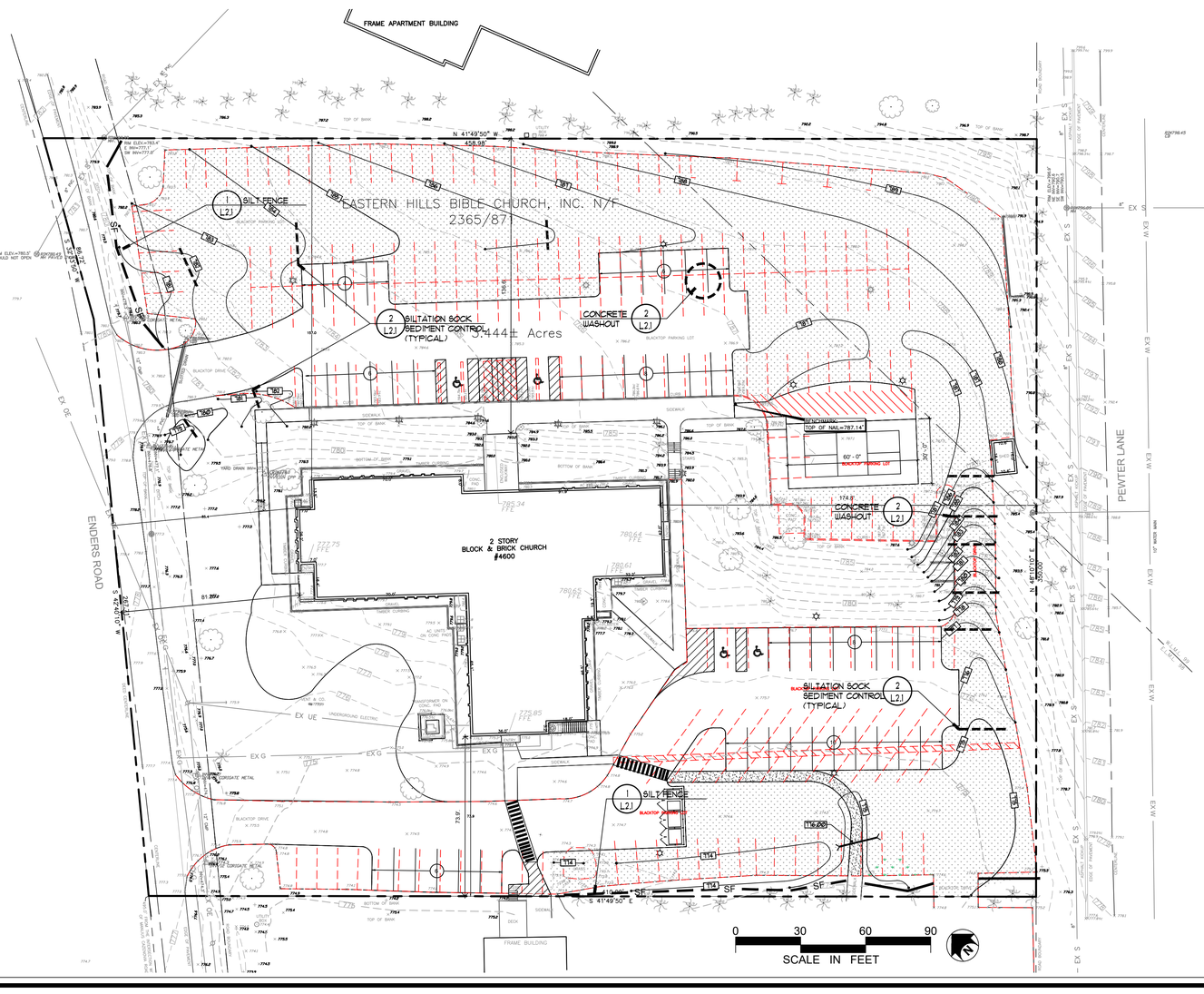
FINAL CLEAN UP & PREVENTATIVE MAINTENANCE

1. REMOVE AND/OR MAINTAIN STOCKPILE AREAS.

2. REMOVE EROSION CONTROL MEASURES FROM STABILIZED AREAS.

3. FINAL CLEAN UP - REMOVE EROSION CONTROL MEASURES AND CLEAN OUT ALL DRAINAGE STRUCTURES AND PIPES AFTER LAWN IS WELL ESTABLISHED. OWNER IS RESPONSIBLE FOR MAINTAINING SITE UPON PROJECT CLOSEOUT.

4. CONTRACTOR, ARCHITECT, AND OWNER TO REVIEW SITE FOR COMPLETION. CONTRACTOR TO ADDRESS FINAL COMMENTS ON PUNCH LIST FROM ARCHITECT AND SWPPP INSPECTION REPORTS.



SOIL RESTORATION NOTES

1. ACCORDING TO SECTION 5 OF THE NYS STORMWATER DESIGN MANUAL, SOIL RESTORATION PRACTICES MUST BE APPLIED ACROSS THE SITE IN AREAS OF SOIL DISTURBANCE.

2. **SOIL RESTORATION REQUIREMENTS:**

TYPE OF SOIL DISTURBANCE	SOIL RESTORATION REQUIREMENT
NO SOIL DISTURBANCE	RESTORATION NOT PERMITTED
MINIMAL SOIL DISTURBANCE	RESTORATION NOT REQUIRED
AREAS WHERE TOPSOIL IS STRIPPED ONLY - NO CHANGE IN GRADE	HSG A+B - APPLY 6 INCHES OF TOPSOIL HSG C+D AERATE* AND APPLY 6 INCHES OF TOPSOIL
AREAS OF CUT OR FILL	HSG A+B - AERATE AND APPLY 6 INCHES OF TOPSOIL HSG C+D - APPLY FULL SOIL RESTORATION**
HEAVY TRAFFIC AREAS ON SITE (ESPECIALLY IN ZONE 5-25 FEET AROUND BUILDINGS BUT NOT WITHIN A 5 FOOT PERIMETER AROUND FOUNDATION WALLS)	APPLY FULL SOIL RESTORATION (DECOMPACTION AND COMPOST ENHANCEMENT)
AREAS WHERE RUNOFF REDUCTION AND/OR INFILTRATION PRACTICES ARE APPLIED	RESTORATION NOT REQUIRED, BUT MAY BE APPLIED TO ENHANCE THE REDUCTION SPECIFIED FOR APPROPRIATE PRACTICES.
TYPE OF SOIL DISTURBANCE	**SOIL RESTORATION REQUIREMENT**
REDEVELOPMENT PROJECTS	SOIL RESTORATION IS REQUIRED ON REDEVELOPMENT PROJECTS IN AREAS WHERE EXISTING IMPERVIOUS AREA WILL BE CONVERTED TO PERVIOUS AREA.

*AERATION INCLUDES THE USE OF MACHINES SUCH AS TRACTOR-DRAWN IMPLEMENTS WITH COULTERS MAKING A NARROW SLIT IN THE SOIL, A ROLLER WITH MANY SPIKES MAKING INDENTATIONS IN THE SOIL, OR PRONGS WHICH FUNCTION LIKE A MINI-SUB-SOILER.

**PER "DEEP RIPPING AND DE-COMPACTION, DEC 2008".

3. **SOIL RESTORATION PRACTICE IMPLEMENTATION:**

DURING PERIODS OF RELATIVELY LOW TO MODERATE SUBSOIL MOISTURE, THE DISTURBED SUBSOILS ARE RETURNED TO ROUGH GRADE AND THE FOLLOWING SOIL RESTORATION STEPS APPLIED:

1. APPLY 3 INCHES OF COMPOST OVER SUBSOIL.
2. TILL COMPOST INTO SUBSOIL TO A DEPTH OF AT LEAST 12 INCHES USING A CAT-MOUNTED RIPPER, TRACTOR-MOUNTED DISC, OR TILLER. MIXING, AND CIRCULATING AIR AND COMPOST INTO SUBSOILS.
3. ROCK-PICK UNTIL UPLIFTED STONE/ROCK MATERIALS OF FOUR INCHES AND LARGER SIZE ARE CLEANED OFF THE SITE.
4. APPLY TOPSOIL TO A DEPTH OF 6 INCHES.
5. VEGETATE AS REQUIRED BY APPROVED PLAN.
6. COMPOST SHALL BE AGED, FROM PLANT DERIVED MATERIALS, FREE OF VIABLE WEED SEEDS, HAVE NO VISIBLE FREE WATER OR DUST PRODUCED WHEN HANDLING, PASS THROUGH A HALF INCH SCREEN AND HAVE A pH SUITABLE TO GROW DESIRED PLANTS.

FIGURES 5.16 AND 5.17 TO THE BELOW SHOW TWO ATTACHMENTS USED FOR SOIL DECOMPACTION. TILLING (STEP 2 ABOVE) SHOULD NOT BE PERFORMED WITHIN THE DRIP LINE OF ANY EXISTING TREES OR OVER UTILITY INSTALLATION THAT ARE WITHIN 24 INCHES OF THE SURFACE.

Figure 5. 16 Soil aerator implement

Figure 5. 17 Soil aerator implement

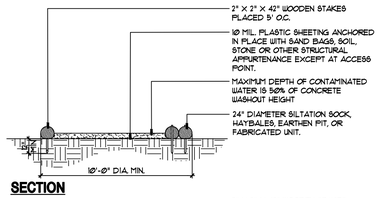
4. AT THE END OF THE PROJECT AN INSPECTOR SHOULD BE ABLE TO PUSH A 3/8" METAL BAR 12 INCHES INTO THE SOIL JUST WITH BODY WEIGHT.

5. THE CONTRACTOR MUST KEEP THE SITE FREE OF VEHICULAR AND FOOT TRAFFIC OR OTHER WEIGHT LOADS. CONSIDER PEDESTRIAN FOOTPATHS. (SOMETIMES IT MAY BE NECESSARY TO DE-THATCH THE TURF EVERY FEW YEARS)

6. ALL SOIL RESTORATION SHALL BE IN ACCORDANCE WITH NYSDEC REGULATIONS AND THE APPROVED SWPPP FOR THE PROJECT.

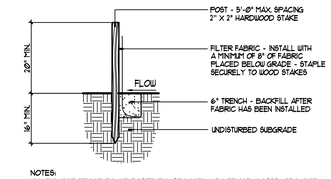
SWPPP LEGEND

SF	SILT FENCE
	SEDIMENT TRAP @ CB/INLET
	JUTE MESH
	CONSTRUCTION ENTRANCE
	CHECK DAM



NOTES:
1. INSTALL ON FLAT GRADE FOR OPTIMUM PERFORMANCE.
2. ALL CONCRETE WASHOUT FACILITIES SHALL BE INSPECTED DAILY. DAMAGED OR LEAKING FACILITIES SHALL BE DEACTIVATED AND REPAIRED OR REPLACED IMMEDIATELY. EXCESS RAINWATER THAT HAS ACCUMULATED OVER HARDENED CONCRETE SHOULD BE PUMPED TO A STABILIZED AREA SUCH AS GRASS FILTER STRIP.
3. ACCUMULATED HARDENED MATERIAL SHALL BE REMOVED WHEN 75% OF STORAGE CAPACITY OF THE STRUCTURE IS FILLED. ANY EXCESS WASH WATER SHALL BE PUMPED INTO A CONTAINMENT VESSEL AND PROPERLY DISPOSED OF OFF SITE.
4. DISPOSE OF HARDENED MATERIAL OFF SITE IN A CONSTRUCTION/DEMOLITION FILL LANDFILL. ON-SITE DISPOSAL MAY BE ALLOWED IF THIS HAS BEEN APPROVED AND ACCEPTED AS PART OF THE SWPPP. IN THE CASE, THE MATERIAL SHOULD BE RECYCLED AS SPECIFIED, OR BURIED AND COVERED WITH A MINIMUM OF 2 FEET OF CLEAN COMPACTED EARTHFILL THAT IS PERMANENTLY STABILIZED TO PREVENT EROSION.
5. THE PLASTIC LINER SHALL BE REPLACED WITH EACH CLEANING OF WASHOUT FACILITY.
6. INSPECT THE PROJECT SITE FREQUENTLY TO ENSURE THAT NO CONCRETE DISCHARGES ARE TAKING PLACE IN NON-DESIGNATED AREAS.

2 / L2.1 **CONCRETE WASHOUT**
NOT TO SCALE — 31-3001-10



NOTES:
1. WOVEN WIRE FENCE TO BE FASTENED SECURELY TO FENCE POSTS WITH WIRE TIES OR STAPLES.
2. FILTER CLOTH TO BE FASTENED SECURELY TO WOVEN WIRE FENCE WITH TIES SPACED 24" AT TOP AND MID SECTION.
3. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER THEY SHALL BE OVERLAPPED BY SIX (6) INCHES AND FOLDED.
4. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL REMOVED WHEN "BULGES" DEVELOP IN THE SILT FENCE. FENCING SHALL BE INSPECTED MONTHLY, AND FOLLOWING MAJOR RAINFALLS.
5. THE FOLLOWING MATERIALS SHALL BE USED FOR CONSTRUCTION OF THE SILT FENCE:
   POSTS: STEEL EITHER "T" OR "U" TYPE OR 2" HARDWOOD
   FENCE: WOVEN WIRE 14-1/2 GA, 6" MAX. MESH OPENING.
   FILTER CLOTH: FILTER X, MIRAFI 1100X, STABILINKA T140N OR APPROVED EQUAL.
   PREFABRICATED UNIT: GEOFAB, ENVIROFENCE, OR APPROVED EQUAL.
6. REFER TO NYS STANDARDS + SPECIFICATIONS FOR EROSION AND SEDIMENT CONTROLS FOR ADDITIONAL GUIDANCE.

SECTION

1 / L2.1 **SILT FENCE (SF)**
NOT TO SCALE — 31-1001-01

KEPLINGER FREEMAN ASSOCIATES
LANDSCAPE ARCHITECTURE & LAND PLANNING
6320 FLY ROAD, SUITE 109 EAST SYRACUSE, NEW YORK 13057
PHONE: (315) 445-7980 FAX: (315) 445-7981

Client:
CORE

ISSUE TO PLANNING BOARD
3/28/2023

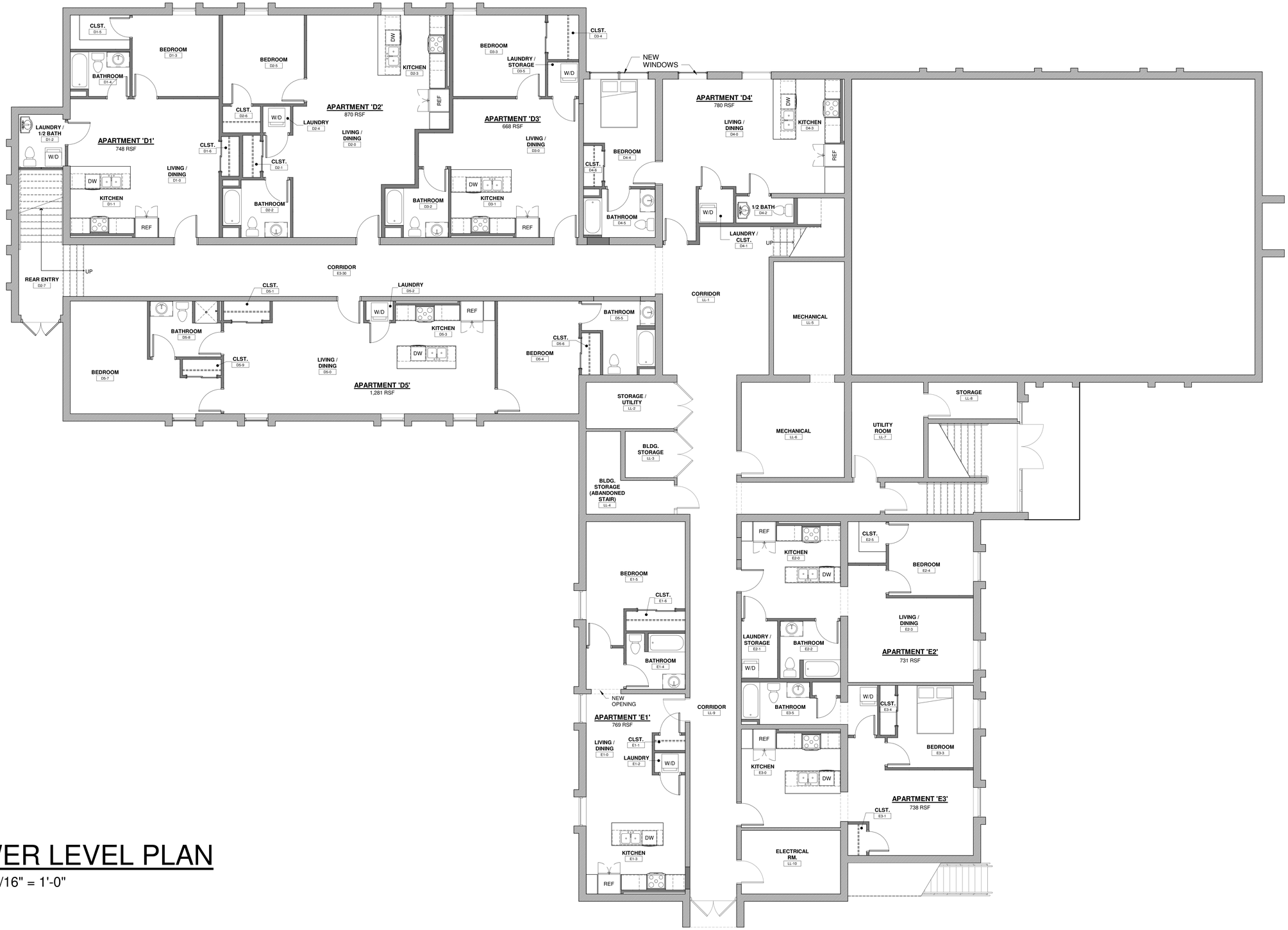
SITE IMPROVEMENTS
ENDERS ROAD
4600 ENDERS ROAD
MANLIUS, NEW YORK 13104

REVISIONS

Drawn By:	J.P.R
Checked By:	E.G.K.
KFA Proj. No.:	43037
Date:	3/28/2023
Scale:	AS NOTED

Title:
EROSION CONTROL PLAN

L2.1



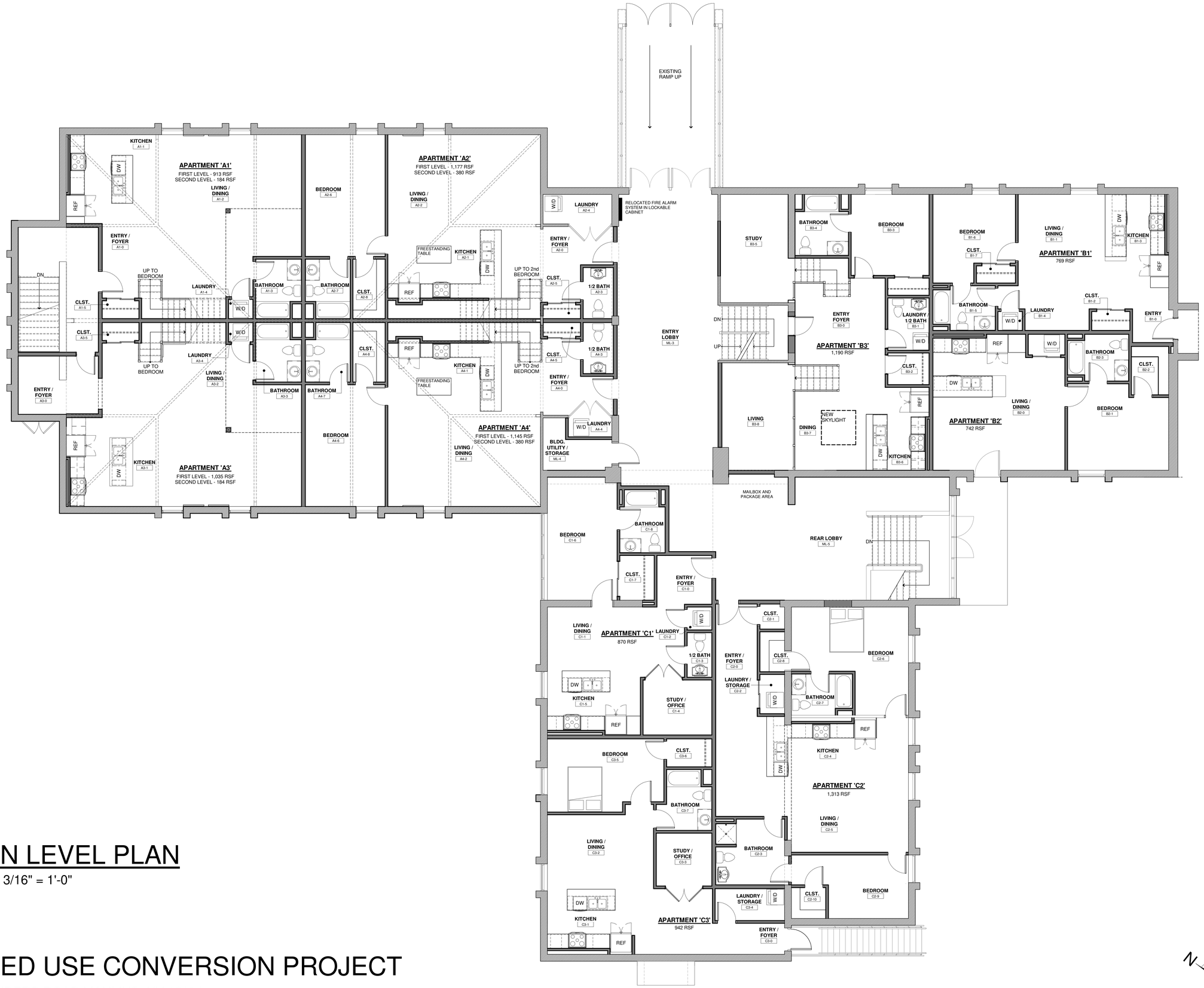
LOWER LEVEL PLAN

SCALE: 3/16" = 1'-0"

MIXED USE CONVERSION PROJECT

4600 ENDERS ROAD MANLIUS, NY 13104

CORE LEVEL ARCHITECTURE
831 JAMES STREET,
SYRACUSE, NEW YORK 13203



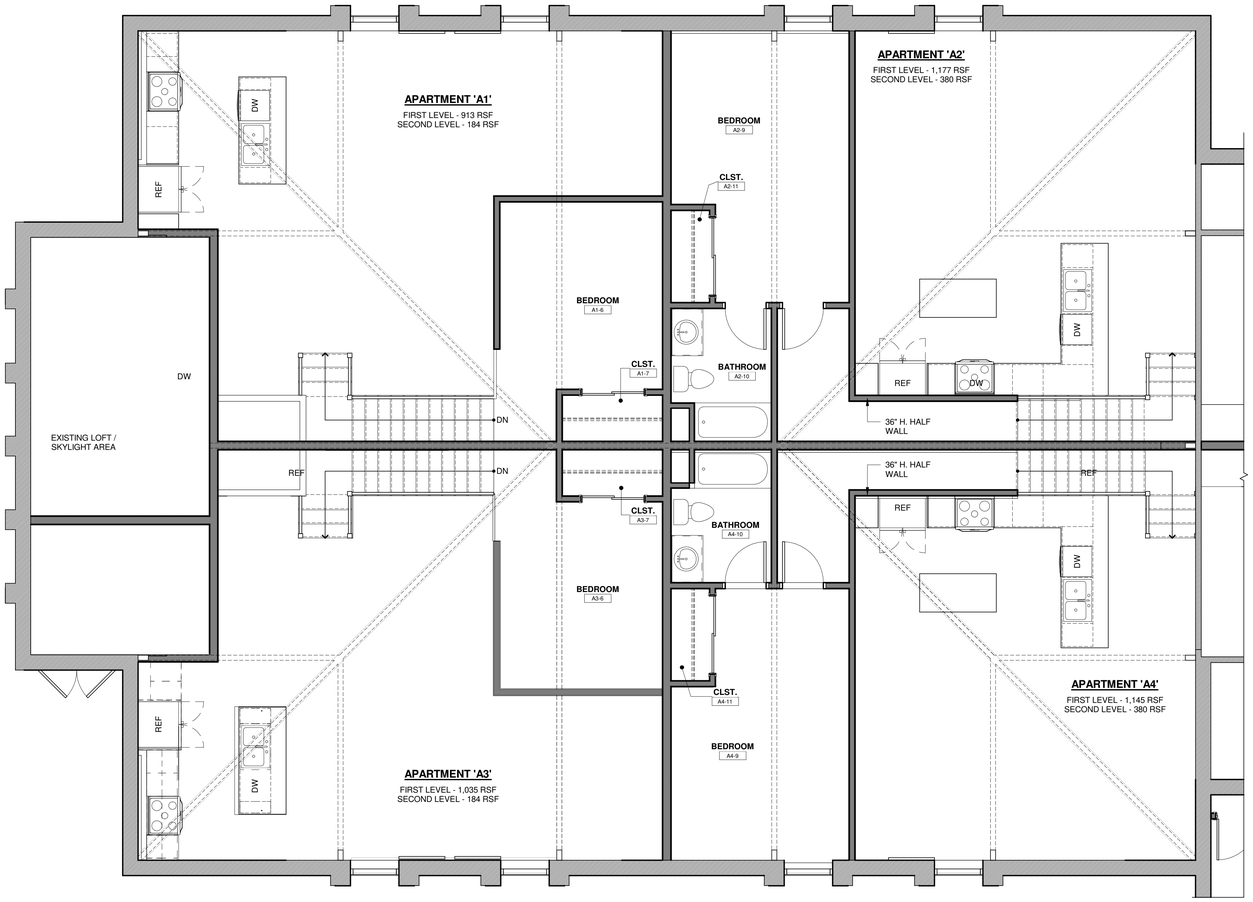
MAIN LEVEL PLAN

SCALE: 3/16" = 1'-0"

MIXED USE CONVERSION PROJECT

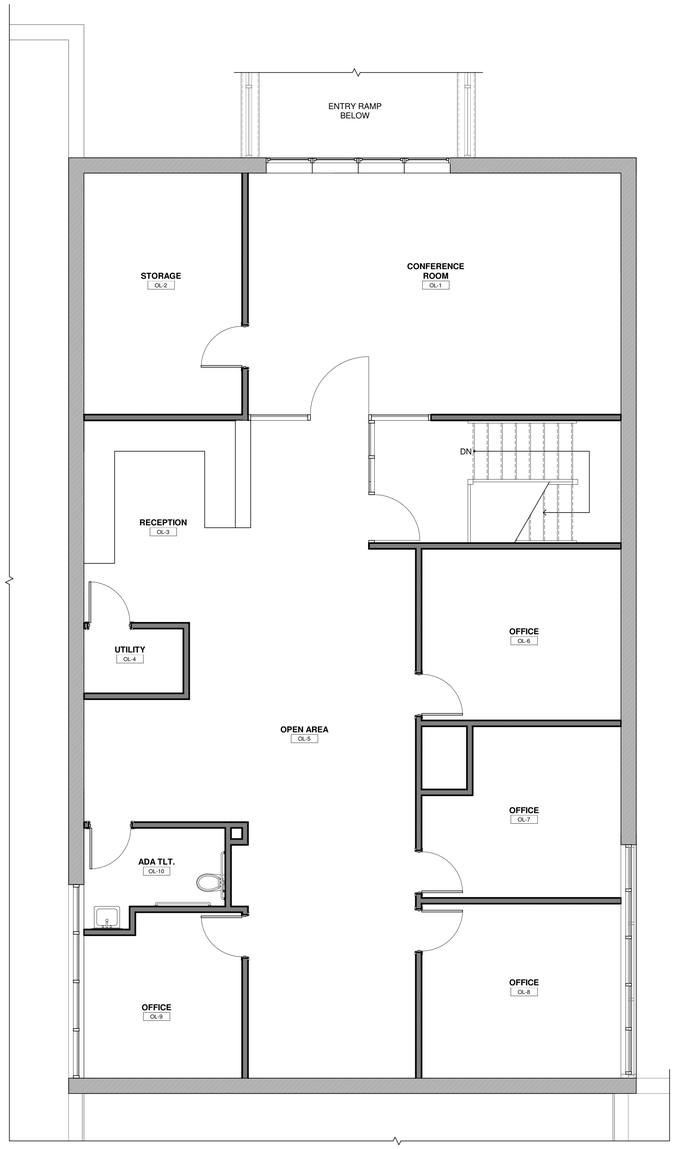
4600 ENDERS ROAD MANLIUS, NY 13104

CORE LEVEL ARCHITECTURE
831 JAMES STREET,
SYRACUSE, NEW YORK 13203



MAIN LEVEL PLAN - LOFT AREA

SCALE: 1/4" = 1'-0"



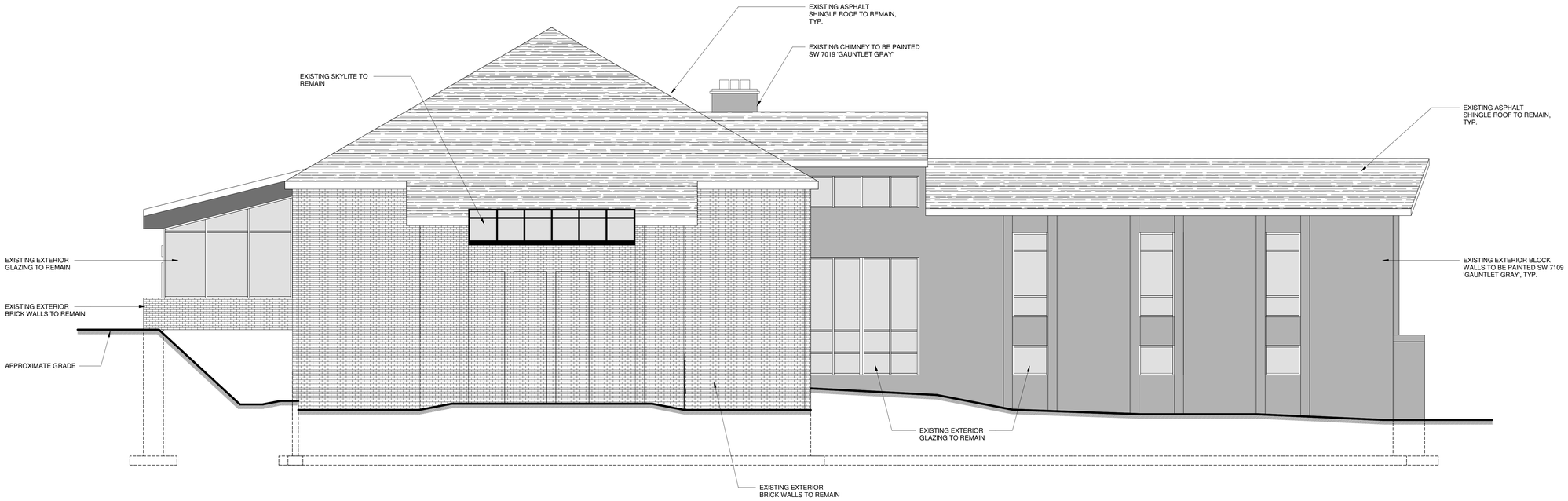
OFFICE LEVEL PLAN

SCALE: 1/4" = 1'-0"

MIXED USE CONVERSION PROJECT

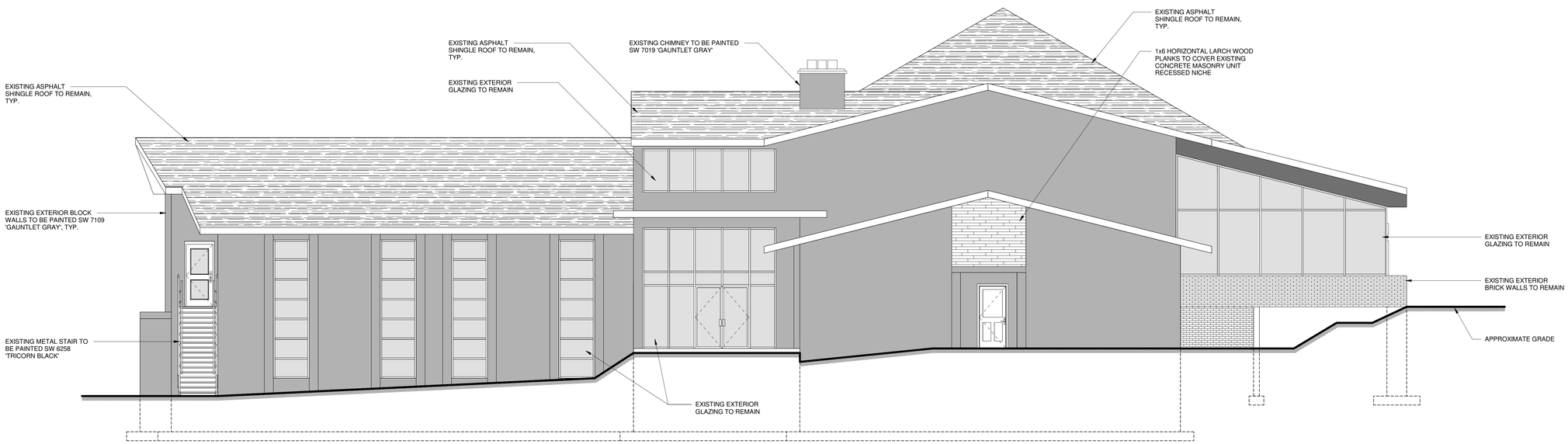
4600 ENDERS ROAD MANLIUS, NY 13104

CORE LEVEL ARCHITECTURE
831 JAMES STREET,
SYRACUSE, NEW YORK 13203



EXTERIOR ELEVATION - NORTH

SCALE: 3/16" = 1'-0"



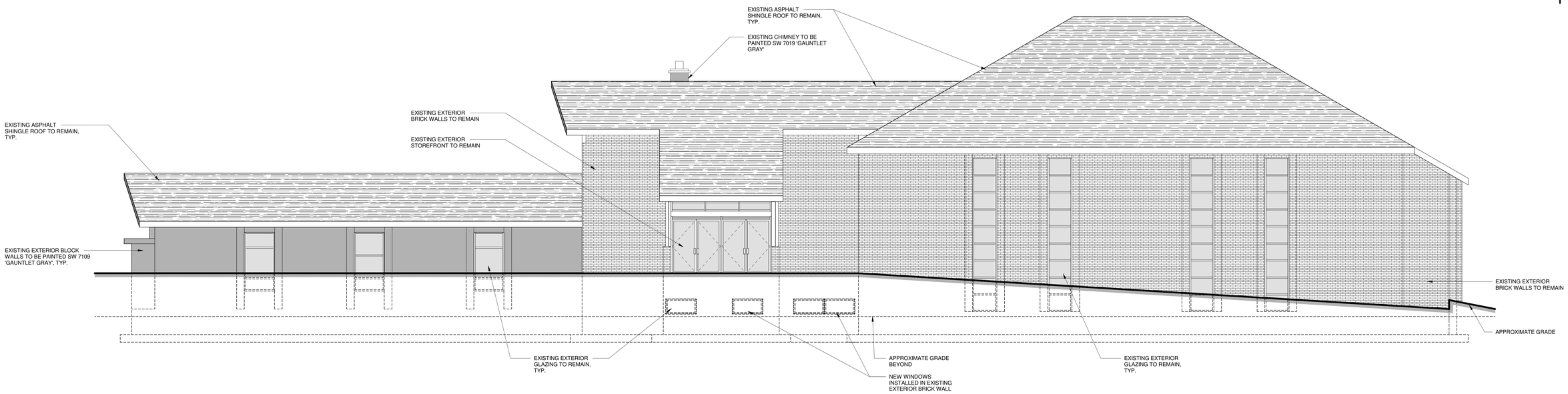
EXTERIOR ELEVATION - SOUTH

SCALE: 3/16" = 1'-0"

MIXED USE CONVERSION PROJECT

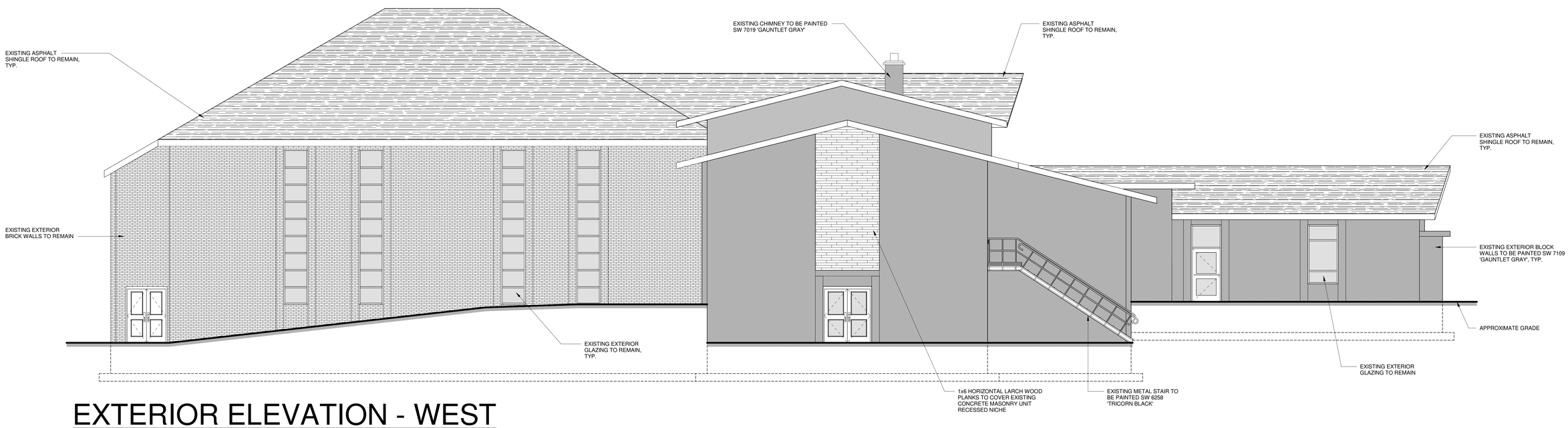
4600 ENDERS ROAD MANLIUS, NY 13104

CORE LEVEL ARCHITECTURE
831 JAMES STREET,
SYRACUSE, NEW YORK 13203



EXTERIOR ELEVATION - EAST

SCALE: 3/16" = 1'-0"



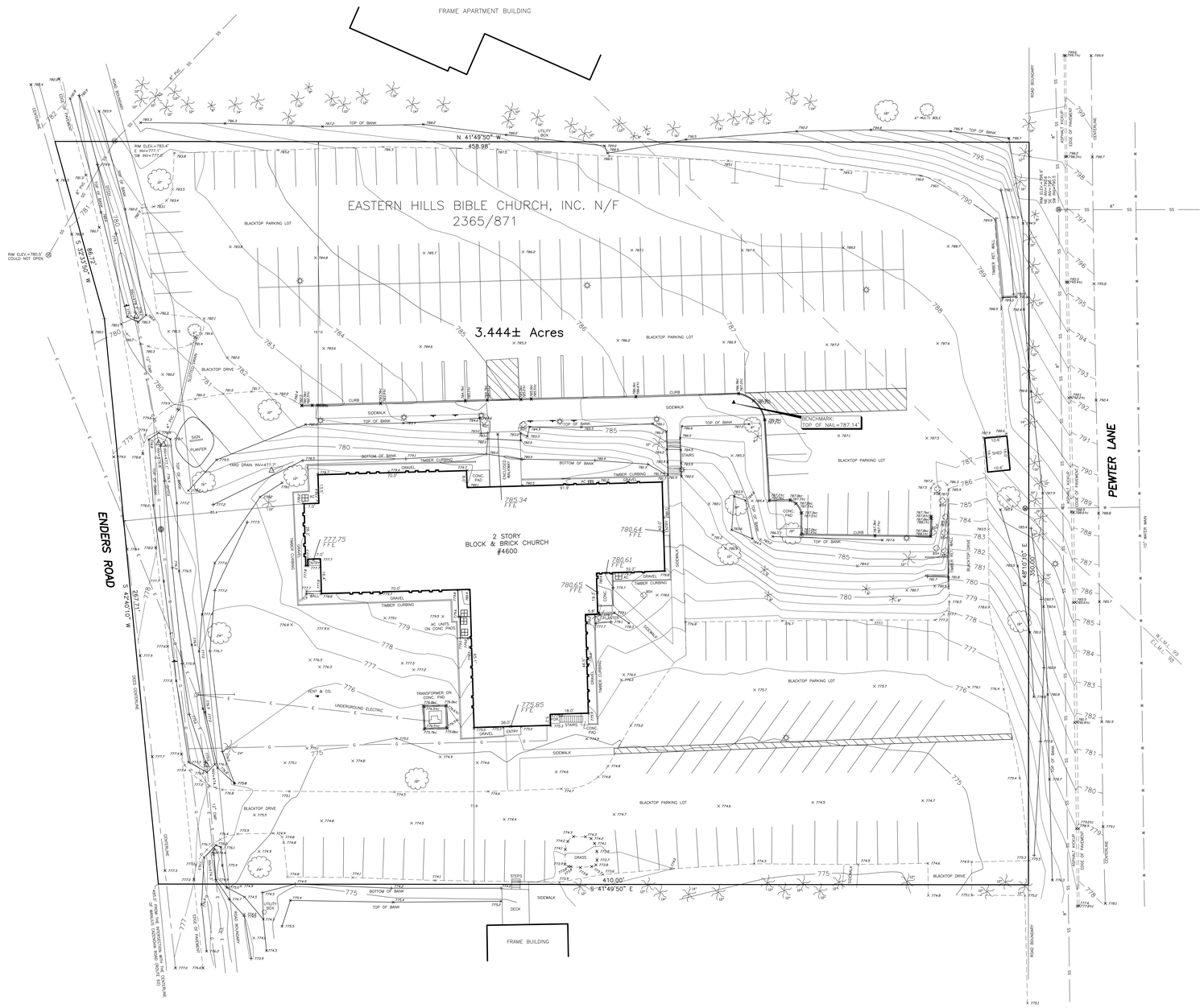
EXTERIOR ELEVATION - WEST

SCALE: 3/16" = 1'-0"

MIXED USE CONVERSION PROJECT

4600 ENDERS ROAD MANLIUS, NY 13104

CORE LEVEL ARCHITECTURE
831 JAMES STREET,
SYRACUSE, NEW YORK 13203



LEGEND

—W—W—	WATER MAIN
—E—E—	OVERHEAD UTILITIES
—G—G—	UNDERGROUND GAS MAIN
—S—S—	STORM SEWER
—SS—SS—	SANITARY SEWER
	CATCH BASIN
	UTILITY POLE
	HYDRANT
	WATER VALVE
	CONIFEROUS TREE
	DECIDUOUS TREE
	GAS VALVE OR MARKER
X 123.4	SPOT ELEVATION
	ROAD SIGN
	SEWER MANHOLE
TB	TOP OF BANK
BB	BOTTOM OF BANK
	LIGHT POLE
	ELECTRIC MANHOLE
	GUY ANCHOR
	UTILITY BOX
	CULVERT INVERT

0 20 40 60

Only survey maps with the surveyor's embossed seal are genuine, true and valid copies of the surveyor's original work and opinion.
Unauthorized alteration or addition to a survey map bearing a licensed land surveyor's seal is a violation of sect. 7209, subsection 2, of the New York State Education Law.
The certification is limited to the persons for whom the survey map is prepared and on his behalf to the title company, governmental agency, and the lending institution for whom the survey map is prepared, and to those institutions or subsequent owners.
The location of underground improvements, structures, and utilities are not covered by title certificate.

Dig Safely. New York
Call 811 before you dig

UTILITY NOTE

This surveyor has not physically located the underground utilities. Underground utility locations may have been determined from visible evidence, available public maps and/or maps prepared by others and markings established by independent locators or utility companies. There is no guarantee as to the accuracy or completeness of such data, nor is there any guarantee that all utilities are shown. Actual locations of underground utilities in the vicinity of any proposed construction shall be verified prior to commencing excavation, demolition or construction. Call Dig Safely New York at 811 or 1-800-962-7962

NOTE: At the time of the field survey the subject property had snow cover. Therefore the survey map may not reflect all of the improvements encroachments, utilities and other features that would have otherwise been visibly. No certification is extended to these features, if any exist.

I hereby certify that this map was prepared from an actual field topographic survey of the property presented hereon, that all work was performed by me or under my supervision, and that the results of said survey are hereby represented to the best of my belief, professional knowledge and ability.

Forrest L. SeGuin, PLS – N.Y.S. LIC. NO. 050384

STATE OF NEW YORK · FORREST L. SEGUIN · LICENSED LAND SURVEYOR · No. 050384

COPYRIGHT © 2023 SeGUIN LAND SURVEYING, PLLC.

TOPOGRAPHIC SURVEY MAP

LANDS OF EASTERN HILLS BIBLE CHURCH, INC.

PART OF LOTS 98 & 99 – TOWN OF MANLIUS
ONONDAGA COUNTY, NEW YORK

SURVEY AND MAP PREPARED BY:
SeGUIN LAND SURVEYING, P.L.L.C.
FORREST L. SEGUIN, L.S.
6197 DYKE ROAD, CHITTENANGO, N.Y. 13037
PHONE:(315)263-1642 FAX:(315)687-0002

SCALE: 1" = 20'
DATE: 3/17/2023
PROJECT NO. 23043
TAX MAP NO. 117.20-01-04.0
DWG. MANLIUS 117.20-01-04.0...

Expected Fee: _____

TOWN OF MANLIUS
PLANNING DEPARTMENT
INITIAL APPEARANCE APPLICATION

Town of Manlius
FEB 15 2023
Received

DATE: FEB. 14, 2023

Name of Project: MIXED USE CONVERSION PROJECT

Applicant must submit 12 copies of all site plans, surveys, and supporting data with the final application before a planning board meeting can be scheduled.

Location of Project: 4600 Enders Rd., Manlius, NY 13104

Type of Project:

○ Division of Land ○ Subdivision ○ Accessory Use ○ Zone Change ☒ Site Review ○ Other _____

Developer: ICON COMPANIES Phone: 315.299.6292

Address: 344 S. WARREN ST., SYRACUSE, NY Zip: 13202

Tax Map Number(#)/s: 117.2-01-04.0

Present Zoning: "RM" (Approved 02/08/23) Desired Zoning: _____

Total Acreage: 3.44 acres Total Number of Lots: _____

Property Owner/s: Eastern Hills Bible Church Phone: 315.682.5008

Address: 4600 Enders Rd., Manlius, NY Zip: 13104

Tax Map#(s): 117.2-01-04.0 Owner's Signature: Michael P. Garver

Printed Name: MICHAEL P. GARVER

Property Owner/s: _____ Phone: _____

Address: _____ Zip: _____

Tax Map#(s): _____ Owner's Signature: _____

Printed Name: _____

Use next page for additional known property owners' information

Planning Board Meeting Date Assignment: _____

Fee: _____ Paid: _____ Per: ○ Credit/Debit Card ○ Check ○ Cash

Planning Board - Initial

617.20
Appendix B
Short Environmental Assessment Form

Instructions for Completing

Part 1 - Project Information. The applicant or project sponsor is responsible for the completion of Part 1. Responses become part of the application for approval or funding, are subject to public review, and may be subject to further verification. Complete Part 1 based on information currently available. If additional research or investigation would be needed to fully respond to any item, please answer as thoroughly as possible based on current information.

Complete all items in Part 1. You may also provide any additional information which you believe will be needed by or useful to the lead agency; attach additional pages as necessary to supplement any item.

Part 1 - Project and Sponsor Information

Name of Action or Project:
MIXED USE CONVERSION PROJECT

Project Location (describe, and attach a location map):
4600 ENDERS RD., MANLIUS, NY 13104

Brief Description of Proposed Action:
Renovation of interior for Mixed Use Project
Reduction of existing pavement to new greenscape areas.

Name of Applicant or Sponsor:	Telephone: 315.569.5678
Grazi Zazzara, Jr.	E-Mail: gzazzara26@gmail.com

Address:
344 S. Warren St., Ste. 102, ~~Syracuse, NY 13202~~

City/PO:	State:	Zip Code:
Syracuse	NY	13202

	NO	YES
1. Does the proposed action only involve the legislative adoption of a plan, local law, ordinance, administrative rule, or regulation? If Yes, attach a narrative description of the intent of the proposed action and the environmental resources that may be affected in the municipality and proceed to Part 2. If no, continue to question 2.	☒	☐
2. Does the proposed action require a permit, approval or funding from any other governmental Agency? If Yes, list agency(s) name and permit or approval: BUILDING DEPARTMENT (MANLIUS)	☐	☒

3.a. Total acreage of the site of the proposed action? 3.44 acres
b. Total acreage to be physically disturbed? 1.11 acres
c. Total acreage (project site and any contiguous properties) owned or controlled by the applicant or project sponsor? 3.44 acres

4. Check all land uses that occur on, adjoining and near the proposed action.
☐ Urban ☐ Rural (non-agriculture) ☐ Industrial ☒ Commercial ☒ Residential (suburban)
☐ Forest ☐ Agriculture ☐ Aquatic ☐ Other (specify): _____
☐ Parkland

	NO	YES	N/A
5. Is the proposed action,			
a. A permitted use under the zoning regulations?	☐	☒	☐
b. Consistent with the adopted comprehensive plan?	☐	☒	☐

	NO	YES
6. Is the proposed action consistent with the predominant character of the existing built or natural landscape?	☐	☒
7. Is the site of the proposed action located in, or does it adjoin, a state listed Critical Environmental Area? If Yes, identify: _____	☒	☐
8. a. Will the proposed action result in a substantial increase in traffic above present levels?	☒	☐
b. Are public transportation service(s) available at or near the site of the proposed action?	☒	☐
c. Are any pedestrian accommodations or bicycle routes available on or near site of the proposed action?	☒	☐
9. Does the proposed action meet or exceed the state energy code requirements? If the proposed action will exceed requirements, describe design features and technologies: _____	☐	☒
10. Will the proposed action connect to an existing public/private water supply? If No, describe method for providing potable water: _____	☐	☒
11. Will the proposed action connect to existing wastewater utilities? If No, describe method for providing wastewater treatment: _____	☐	☒
12. a. Does the site contain a structure that is listed on either the State or National Register of Historic Places?	☒	☐
b. Is the proposed action located in an archeological sensitive area?	☒	☐
13. a. Does any portion of the site of the proposed action, or lands adjoining the proposed action, contain wetlands or other waterbodies regulated by a federal, state or local agency?	☒	☐
b. Would the proposed action physically alter, or encroach into, any existing wetland or waterbody? If Yes, identify the wetland or waterbody and extent of alterations in square feet or acres: _____	☒	☐

14. Identify the typical habitat types that occur on, or are likely to be found on the project site. Check all that apply:
☐ Shoreline ☐ Forest ☐ Agricultural/grasslands ☐ Early mid-successional
☐ Wetland ☐ Urban ☒ Suburban

	NO	YES
15. Does the site of the proposed action contain any species of animal, or associated habitats, listed by the State or Federal government as threatened or endangered?	☒	☐
16. Is the project site located in the 100 year flood plain?	☒	☐
17. Will the proposed action create storm water discharge, either from point or non-point sources? If Yes, a. Will storm water discharges flow to adjacent properties? ☒ NO ☐ YES	☒	☐
b. Will storm water discharges be directed to established conveyance systems (runoff and storm drains)? ☐ NO ☒ YES If Yes, briefly describe: EXISTING TO REMAIN		

	NO	YES
18. Does the proposed action include construction or other activities that result in the impoundment of water or other liquids (e.g. retention pond, waste lagoon, dam)? If Yes, explain purpose and size:	☒	☐
19. Has the site of the proposed action or an adjoining property been the location of an active or closed solid waste management facility? If Yes, describe:	☒	☐
20. Has the site of the proposed action or an adjoining property been the subject of remediation (ongoing or completed) for hazardous waste? If Yes, describe:	☒	☐

I AFFIRM THAT THE INFORMATION PROVIDED ABOVE IS TRUE AND ACCURATE TO THE BEST OF MY KNOWLEDGE

Applicant/sponsor name: JEREMY J. ARTS Date: 02.14.2023

Signature:

STOP

Part 2 - Impact Assessment. The Lead Agency is responsible for the completion of Part 2. Answer all of the following questions in Part 2 using the information contained in Part 1 and other materials submitted by the project sponsor or otherwise available to the reviewer. When answering the questions the reviewer should be guided by the concept "Have my responses been reasonable considering the scale and context of the proposed action?"

	No, or small impact may occur	Moderate to large impact may occur
1. Will the proposed action create a material conflict with an adopted land use plan or zoning regulations?	☐	☐
2. Will the proposed action result in a change in the use or intensity of use of land?	☐	☐
3. Will the proposed action impair the character or quality of the existing community?	☐	☐
4. Will the proposed action have an impact on the environmental characteristics that caused the establishment of a Critical Environmental Area (CEA)?	☐	☐
5. Will the proposed action result in an adverse change in the existing level of traffic or affect existing infrastructure for mass transit, biking or walkway?	☐	☐
6. Will the proposed action cause an increase in the use of energy and it fails to incorporate reasonably available energy conservation or renewable energy opportunities?	☐	☐
7. Will the proposed action impact existing: a. public / private water supplies?	☐	☐
b. public / private wastewater treatment utilities?	☐	☐
8. Will the proposed action impair the character or quality of important historic, archaeological, architectural or aesthetic resources?	☐	☐
9. Will the proposed action result in an adverse change to natural resources (e.g., wetlands, waterbodies, groundwater, air quality, flora and fauna)?	☐	☐

	No, or small impact may occur	Moderate to large impact may occur
10. Will the proposed action result in an increase in the potential for erosion, flooding or drainage problems?	☐	☐
11. Will the proposed action create a hazard to environmental resources or human health?	☐	☐

Part 3 - Determination of significance. The Lead Agency is responsible for the completion of Part 3. For every question in Part 2 that was answered "moderate to large impact may occur", or if there is a need to explain why a particular element of the proposed action may or will not result in a significant adverse environmental impact, please complete Part 3. Part 3 should, in sufficient detail, identify the impact, including any measures or design elements that have been included by the project sponsor to avoid or reduce impacts. Part 3 should also explain how the lead agency determined that the impact may or will not be significant. Each potential impact should be assessed considering its setting, probability of occurring, duration, irreversibility, geographic scope and magnitude. Also consider the potential for short-term, long-term and cumulative impacts.

☐ Check this box if you have determined, based on the information and analysis above, and any supporting documentation, that the proposed action may result in one or more potentially large or significant adverse impacts and an environmental impact statement is required.

☐ Check this box if you have determined, based on the information and analysis above, and any supporting documentation, that the proposed action will not result in any significant adverse environmental impacts.

Name of Lead Agency	Date
Print or Type Name of Responsible Officer in Lead Agency	Title of Responsible Officer
Signature of Responsible Officer in Lead Agency	Signature of Preparer (if different from Responsible Officer)

PRINT

TOWN OF MANLIUS

DISCLOSURE AFFIDAVIT

This affidavit is a part of and must be completed and attached to every application, petition, request submitted for a *site plan, variance, amendment, change of zoning, approval of a plat, exemption from a plat or official map, license* or *permit.*

STATE OF NEW YORK)
) SS:
COUNTY OF ONONDAGA)

I. Grazias Zazzara, being duly sworn, deposes and says that (s) he is:

Applicant
(applicant, petitioner, corporation officer, property owner, *etc.)*

II. That deponent has read and is familiar with the provisions of the General Municipal Law, Section 809 which states:

A. Every application, petition or request submitted for a site plan, variance, amendment, change of zoning, approval of a plat, exemption from a plat or official map, license or permit, pursuant to the provisions or any ordinance, local law, rule or regulation constituting the zoning and planning regulations of a municipality shall state the name, residence and the nature and extent of the interest of any state officer or any officer or employee of such municipality is a part, in the person, partnership or association making such application, petition or request (hereinafter called the applicant) to the extent known to such applicant.

B. For the purpose of this action an officer or employee shall be deemed to have an interest in the applicant when (s)he, his/her spouse, or their brothers, sisters, parents, children, grandchildren, or the spouse of any of them:

1) is the applicant, or
2) is an officer, director, partner or employee of the applicant, or
3) legally or beneficially owns or controls stock of a corporate applicant or is a member of a partnership or association applicant, or
4) is a party to an agreement with such an applicant, express or implied, whereby (s) he may receive any payment or other benefit, whether or not for services rendered, or contingent upon the favorable approval of such application, petition or request.

C. Ownership of less than five percent (5%) of the stock of a corporation whose stock is listed on the New York or American Stock Exchanges shall not constitute an interest for the purposes of this section.

D. A person who knowingly and intentionally violates this section shall be guilty of a misdemeanor.

III. That no Town of Manlius officer, employee or a relative of either, as defined in Section 809 General Municipal Law has any interest in this application.

-OR-

If a Town of Manlius officer, employee or relative of either as defined in Section 809 General Municipal law has any interest in this application, the full particulars are provided on an attached sheet.

Date: _____, 20_____.

MICHAEL P. GARVER
(Print Name)

Michael P. Garver
(Signature)

EASTERN HILLS BIBLE CHURCH
(Entity Name)

Michael P. Garver CHAIRMAN, BOARD OF ELDERS
By (Officer) (Title)

4000 ENDERS RD, MANLIUS NY 13104
(Mailing Address of Applicant)

(315) 682-5008
(Telephone Number)

Date: 7/15, 20 22.

GRAZIANO ZAZZARA JR
(Print Name)

(Signature)

N/A (Prospective Buyer)
(Entity Name)

By (Officer) (Title)

344 S WALTON Street, Syracuse, NY 13202
(Mailing Address of Applicant)

315 299 6292
(Telephone Number)

ACKNOWLEDGEMENTS

STATE OF NEW YORK)
) SS:
COUNTY OF ONONDAGA)

On this 15th day of July in the year 20 22, before me, the undersigned, a notary public in and for said state, personally appeared Graziano Zazzara, Michael Garver, and _____ personally known to me or proved to me on the basis of satisfactory evidence to be the individual whose name is subscribed to the within Petition and acknowledged to me the he/she/they executed the same in his/her/their capacity, and that by his/her/their signature(s) on the Petition, the individual or the persons upon behalf of which the individual acted executed the instrument.

Kaitlyn Quesinberry
Notary Public

KAITLYN QUESINBERRY
NOTARY PUBLIC, STATE OF NEW YORK
Registration No. 01QU6395745
Qualified in Onondaga County
Commission Expires August 5 2023

CORPORATE ACKNOWLEDGEMENT

STATE OF NEW YORK)
) SS:
COUNTY OF ONONDAGA)

Gregory Zatorski Jr, being duly sworn, deposes and says the s(he) is the Manager of 4600 Erie Park LLC corporation named in the within Application/Petition, that s(he) has read the foregoing affidavit and knows the contents thereof; that the same is true of s(he) own knowledge, except as to those matters therein stated to be alleged upon information and belief, and as to those matters s(he) believes it to be true.

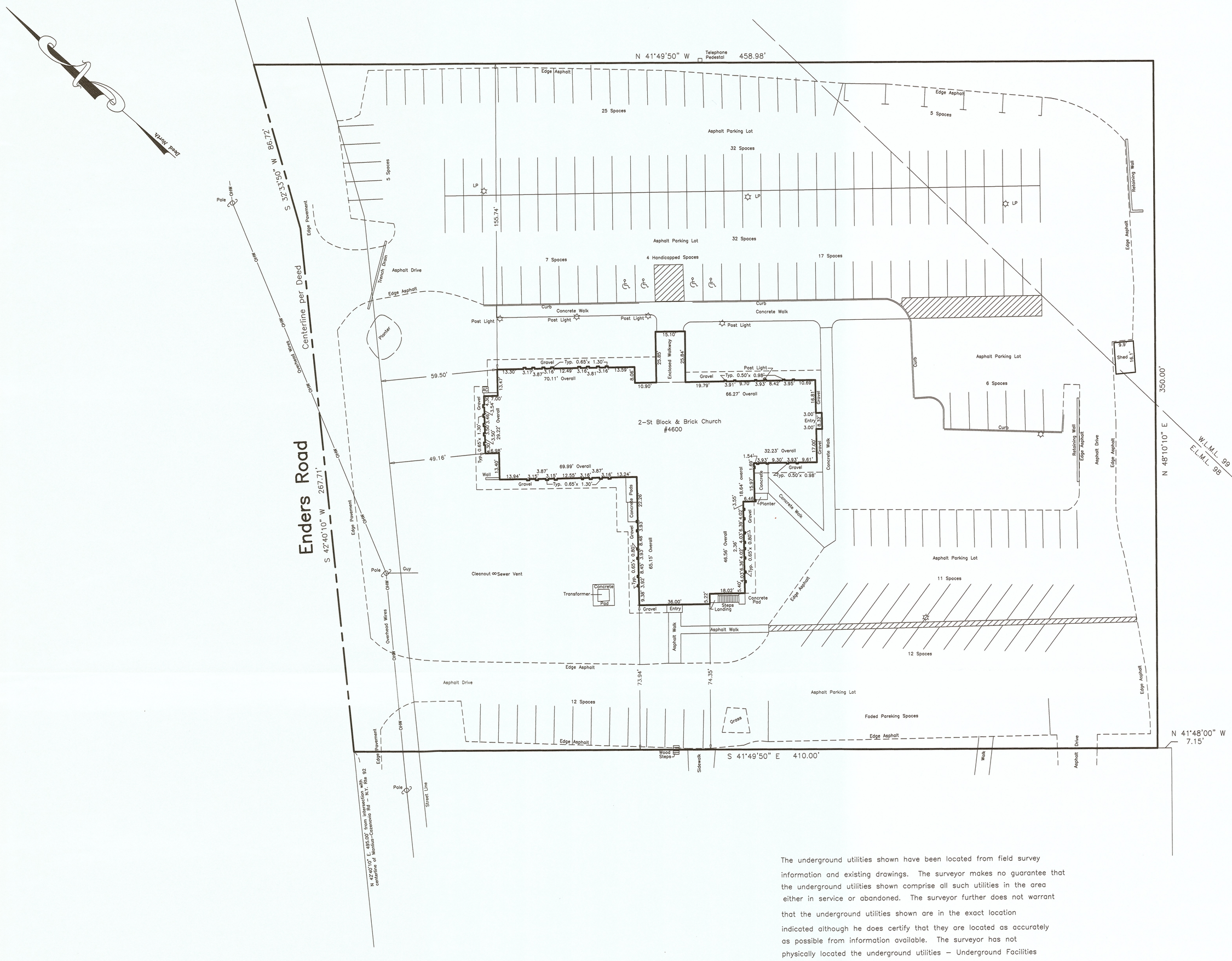
Applicant Signature

Subscribed to me before this day
Of July 15th, 20 22

Notary Public

KAITLYN QUESINBERRY
NOTARY PUBLIC, STATE OF NEW YORK
Registration No. 01QU6395745
Qualified in Onondaga County
Commission Expires August 5 2023

06/29/16 LB



The underground utilities shown have been located from field survey information and existing drawings. The surveyor makes no guarantee that the underground utilities shown comprise all such utilities in the area either in service or abandoned. The surveyor further does not warrant that the underground utilities shown are in the exact location indicated although he does certify that they are located as accurately as possible from information available. The surveyor has not physically located the underground utilities – Underground Facilities Protective Organization (315) 437–7333.

Pt of Lots 98 & 99. Town of Manlius
Onondaga Co., N.Y.

Scale 1"= 30'

July 12, 2022

D. W. HANNIG L.S., P.C.
SURVEYORS - PLANNERS - CONSULTANTS
THE MARKET PLACE, BUILDING #1
MANLIUS, NEW YORK 13104
PHONE: (315) 682-5225 - FAX: (315) 682-7774

Subject to a Current Abstract of Title

In my professional opinion, and based on my observations and/or scope of service, I hereby certify this map was made from an actual survey on 7/12/2022, and this map is correct.

This certification is void unless signed in RED ink.

DAVID WILLIAM HANNIG, P.L.S., - N.Y.S. LIC. NO. 47411

STATE OF NEW YORK · DAVID WILLIAM HANNIG · OFFICIAL SEAL · NO. 047411 · LICENSED LAND SURVEYOR

Projects/J82841A/base plan/dwg/ Final Map 4600 enders rd Church

Expected Fee: _____

TOWN OF MANLIUS
PLANNING DEPARTMENT
INITIAL APPEARANCE APPLICATION

DATE: FEB. 14, 2023

Name of Project: MIXED USE CONVERSION PROJECT

Applicant must submit 12 copies of all site plans, surveys, and supporting data with the final application before a planning board meeting can be scheduled.

Location of Project: 4600 Enders Rd., Manlius, NY 13104

Type of Project:

○ Division of Land ○ Subdivision ○ Accessory Use ○ Zone Change ☒ Site Review ○ Other _____

Developer: ICON COMPANIES Phone: 315.299.6292

Address: 344 S. WARREN ST., SYRACUSE, NY Zip: 13202

Tax Map Number(#)/s: 117.2-01-04.0

Present Zoning: "RM" (Approved 02/08/23) Desired Zoning: _____

Total Acreage: 3.44 acres Total Number of Lots: _____

Property Owner/s: Eastern Hills Bible Church Phone: 315.682.5008

Address: 4600 Enders Rd., Manlius, NY Zip: 13104

Tax Map#(s): 117.2-01-04.0 Owner's Signature: _____

Printed Name: _____

Property Owner/s: _____ Phone: _____

Address: _____ Zip: _____

Tax Map#(s): _____ Owner's Signature: _____

Printed Name: _____

Use next page for additional known property owners' information

---

Planning Board Meeting Date Assignment: _____

Fee: _____ Paid: _____ Per: ○ Credit/Debit Card ○ Check ○ Cash

TOWN OF MANLIUS
PLANNING DEPARTMENT
INITIAL APPEARANCE APPLICATION
(continued)

Property Owner/s: _____ Phone: _____

Address: _____ Zip: _____

Tax Map#(s): _____ Owner's Signature: _____

_____ Printed Name: _____

Property Owner/s: _____ Phone: _____

Address: _____ Zip: _____

Tax Map#(s): _____ Owner's Signature: _____

_____ Printed Name: _____

Property Owner/s: _____ Phone: _____

Address: _____ Zip: _____

Tax Map#(s): _____ Owner's Signature: _____

_____ Printed Name: _____

Property Owner/s: _____ Phone: _____

Address: _____ Zip: _____

Tax Map#(s): _____ Owner's Signature: _____

_____ Printed Name: _____

Property Owner/s: _____ Phone: _____

Address: _____ Zip: _____

Tax Map#(s): _____ Owner's Signature: _____

_____ Printed Name: _____

Property Owner/s: _____ Phone: _____

Address: _____ Zip: _____

Tax Map#(s): _____ Owner's Signature: _____

_____ Printed Name: _____

617.20
Appendix B
Short Environmental Assessment Form

Instructions for Completing

Part 1 - Project Information. The applicant or project sponsor is responsible for the completion of Part 1. Responses become part of the application for approval or funding, are subject to public review, and may be subject to further verification. Complete Part 1 based on information currently available. If additional research or investigation would be needed to fully respond to any item, please answer as thoroughly as possible based on current information.

Complete all items in Part 1. You may also provide any additional information which you believe will be needed by or useful to the lead agency; attach additional pages as necessary to supplement any item.

Part 1 - Project and Sponsor Information

Name of Action or Project:
MIXED USE CONVERSION PROJECT

Project Location (describe, and attach a location map):
4600 ENDERS RD., MANLIUS, NY 13104

Brief Description of Proposed Action:
Renovation of interior for Mixed Use Project
Reduction of existing pavement to new greenscape areas.

Name of Applicant or Sponsor:	Telephone: 315.569.5678
Grazi Zazzara, Jr.	E-Mail: gzazzara26@gmail.com

Address:
344 S. Warren St., Ste. 102, ~~[illegible]~~

City/PO:	State:	Zip Code:
Syracuse	NY	13202

	NO	YES
1. Does the proposed action only involve the legislative adoption of a plan, local law, ordinance, administrative rule, or regulation? If Yes, attach a narrative description of the intent of the proposed action and the environmental resources that may be affected in the municipality and proceed to Part 2. If no, continue to question 2.	☒	☐
2. Does the proposed action require a permit, approval or funding from any other governmental Agency? If Yes, list agency(s) name and permit or approval: BUILDING DEPARTMENT (MANLIUS)	☐	☒

3.a. Total acreage of the site of the proposed action? 3.44 acres
b. Total acreage to be physically disturbed? 1.11 acres
c. Total acreage (project site and any contiguous properties) owned or controlled by the applicant or project sponsor? 3.44 acres

4. Check all land uses that occur on, adjoining and near the proposed action.
☐ Urban ☐ Rural (non-agriculture) ☐ Industrial ☒ Commercial ☒ Residential (suburban)
☐ Forest ☐ Agriculture ☐ Aquatic ☐ Other (specify): _____
☐ Parkland

	NO	YES	N/A
5. Is the proposed action,			
a. A permitted use under the zoning regulations?	☐	☒	☐
b. Consistent with the adopted comprehensive plan?	☐	☒	☐

	NO	YES
6. Is the proposed action consistent with the predominant character of the existing built or natural landscape?	☐	☒
7. Is the site of the proposed action located in, or does it adjoin, a state listed Critical Environmental Area? If Yes, identify: _____	☒	☐
8. a. Will the proposed action result in a substantial increase in traffic above present levels?	☒	☐
b. Are public transportation service(s) available at or near the site of the proposed action?	☒	☐
c. Are any pedestrian accommodations or bicycle routes available on or near site of the proposed action?	☒	☐
9. Does the proposed action meet or exceed the state energy code requirements? If the proposed action will exceed requirements, describe design features and technologies: _____	☐	☒
10. Will the proposed action connect to an existing public/private water supply? If No, describe method for providing potable water: _____	☐	☒
11. Will the proposed action connect to existing wastewater utilities? If No, describe method for providing wastewater treatment: _____	☐	☒
12. a. Does the site contain a structure that is listed on either the State or National Register of Historic Places?	☒	☐
b. Is the proposed action located in an archeological sensitive area?	☒	☐
13. a. Does any portion of the site of the proposed action, or lands adjoining the proposed action, contain wetlands or other waterbodies regulated by a federal, state or local agency?	☒	☐
b. Would the proposed action physically alter, or encroach into, any existing wetland or waterbody? If Yes, identify the wetland or waterbody and extent of alterations in square feet or acres: _____	☒	☐

14. Identify the typical habitat types that occur on, or are likely to be found on the project site. Check all that apply:
☐ Shoreline ☐ Forest ☐ Agricultural/grasslands ☐ Early mid-successional
☐ Wetland ☐ Urban ☒ Suburban

	NO	YES
15. Does the site of the proposed action contain any species of animal, or associated habitats, listed by the State or Federal government as threatened or endangered?	☒	☐
16. Is the project site located in the 100 year flood plain?	☒	☐
17. Will the proposed action create storm water discharge, either from point or non-point sources? If Yes, a. Will storm water discharges flow to adjacent properties? ☒ NO ☐ YES	☒	☐
b. Will storm water discharges be directed to established conveyance systems (runoff and storm drains)? If Yes, briefly describe: ☐ NO ☒ YES		

EXISTING TO REMAIN

	NO	YES
18. Does the proposed action include construction or other activities that result in the impoundment of water or other liquids (e.g. retention pond, waste lagoon, dam)? If Yes, explain purpose and size:	☒	☐
19. Has the site of the proposed action or an adjoining property been the location of an active or closed solid waste management facility? If Yes, describe:	☒	☐
20. Has the site of the proposed action or an adjoining property been the subject of remediation (ongoing or completed) for hazardous waste? If Yes, describe:	☒	☐

I AFFIRM THAT THE INFORMATION PROVIDED ABOVE IS TRUE AND ACCURATE TO THE BEST OF MY KNOWLEDGE

Applicant/sponsor name: JEREMY J. ARTS Date: 02.14.2023

Signature:

STOP

Part 2 - Impact Assessment. The Lead Agency is responsible for the completion of Part 2. Answer all of the following questions in Part 2 using the information contained in Part 1 and other materials submitted by the project sponsor or otherwise available to the reviewer. When answering the questions the reviewer should be guided by the concept "Have my responses been reasonable considering the scale and context of the proposed action?"

	No, or small impact may occur	Moderate to large impact may occur
1. Will the proposed action create a material conflict with an adopted land use plan or zoning regulations?	☐	☐
2. Will the proposed action result in a change in the use or intensity of use of land?	☐	☐
3. Will the proposed action impair the character or quality of the existing community?	☐	☐
4. Will the proposed action have an impact on the environmental characteristics that caused the establishment of a Critical Environmental Area (CEA)?	☐	☐
5. Will the proposed action result in an adverse change in the existing level of traffic or affect existing infrastructure for mass transit, biking or walkway?	☐	☐
6. Will the proposed action cause an increase in the use of energy and it fails to incorporate reasonably available energy conservation or renewable energy opportunities?	☐	☐
7. Will the proposed action impact existing: a. public / private water supplies?	☐	☐
b. public / private wastewater treatment utilities?	☐	☐
8. Will the proposed action impair the character or quality of important historic, archaeological, architectural or aesthetic resources?	☐	☐
9. Will the proposed action result in an adverse change to natural resources (e.g., wetlands, waterbodies, groundwater, air quality, flora and fauna)?	☐	☐

	No, or small impact may occur	Moderate to large impact may occur
10. Will the proposed action result in an increase in the potential for erosion, flooding or drainage problems?	☐	☐
11. Will the proposed action create a hazard to environmental resources or human health?	☐	☐

Part 3 - Determination of significance. The Lead Agency is responsible for the completion of Part 3. For every question in Part 2 that was answered "moderate to large impact may occur", or if there is a need to explain why a particular element of the proposed action may or will not result in a significant adverse environmental impact, please complete Part 3. Part 3 should, in sufficient detail, identify the impact, including any measures or design elements that have been included by the project sponsor to avoid or reduce impacts. Part 3 should also explain how the lead agency determined that the impact may or will not be significant. Each potential impact should be assessed considering its setting, probability of occurring, duration, irreversibility, geographic scope and magnitude. Also consider the potential for short-term, long-term and cumulative impacts.

☐ Check this box if you have determined, based on the information and analysis above, and any supporting documentation, that the proposed action may result in one or more potentially large or significant adverse impacts and an environmental impact statement is required.

☐ Check this box if you have determined, based on the information and analysis above, and any supporting documentation, that the proposed action will not result in any significant adverse environmental impacts.

Name of Lead Agency	Date
Print or Type Name of Responsible Officer in Lead Agency	Title of Responsible Officer
Signature of Responsible Officer in Lead Agency	Signature of Preparer (if different from Responsible Officer)

PRINT

TOWN OF MANLIUS

DISCLOSURE AFFIDAVIT

This affidavit is a part of and must be completed and attached to every application, petition, request submitted for a *site plan, variance, amendment, change of zoning, approval of a plat, exemption from a plat or official map, license* or *permit.*

STATE OF NEW YORK)
) SS:
COUNTY OF ONONDAGA)

I. Grazia Zazzara, being duly sworn, deposes and says that (s) he is:

Applicant
(applicant, petitioner, corporation officer, property owner, *etc.)*

II. That deponent has read and is familiar with the provisions of the General Municipal Law, Section 809 which states:

A. Every application, petition or request submitted for a site plan, variance, amendment, change of zoning, approval of a plat, exemption from a plat or official map, license or permit, pursuant to the provisions or any ordinance, local law, rule or regulation constituting the zoning and planning regulations of a municipality shall state the name, residence and the nature and extent of the interest of any state officer or any officer or employee of such municipality is a part, in the person, partnership or association making such application, petition or request (hereinafter called the applicant) to the extent known to such applicant.

B. For the purpose of this action an officer or employee shall be deemed to have an interest in the applicant when (s)he, his/her spouse, or their brothers, sisters, parents, children, grandchildren, or the spouse of any of them:

1) is the applicant, or
2) is an officer, director, partner or employee of the applicant, or
3) legally or beneficially owns or controls stock of a corporate applicant or is a member of a partnership or association applicant, or
4) is a party to an agreement with such an applicant, express or implied, whereby (s) he may receive any payment or other benefit, whether or not for services rendered, or contingent upon the favorable approval of such application, petition or request.

C. Ownership of less than five percent (5%) of the stock of a corporation whose stock is listed on the New York or American Stock Exchanges shall not constitute an interest for the purposes of this section.

D. A person who knowingly and intentionally violates this section shall be guilty of a misdemeanor.

III. That no Town of Manlius officer, employee or a relative of either, as defined in Section 809 General Municipal Law has any interest in this application.

-OR-

If a Town of Manlius officer, employee or relative of either as defined in Section 809 General Municipal law has any interest in this application, the full particulars are provided on an attached sheet.

Date: _____, 20_____.

MICHAEL P. GARVER
(Print Name)

Michael P. Garver
(Signature)

EASTERN HILLS BIBLE CHURCH
(Entity Name)

Michael P. Garver CHAIRMAN, BOARD OF ELDERS
By (Officer) (Title)

4600 ENDERS RD, MANLIUS NY 13104
(Mailing Address of Applicant)

(315) 682-5008
(Telephone Number)

Date: 7/15, 20 22.

GRAZIANO ZAZZARA JR
(Print Name)

(Signature)

N/A (Prospective Buyer)
(Entity Name)

By (Officer) (Title)

344 S WARREN Street, Syracuse, NY 13202
(Mailing Address of Applicant)

315 299 6292
(Telephone Number)

ACKNOWLEDGEMENTS

STATE OF NEW YORK)
) SS:
COUNTY OF ONONDAGA)

On this 15th day of July in the year 20 22, before me, the undersigned, a notary public in and for said state, personally appeared Graziano Zazzara, Michael Garver, and _____ personally known to me or proved to me on the basis of satisfactory evidence to be the individual whose name is subscribed to the within Petition and acknowledged to me the he/she/they executed the same in his/her/their capacity, and that by his/her/their signature(s) on the Petition, the individual or the persons upon behalf of which the individual acted executed the instrument.

Kaitlyn Quesinberry
Notary Public

KAITLYN QUESINBERRY
NOTARY PUBLIC, STATE OF NEW YORK
Registration No. 01QU6395745
Qualified in Onondaga County
Commission Expires August 5, 2023

CORPORATE ACKNOWLEDGEMENT

STATE OF NEW YORK)
) SS:
COUNTY OF ONONDAGA)

Gratzio Zatari Jr, being duly sworn, deposes and says the s(he) is the Manager of 4600 Enels Road LLC corporation named in the within Application/Petition, that s(he) has read the foregoing affidavit and knows the contents thereof; that the same is true of s(he) own knowledge, except as to those matters therein stated to be alleged upon information and belief, and as to those matters s(he) believes it to be true.

Applicant Signature

Subscribed to me before this day
Of July 15th, 20 22

Notary Public

KAITLYN QUESINBERRY
NOTARY PUBLIC, STATE OF NEW YORK
Registration No. 01QU6395745
Qualified in Onondaga County
Commission Expires August 5, 2023

06/29/16 LB

LEGEND

- INDICATES NEW GREENSCAPE AREA CREATED FROM REMOVAL OF EXISTING ASPHALT PAVEMENT AREA **APPROX. 48,536 SF**
- INDICATES EXISTING GREENSCAPE AREA TO REMAIN
- INDICATES AREA OF NEW LANDSCAPING AREAS
- INDICATES AREA OF EXISTING AND NEW PAVEMENT AREAS
- INDICATES NEW CONCRETE WALKWAYS
- INDICATES EXISTING CONCRETE WALKWAYS TO REMAIN
- INDICATES EXISTING STONE GRAVEL TO REMAIN

SITE INFORMATION

		EXISTING	PROPOSED	CHANGE
LOT SIZE, MINIMUM:	40,000 SF	150,036 SF	NO CHANGE	NO CHANGE
LOT FRONTAGE, MINIMUM:	150 FT.	354.5 FT.	NO CHANGE	NO CHANGE
SETBACKS, MINIMUM:				
FRONT YARD (ROAD):	40 FT.	81.25 FT.	NO CHANGE	NO CHANGE
SIDE YARD (N):	20 FT.	136.6 FT.	NO CHANGE	NO CHANGE
SIDE YARD (S):	20 FT.	73.9 FT.	NO CHANGE	NO CHANGE
REAR YARD:	40 FT.	174.8 FT.	NO CHANGE	NO CHANGE
COVERAGE, MAXIMUM TOTAL	35%	66.7%	34.4%	-31.9%
EXISTING APPROX. IMPERVIOUS AREA		100,130 SF		
PROPOSED APPROX. IMPERVIOUS AREA		51,594 SF		

PARKING REQUIREMENTS

(2) PARKING SPACES PER EACH BEDROOM OF AN APARTMENT

(22) BEDROOMS EQUALS (44) PARKING SPACES

OFFICE AREA WILL REQUIRE (1) SPACE PER 300 SF

2,260 SF EQUALS (8) PARKING SPACES

TOTAL PARKING SPACES REQUIRED	52 PARKING SPACES
TOTAL PARKING SPACES PROVIDED	56 PARKING SPACES

1 OVERALL PROPOSED SITE PLAN

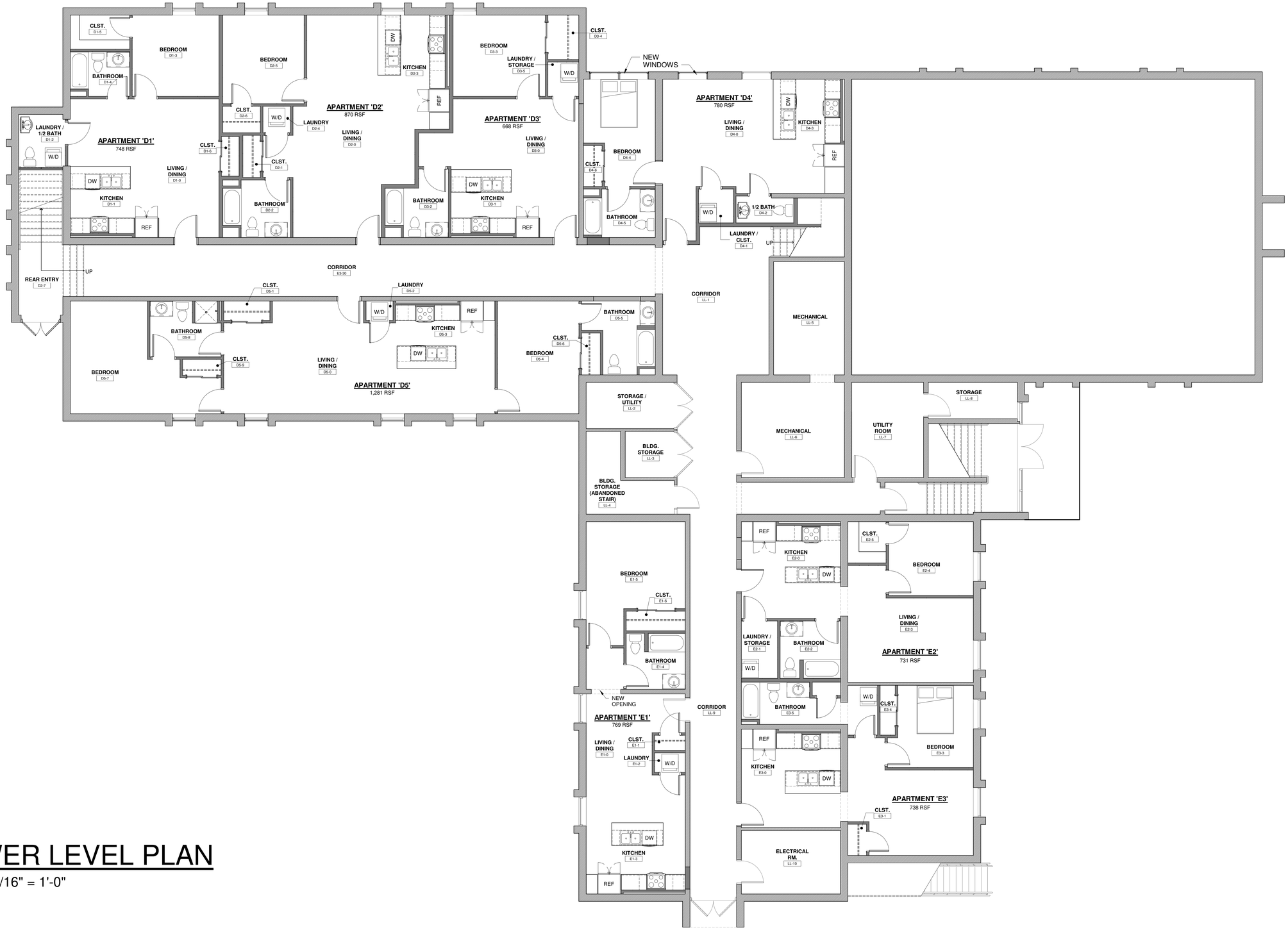
1" = 20'-0"

N

MIXED USE CONVERSION PROJECT

4600 ENDERS ROAD MANLIUS, NY 13104

CORE LEVEL ARCHITECTURE
831 JAMES STREET,
SYRACUSE, NEW YORK 13203



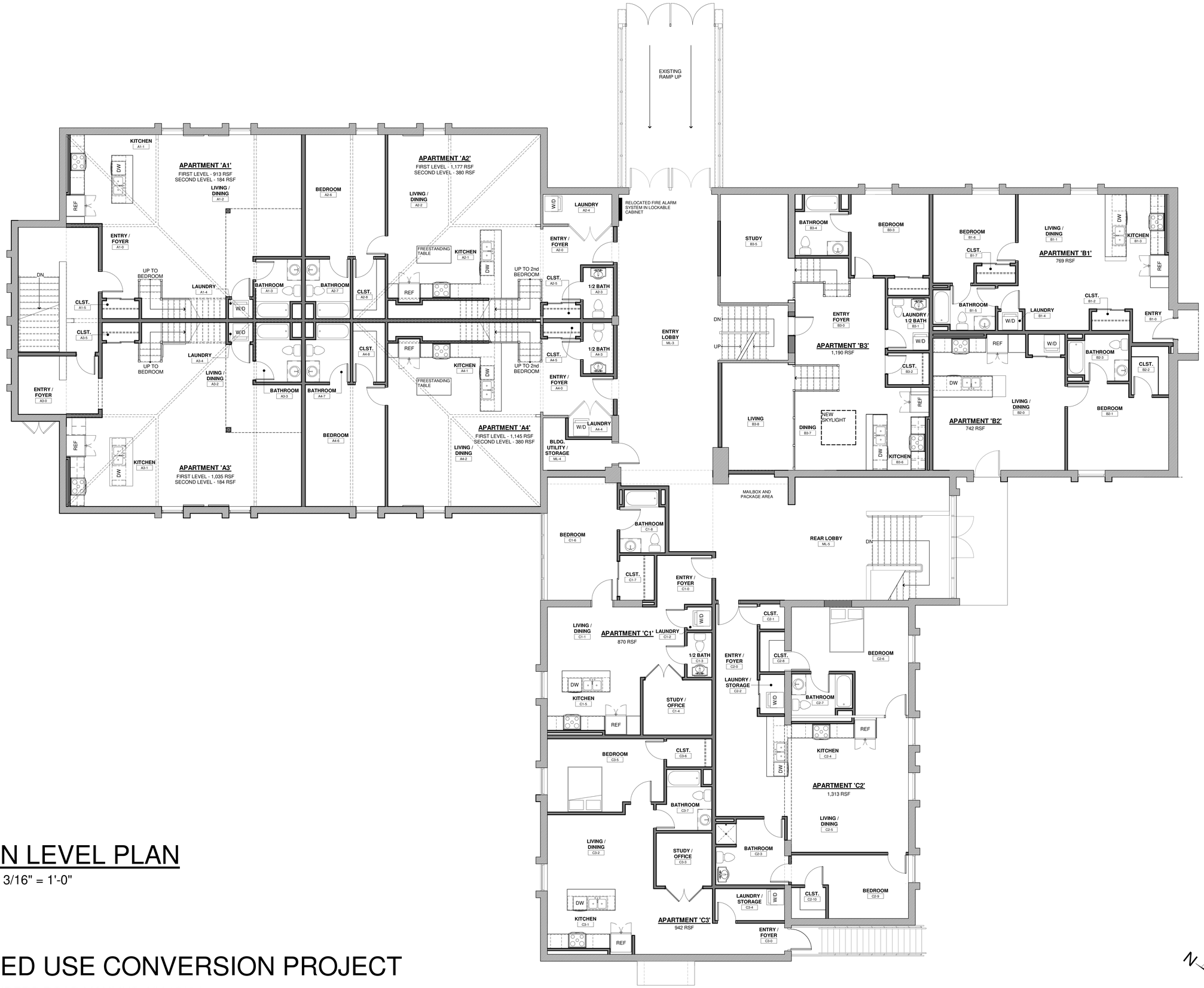
LOWER LEVEL PLAN

SCALE: 3/16" = 1'-0"

MIXED USE CONVERSION PROJECT

4600 ENDERS ROAD MANLIUS, NY 13104

CORE LEVEL ARCHITECTURE
831 JAMES STREET,
SYRACUSE, NEW YORK 13203



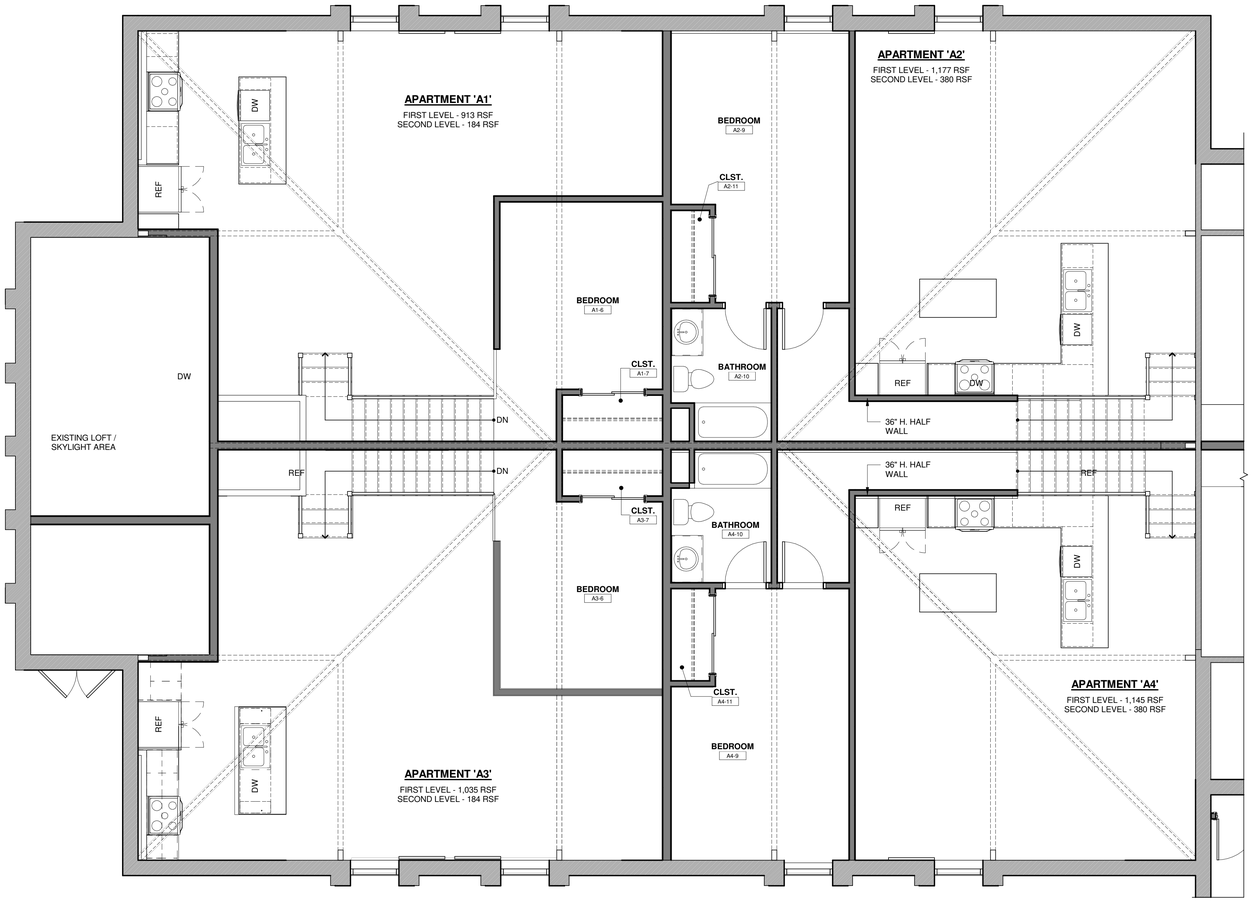
MAIN LEVEL PLAN

SCALE: 3/16" = 1'-0"

MIXED USE CONVERSION PROJECT

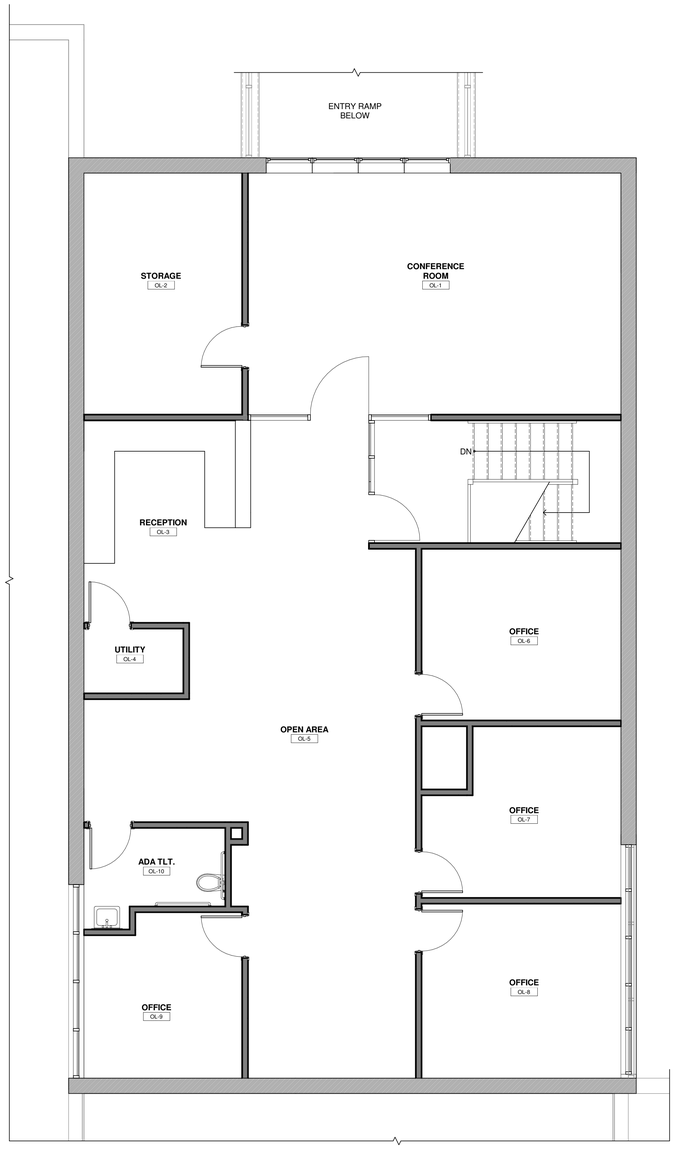
4600 ENDERS ROAD MANLIUS, NY 13104

CORE LEVEL ARCHITECTURE
831 JAMES STREET,
SYRACUSE, NEW YORK 13203



MAIN LEVEL PLAN - LOFT AREA

SCALE: 1/4" = 1'-0"



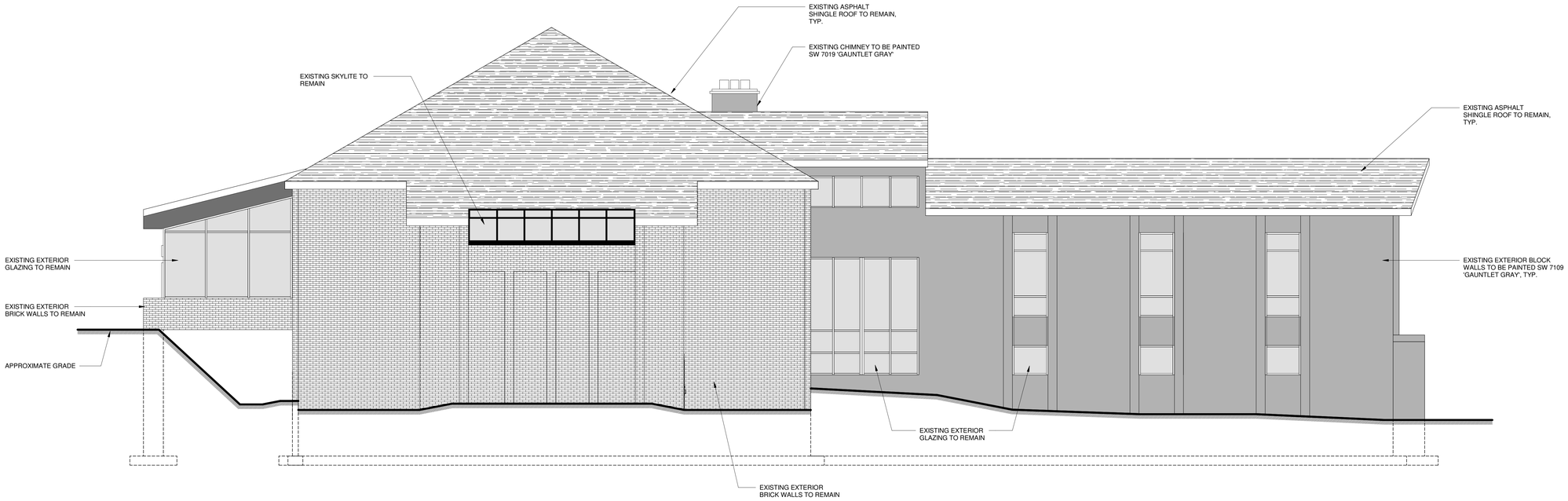
OFFICE LEVEL PLAN

SCALE: 1/4" = 1'-0"

MIXED USE CONVERSION PROJECT

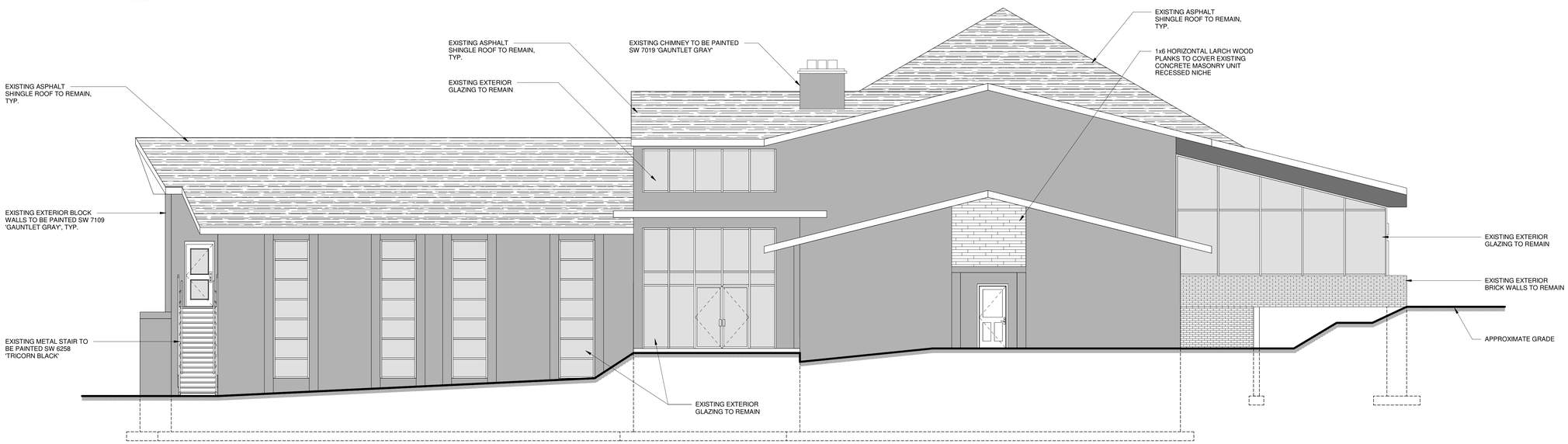
4600 ENDERS ROAD MANLIUS, NY 13104

CORE LEVEL ARCHITECTURE
831 JAMES STREET,
SYRACUSE, NEW YORK 13203



EXTERIOR ELEVATION - NORTH

SCALE: 3/16" = 1'-0"



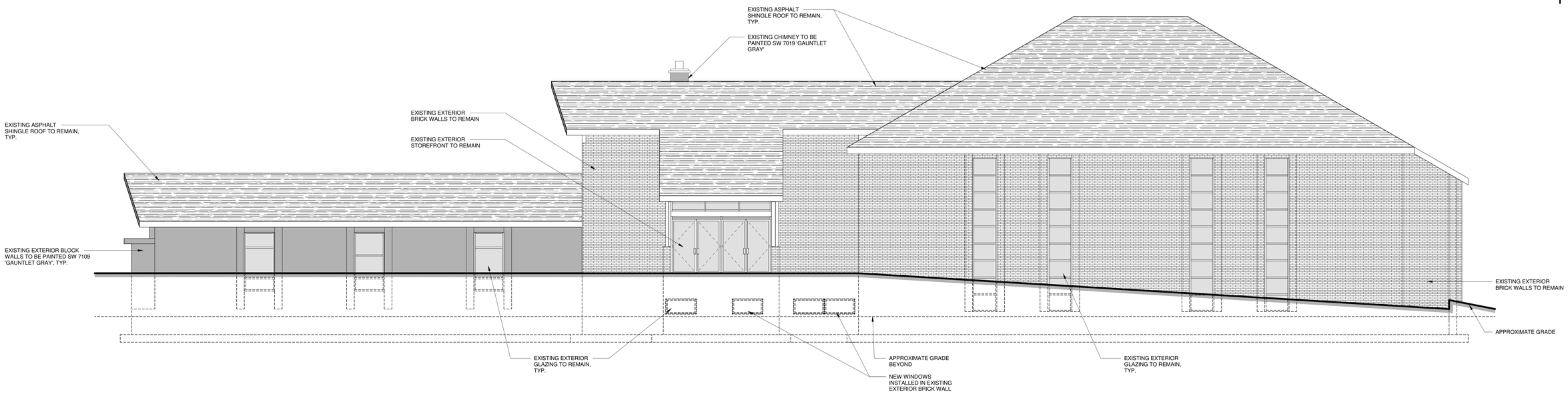
EXTERIOR ELEVATION - SOUTH

SCALE: 3/16" = 1'-0"

MIXED USE CONVERSION PROJECT

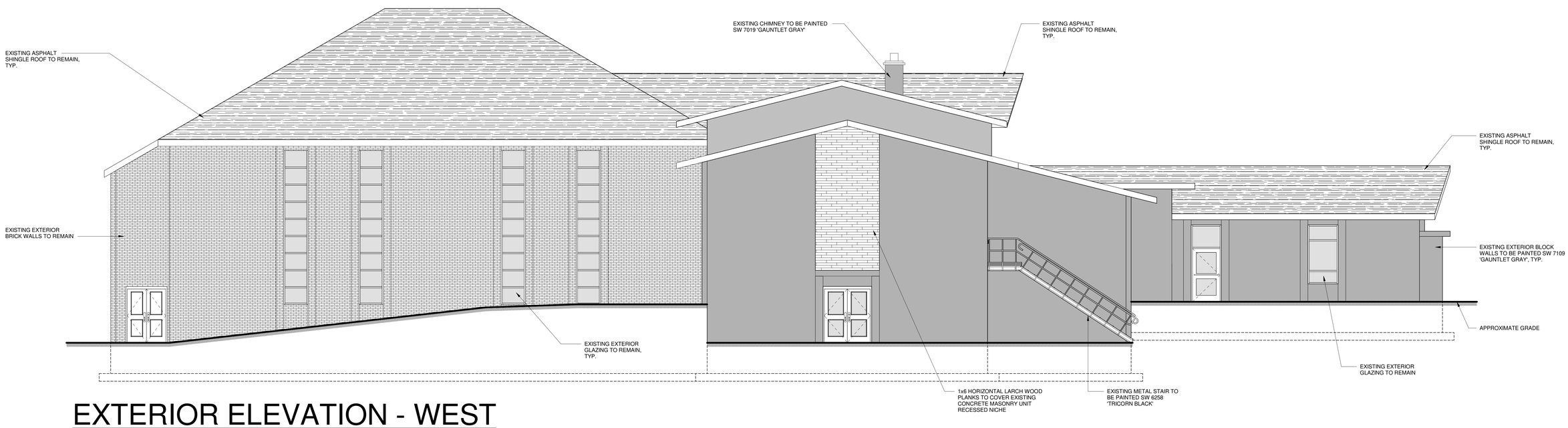
4600 ENDERS ROAD MANLIUS, NY 13104

CORE LEVEL ARCHITECTURE
831 JAMES STREET,
SYRACUSE, NEW YORK 13203



EXTERIOR ELEVATION - EAST

SCALE: 3/16" = 1'-0"



EXTERIOR ELEVATION - WEST

SCALE: 3/16" = 1'-0"

MIXED USE CONVERSION PROJECT

4600 ENDERS ROAD MANLIUS, NY 13104

CORE LEVEL ARCHITECTURE
831 JAMES STREET,
SYRACUSE, NEW YORK 13203

Enders Road

4600 Enders Road
Town of Manlius
Onondaga County, NY

RZE# 23012

SWPPP

Prepared for:
The Icon Companies of Syracuse LLC
Zazzara Garzino
344 S. Warren St.
Suite 202
Syracuse NY 13202

RZ Engineering, PLLC

STORMWATER SANITARY WATER ENVIRONMENTAL TRANSPORTATION

6320 FLY ROAD SUITE 109
EAST SYRACUSE, NY 13057
PH (315) 432-1089
FAX (315) 445-7981

Table of Contents

1.0 – Summary
2.0 – Objective
3.0 – Existing Site Conditions
4.0 – Proposed Site Use and Improvements
5.0 – Runoff Computations
6.0 – Stormwater Mitigation and BMP's
6.1 –Floodplain Offset Mitigation
7.0 – Stormwater Drainage Facilities
8.0 – Stormwater Quality Volume
9.0 – Phosphorous Removal
10.0 – Soil Restoration Practices
11.0 – Possible Contaminants from Construction Activities
12.0 – Erosion Control Measures

Figure 1 – Topographic Map – USGS
Figure 2 – Aerial Map – Google Earth
Figure 3 – Site Soils Map – Web Soil Survey
Figure 4 – Pre-Development Watershed Map
Figure 5 – Post-Development Watershed Map
Figure 6 – NYSDEC Stormwater Map
Figure 7 – Hydrocadd Analysis Diagram
Figure 8 – SHPO Map
Figure 9 – NYSDEC Wetlands and Endangered Species Map
Figure 10 – Federal Wetlands Map
Figure 11 – National Flood Insurance Program (NFIP) FIRM

Appendix A – Site Soils Information
Appendix B – Site Rainfall Data
Appendix C – Pre-Development Watershed Peak Flows
Appendix D – Post-Development Watershed Peak Flows
Appendix E – Stormwater BMP Calculations (Omitted)
Appendix F – Stormwater Drainage Facilities Calculations
Appendix G – Water Quality and Channel Protection Volume Calculations (Omitted)
Appendix H – Notice of Intent, Notice of Termination and Stormwater Inspection Forms
Appendix I – Erosion Control Measures
Appendix J – SPDES General Permit
Appendix K – Stormwater BMP Design Intent, Inspection Forms and Maintenance Forms
Appendix L – RRv Calculations (Omitted)

1.0 – SUMMARY

The Icon Companies of Syracuse, LLC proposes to redevelop an existing 3.44 ± acre parcel located at 4600 Ender Road, in the Town of Manlius, Onondaga County, NY. Currently existing on the parcel is 99,012 ± sf of asphalt parking, and existing buildings all of which is proposed for removal. Proposal for development will include removal of existing parking area to replace with grass areas. Proposed development will result in an overall impervious coverage decrease within the watershed limits of 45%. The disturbed area of the site is 4.75± acres. An aerial photo and USGS Topographic Map have been provided in the report, see Figures 1 and 2.

2.0 – OBJECTIVE

The purpose of this Report is to describe the additional stormwater management and erosion control measures for the site and the rationale for their use. This Report has been prepared in accordance with the United States Department of Agriculture (USDA) - Soil Conservation Service (SCS) "NYS Standards and Specifications for Erosion and Sediment Control," the New York State Department of Environmental Conservation (NYSDEC) "NYS Stormwater Management Design Manual," and the NYSDEC "SPDES General Permit for Stormwater Discharges from Construction Activities."

This report will provide a narrative description of the proposed site improvements including stormwater management structures and erosion control methods to be temporarily or permanently employed at the site.

A copy of this SWPPP shall be maintained on site by the owner/contractor for the duration of the construction process.

3.0 – EXISTING SITE CONDITIONS

Existing Site Use

The Icon Companies of Syracuse, LLC proposes to redevelop an existing parcel located at 4600 Enders Road in the Village of Manlius, Onondaga County, NY. Currently existing on the parcel is 99,012 ± sf of asphalt parking, and existing buildings all of which is proposed for removal. There are two existing entrances from Enders Road.

The location of the site in relation to major roads and other points of reference are presented in Figures 1-3 along with an aerial photo of the site, general environmental mapping, and general vicinity.

For the purpose of analysis, one watershed was delineated in the existing condition. Water within EXDA-1 generally flows west to Limestone Creek. Figure 4 has been provided to show the drainage area and time of concentration for the existing site area. All stormwater runoff eventually discharges to Limestone Creek.

According to soil information provided by the National Cooperative Soil Survey, the site consists of Cazenovia silt loam – HSG Type C, and Wassaic silt loam – HSG Type C. The existing land-surface cover descriptions and totals for this site within the site watershed are described as follows:

- Impervious Areas – 2.273± ac
- Grass Cover, Good, HSG Type C – 1.171± ac

4.0 – PROPOSED SITE USE AND IMPROVEMENTS

Proposed Site Use

For purposes of analysis, the site disturbed area watersheds were analyzed under pre- and post-conditions to determine peak runoff conditions associated with the design of the stormwater control facilities. The post-development watersheds maintained similar acreage to the pre-development watershed. Further discussion of the analysis is discussed in the next few report sections.

Site Improvements

The proposed grading and drainage plan for the site is designed to maintain the existing site drainage ways. Stormwater runoff from site improvements will flow via sheet flow, shallow concentrated flow and channel flow to eventually discharge to Nine Mile Creek.

As stated in Section 1.0, the proposed development will remove a significant amount of the existing impervious pavement. The proposed surface coverages for post-development conditions are provided below:

- Impervious Areas (Paved parking, Bldg, etc.) – 1.259± ac
- Grass Cover, Good, HSG Type C – 2.185± ac

5.0 – STORMWATER RUNOFF COMPUTATIONS

This section of the Report outlines the results of a stormwater runoff analysis that was conducted for the proposed site. The analysis includes a comparison of pre-development hydrologic conditions with those of the post-development conditions. This analysis is based on the site watershed's total area under both Pre- and Post-Development Conditions.

HydroCAD Version 10.00 was utilized in this Report for estimating runoff and peak discharges from the site disturbed area watershed. This computerized model was developed by the USDA-SCS to determine runoff volumes and peak rates of discharge, and takes into account watershed area, rainfall frequency, runoff coefficients characterizing land surfaces, flow duration or time of concentration, and average watershed slopes. Pre- and post-development calculations were generated for a 1, 2, 5,

10, 25, 50 and 100-year frequency, 24-hour storm event. Exhibits outlining stormwater runoff information referenced from the New York Standards and Specifications for Erosion and Sediment Control are presented in Appendix I.

The SCS has developed curve numbers characterizing land surfaces for urban areas and agricultural lands, which were utilized in the computer modeling of this site.

The time of concentration (t_c) value is utilized in the modeling of stormwater runoff for a site. Time of concentration is the duration that it takes for runoff to travel from the hydraulically most distant point of the watershed to a point of interest (outfall) within the watershed. It is also the sum of the travel time from the various consecutive flow segments along the flow path of the watershed to the outfall. The time of concentration is dependent on the velocity of the runoff, and is a function of the surface roughness, slope of the surface, and flow segment length.

Pre-Development Analysis

For purposes of analysis, the disturbed site watershed was analyzed to determine the existing site peak runoff rate to the downstream discharge point. This peak runoff rate at the downstream discharge point was used as the limiting factor when comparing the post-development rates from the site.

The computer modeling results of the pre-development site conditions for a 1, 2, 5, 10, 25, 50 and 100-year, 24-hour storm event indicates that the following peak runoff rates in cubic feet per second (cfs) are anticipated to discharge from the pre-site condition drainage area. Calculations are presented in Appendix C.

Pre-Development Site Watershed

Drainage Area (I.D.)	Area (Acres)	1 Year 24-hr Storm Peak Flow (cfs)	1 Year 24-hr Storm Peak Flow (cfs)	1 Year 24-hr Storm Peak Flow (cfs)	10 Year 24-hr Storm Peak Flow (cfs)	25 Year 24-hr Storm Peak Flow (cfs)	50 Year 24-hr Storm Peak Flow (cfs)	100 Year 24-hr Storm Peak Flow (cfs)
EXDA-1	3.444	4.56	5.70	7.62	9.39	12.23	14.77	17.76

Post-Development Analysis

For purposes of analysis, the proposed site construction limits were analyzed under pre- and post-conditions to determine peak runoff conditions associated with the design of the stormwater control facilities. The computer modeling results of the post-development site conditions for a 1, 2, 5, 10, 25, 50 and 100-year 24-hour storm event indicates that the following peak runoff rates are anticipated to discharge from the post-site condition drainage area. Calculations are presented in Appendix D.

Proposed post-development measures for the site have been outlined in Section 4.0. Stormwater measures for the site will utilize the redevelopment plan found in section 9.2.1.B.I of the NYS Stormwater Design Manual. This plan proposes a reduction of a minimum of 25% of the total disturbed impervious area. Given the site's existing total impervious cover of 99,012 sf, a 25% reduction in would yield a required post-development impervious coverage of 74,259 sf. Planned development for the site proposes an impervious coverage in post-development conditions of 54,842 ± sf. This value achieves a 45±% reduction in impervious cover, exceeding the 25% minimum requirement.

Post-Development Site Watershed

Drainage Area (I.D.)	Area (Acres)	1 Year 24-hr Storm Peak Flow (cfs)	1 Year 24-hr Storm Peak Flow (cfs)	1 Year 24-hr Storm Peak Flow (cfs)	10 Year 24-hr Storm Peak Flow (cfs)	25 Year 24-hr Storm Peak Flow (cfs)	50 Year 24-hr Storm Peak Flow (cfs)	100 Year 24-hr Storm Peak Flow (cfs)
PRDA-1	3.444	2.97	3.99	5.80	7.25	10.37	12.98	16.10

Comparison of Pre- and Post-Development Runoff

The peak flow conditions for the pre- and post-development watershed areas of the project site are summarized in the table below:

Pre-Development Watershed vs. Post-Development Watershed (Pre-Routing)

Drainage Area	Drainage Area (ac)		1 Year 24-hr Storm Peak Flow (cfs)		2 Year 24-hr Storm Peak Flow (cfs)		5 Year 24-hr Storm Peak Flow (cfs)		10 Year 24-hr Storm Peak Flow (cfs)		25 Year 24-hr Storm Peak Flow (cfs)		50 Year 24-hr Storm Peak Flow (cfs)		100 Year 24-hr Storm Peak Flow (cfs)	
	Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post
(I.D.)	Site	Site	Site	Site	Site	Site	Site	Site	Site	Site	Site	Site	Site	Site	Site	Site
DA-1	3.44	3.44	4.56	2.97	5.70	3.99	7.62	5.80	9.39	7.25	12.23	10.37	14.77	12.98	17.76	16.10

The above table reflects a 35%-10% decrease in peak runoff conditions for the site watershed. Decrease in impervious areas also allows for more opportunities for infiltration on the site. Due to the 45 ±% impervious coverage reduction, there are no proposed storm water mitigation measures required onsite for quantity or quality control according to current NYSDEC Standards within the NYS Stormwater Design Manual in accordance with Section 9.2.B.I of the NYS Stormwater Design Manual.

6.0 – STORMWATER MITIGATION AND BMP'S

Due to impervious cover on the site being reduced by 45 ±% in the post development, quality and quantity criteria for the site are achieved. Therefore, there are no proposed

storm water mitigation measures required on the site for quantity or quality control according to current NYSDEC Standards within Section 9.2.1.B.I of the NYS Stormwater Design Manual.

7.0 – PROPOSED STORMWATER DRAINAGE FACILITIES

Typically, all on site drainage facilities are designed to transmit flows from the 10-year storm event to downstream stormwater Best Management Practices. These calculations can be provided upon request.

8.0 – STORMWATER QUALITY VOLUME

Typically, the water quality volume (denoted as WQV) is designed to improve water quality, sized to capture and treat 90% of the average annual stormwater runoff volume.

It is assumed that by meeting the WQV requirements through the employment of practices outlined in table 5.1 of the "New York State Stormwater Management Design Manual", a project will meet water quality objectives by default. Due to the reduction in overall runoff when comparing pre and post development watershed for the site and providing more than 25% impervious coverage reduction, there are no proposed storm water mitigation measures needed on the site for quantity or quality control according to current NYSDEC Standards within Section 9.2.1.B.I the NYS Stormwater Design Manual.

9.0 – PHOSPHORUS REMOVAL

Chapter 10 of the NYS Stormwater Design Manual outlines the requirements for treatment of phosphorus in stormwater. Enhanced Phosphorus Removal requires calculation of the 1 year, 24-hour design storm in the post development watershed. The site is not located in a TMDL Phosphorous watershed and therefore, no additional phosphorus treatment volume for the 1-year storm event has been provided.

10.0 – RUNOFF REDUCTION VOLUME AND GREEN PRACTICES

As this site is a redevelopment site, runoff reduction practices are recommended but do not need to be employed. Since the site is reducing impervious cover by 45±%, the peak flow and peak volume will correspondingly decrease. These reductions will achieve the necessary runoff reduction typically required. However, to be conservative, several practices were utilized and can be seen in the table below:

Green Practices

PRACTICE	WATERSHEDS	TYPE OF REDUCTION
• Vegetated Swales	Post Development DA-1	Area reduction practice with RRv

Soil Restoration Requirements **

According to Section 5 of the NYS Stormwater Design Manual, soil restoration practices must be applied across the site in areas of soil disturbance. This is necessary to reclaim the origional properties and porosity of the soil before construction. The benefits of soil restoration include but are not limited to:

- Less stormwater runoff
- Increased porosity on redevelopment sites where impervious cover is converted to pervious
- Achieves performance standards on runoff reduction practices
- Healthier, asthetically pleasing landscapes
- Enhances direct groundwater recharge
- Promotes sucessful long term revegitation by restoring soil organic matter, permeability, drainage and water holding capacity for healthy root system development of trees, shrubs and deep-rooted ground covers, minimizing lawn chemical requirements, plant drowning during wet periods, and burnout durring dry periods

  ** taken from the NYS Stormwater Management Manual (version 2010)

Table 5.3 Soil Restoration Requirements			
Type of Soil Disturbance	**Soil Restoration Requirement**		**Comments/Examples**
No soil disturbance	Restoration not permitted		Preservation of Natural Features
Minimal soil disturbance	Restoration not required		Clearing and grubbing
Areas where topsoil is stripped only - no change in grade	HSG A &B	HSG C&D	Protect area from any ongoing construction activities.
	apply 6 inches of topsoil	Aerate* and apply 6 inches of topsoil	
Areas of cut or fill	HSG A &B	HSG C & D	
	Aerate and apply 6 inches of topsoil	Apply full Soil Restoration **	
Heavy traffic areas on site (especially in a zone 5-25 feet around buildings but not within a 5 foot perimeter around foundation walls)	Apply full Soil Restoration (de-compaction and compost enhancement)		
Areas where Runoff Reduction and/or Infiltration practices are applied	Restoration not required, but may be applied to enhance the reduction specified for appropriate practices.		Keep construction equipment from crossing these areas. To protect newly installed practice from any ongoing construction activities construct a single phase operation fence area
Redevelopment projects	Soil Restoration is required on redevelopment projects in areas where existing impervious area will be converted to pervious area.		

*Aeration includes the use of machines such as tractor-drawn implements with coulters making a narrow slit in the soil, a roller with many spikes making indentations in the soil, or prongs which function like a mini-subsoiler.
** Per "Deep Ripping and De-compaction, DEC 2008".

Many of the Runoff Reduction practices will require soil restoration measures applied in and around the practice inorder to reach the desired runoff reduction performance. Table 5.13 on page 5-22 of the NYS Stormwater Design Manual has been included below that higlights these requirements and provides guidance on when to implement soil restoration techniques. Also included is the NYS Stormwater Design Manual section on Practice implimentation, Maintenece and Inspection.

Soil Restoration Practice Implementation:

During periods of relatively low to moderate subsoil moisture, the disturbed subsoils are returned to rough grade and the following Soil Restoration steps applied:

1. Apply 3 inches of compost over subsoil
2. Till compost into subsoil to a depth of at least 12 inches using a cat-mounted ripper, tractormounted disc, or tiller, mixing, and circulating air and compost into subsoils
3. Rock-pick until uplifted stone/rock materials of four inches and larger size are cleaned off the site
4. Apply topsoil to a depth of 6 inches

Figure 5. 16 Soil aerator implement

Figure 5. 17 Soil aerator implement

5. Vegetate as required by approved plan.

Figures 5.16 and 5.17 above show two attachments used for soil decompaction. Tilling (step 2 above) should not be performed within the drip line of any existing trees or over utility installations that are within 24 inches of the surface.

Soil Restoration Inspection:

At the end of the project an inspector should be able to push a 3/8” metal bar 12 inches into the soil just with body weight.

Compost Specifications

Compost shall be aged, from plant derived materials, free of viable weed seeds, have no visible free water or dust produced when handling, pass through a half inch screen and have a pH suitable to grow desired plants.

Soil Restoration Maintenance:

A simple maintenance agreement should identify where Soil Restoration is applied, where newly restored areas are/cannot be cleared, who the responsible parties are to ensure that routine vegetation improvements are made (i.e., thinning, invasive plant removal, etc.). Soil compost amendments within a filter strip or grass channel should be located in public right of way, or within a dedicated stormwater or drainage easement.

First Year Maintenance Operations Includes:

• Initial inspections for the first six months (once after each storm greater than half- inch)
• Reseeding to repair bare or eroding areas to assure grass stabilization
• Water once every three days for first month, and then provide a half inch of water per week during first year. Irrigation plan may be adjusted according to the rain event.
• Fertilization may be needed in the fall after the first growing season to increase plant vigor

Ongoing Maintenance:

Two points help ensure lasting results of decompaction:

1. Planting the appropriate ground cover with deep roots to maintain the soil structure
2. Keeping the site free of vehicular and foot traffic or other weight loads. Consider pedestrian footpaths. (Sometimes it may be necessary to de-thatch the turf every few years)

11.0 – POSSIBLE CONTAMINANTS FROM CONSTRUCTION ACTIVITIES

During construction contaminants from materials and equipment could enter the stormwater drainage system unintentionally. The contractor should store construction materials and equipment in the designated staging area and all possible contaminants should be stored to prevent damage.

This particular project will require construction equipment such as a backhoe, drum roller, dump trucks, a grader, and bull dozer. These vehicles use oil and petroleum products which if not treated carefully could enter the storm drainage system. Accidental spills should be reported to the Department of Environmental Conservation 24-hour spill response hotline at 1-800-457-7362. On site fueling of construction equipment shall be limited to a bermed/diked area located within the project staging area. The table below provides a guide for quantities that should be reported. Should a spill incident occur, the employee or party responsible for the spill should contain the spill, start cleanup and report the spill to his/ her superiors. The spill should be reported to the appropriate governing agency should the spill exceed the reportable quantity or enter surface waters.

Examples of Reportable Quantities		
Material	*Media Released To*	*Reportable Quantity*
Engine oil, fuel, hydraulic and brake fluid	Land Water	25 gallons Visible Sheen
Antifreeze	Land	100 lbs. (13 gal.)
Battery Acid	Land, Water	100 lbs.
Refrigerant	Air	1 lb.
Gasoline	Air, Land, Water	100 lbs.
Engine Degreasers	Air, Land, Water	100 lbs.

All construction waste material such as housing materials and utility installation materials shall be disposed of as required by law.

Wastewater from concrete washout areas is prohibited from discharging directly to any site areas not managed by an appropriate stormwater control measure. Also prohibited are washouts from stucco, paint, form release oils, curing compounds, and other construction materials. Soaps, solvents, fuels, oils, or other pollutants used in vehicle operations or maintenance shall also be controlled by an appropriate stormwater control measure. Staging areas are designated on the plans for storage of equipment and vehicles. Locations subject to the above contaminants outside the staging area shall require additional measures and should be reviewed with the SWPPP inspector and MS4 representative prior to commencement of activities that may result in contamination.

12.0 – EROSION CONTROL MEASURES

Structural erosion and sediment control measures are classified as either temporary or permanent, according to how they are used. Temporary structural measures shall be used during construction of the site to prevent off-site sedimentation. Permanent structural measures shall be utilized following construction and shall be implemented to convey surface water safely to the existing drainage ways present in the pre-development condition. The permanent structural measures shall remain in-place and continue to function after the completion of construction. General construction notes and maintenance plan for implementing the temporary and permanent stormwater and erosion control structures during and after construction have been developed for the project.

Erosion control measures shall be inspected twice weekly by a Licensed Professional Engineer or Erosion Control Specialist until the site is completely stabilized. Inspections and maintenance of erosion control structures shall be in accordance with the NYS Pollution Discharge Elimination System for Construction Activities GP-0-20-001 (SPDES) program. The owner should file a Notice of Intent (NOI) with the NYS DEC prior to commencement of further construction activities. The NOI should be sent to:

Temporary Structural Measures

This subsection will describe the specific temporary control measures to be implemented to reduce and/or eliminate erosion and sedimentation during the construction phase of this project. Example details of the following erosion control measures are presented in Appendix I. As construction progresses more site areas may be opened after already constructed areas are permanently stabilized in accordance with the New York State Standards and Specifications for Erosion and Sediment Control.

Silt Fence

A temporary barrier of geotextile fabric (filter cloth) fence shall be used to intercept sediment-laden runoff along the borders of disturbed site areas during construction. A geotextile fabric fence shall also be placed around all permanent stormwater drainage structures, in the absence of straw bale dikes, (catch basins and manholes) to intercept sediment and protect the structure during construction. The geotextile filter fabric fence requires periodic maintenance and should be checked for tears or clogging with silt or debris. Silt can be removed from the woven filter cloth with a stiff brush if clogging occurs.

Stabilized Construction Entrance

A stabilized pad of aggregate underlain with filter cloth shall be positioned at points where traffic will be entering or leaving the construction site area onto public roads. This measure will reduce the tracking of soils onto public roads or streets.

Dust Control

Construction activities should be scheduled to minimize the amount of disturbed area at a single time. If vegetated areas can be left intact to serve as a buffer zone these areas should be maintained where practical. During dry conditions, open soil areas may require hosing down with water to prevent excessive dust. Spray adhesives may be utilized as outlined in the NYS Standards and Specifications for Erosion and Sediment Control. Fences or vegetation may be required to minimize dust pollution to adjacent properties and should be incorporated into the site erosion control plan as required.

Drop Inlet Protection (if required)

A temporary, somewhat permeable barrier shall be installed around inlets in the form of a fence, berm, or excavation around an opening, trapping water and to prevent heavily sediment laden water from entering a storm drain system through inlets. The barrier

should be inspected after each rain event and repairs shall be made as necessary. Upon stabilization of the drainage area, remove all materials and unstable sediment and dispose of properly. Bring the area around the drop inlet to grade, smooth and compact and stabilize in the appropriate manner to the site.

Maintenance of Temporary and Permanent Control Structures

Temporary and Permanent Stormwater Facilities during Construction

Temporary stormwater and erosion control structures must be constructed in accordance with their design intent and maintained to prevent sediment-laden runoff from leaving the site during construction. In general, the temporary structures during construction should be inspected on a routine basis and maintained as follows:

- Temporary silt fences, straw bale dikes, and sediment interceptors shall be installed prior to earth disturbance to reduce runoff velocity and transportation of sediment. The stabilization structures shall be inspected weekly and after every rainfall; and the structures cleaned, repaired, or replaced as required. Temporary stabilization structures shall be removed when their contributory drainage area is stabilized.

- All permanent drainage structures, installed as part of the site improvements, shall be inspected weekly and after every rainfall to ensure structural integrity, detect vandalism and damage, and for cleaning. Permanent drainage structures shall be repaired or replaced, as required.

- All disturbed soil areas, upon final grading of topsoil, shall be seeded, and mulched. All seeded areas shall be inspected monthly and after every rainfall and the areas repaired and re-seeded, as required.

- Stabilized construction entrance shall be installed to control erosion at location where traffic will be entering or leaving the construction area. The temporary construction entrance shall be inspected periodically and after each rainfall; and the entrance cleaned, repaired, or replaced, as required. The temporary construction entrance shall be removed when construction is completed and all disturbed areas are stabilized.

Permanent Stormwater Facilities after Construction

Permanent stormwater control structures must be constructed in accordance with their design intent and maintained on a routine basis to remain effective. This site has employed stormwater management facilities. Prior to submission of the Notice of Termination to NYSDEC the contractor shall provide as built drawings of all stormwater best management practices and facilities to allow verification of construction in compliance with this SWPPP and the contract drawings. **It is the responsibility of the**

owner to maintain these facilities as required by the NYS Stormwater Design Manual. Maintenance requirements and design information is included in Appendix K of this report.

In general, the structures after construction should be inspected periodically and maintained as follows:

- Permanent stormwater drainage structures shall be inspected semi-annually and after every 0.5 inches of rainfall to ensure structural integrity, detect vandalism and damage, and for cleaning. The structures shall be repaired or replaced, as required.

- Permanent lawns and grassed areas shall be inspected and maintained on a regular basis, consistent with favorable plant growth, soil, and climatic conditions to insure soil protection and structural integrity of the site's plant cover. Maintenance involves regular seasonal work for mowing, fertilizing, liming, watering, pruning, fire controls, weed, and pest control, re-seeding, and timely repairs, as required. Maintenance of vegetative areas shall also include removal of debris and protection from unintended uses or traffic.

- **Stormwater Best Management Practices used on this site; their design intents and inspection and maintenance punch list forms have been included in Appendix K.**

Site Stabilization

The Owner/Contractor shall initiate stabilization measures as soon as practicable in a portion of the site where construction activities have temporarily or permanently ceased, but in no case more than 7 days after the construction activity in that portion of the site has temporarily or permanently ceased. This requirement does not apply in the following instances:

a. Where the initiation of stabilization measures by the 7th day after construction activity temporarily or permanently ceased is precluded by snow cover or frozen ground conditions, stabilization measures shall be initiated as soon as possible;
b. Where disturbed area is 5 acres or more, stabilization measures must be employed no more than 7 days after construction activities have temporarily or permanently ceased.

Site Assessment and Inspection

Initial Inspection

The Owner shall have a qualified professional conduct an assessment of the site prior to the commencement of construction. The qualified professional shall certify that the

appropriate erosion and sediment controls described in this SWPPP and required by the permit have been adequately installed or implemented to ensure overall preparedness of the site for commencement of construction. The “qualified professional” shall meet the requirements of the SPDES General Permit for Stormwater Runoff from Construction Activity, GP-0-20-001.

Post Construction Inspection

The Owner shall have a qualified professional conduct an assessment of the site after construction is complete. The qualified professional shall be a Licensed Professional Engineer or possess the appropriate certifications for inspection. The qualified professional shall certify that the appropriate erosion and sediment controls and stormwater BMPs described in this SWPPP and required by the permit have been adequately installed or implemented to ensure overall preparedness of the site for commencement of construction. The “qualified professional” shall meet the requirements of the SPDES General Permit for Stormwater Runoff from Construction Activity, GP-0-20-001. If the site is located in an area governed by a traditional MS4, the MS4 must also make a final inspection and sign the Notice of Termination.

In addition, the owner must ensure that a properly qualified inspector is performing inspections of post construction stormwater practices as outlined in the NYS Stormwater Design Manual. The owner shall ensure that a binding maintenance agreement is in place for inspection and maintenance of all stormwater practices and ensure that the inspection and maintenance is performed by a qualified professional. The owner must then identify the responsible party for these inspections and maintenance on the Notice of Termination.

As-Builts

Prior to Submission of the Notice of Termination by a Licensed Professional Engineer and upon completion of the site, a surveyor or appropriate inspector shall be required to produce an AutoCAD or paper as-built map to the design engineer for verification that stormwater items and BMPs were installed as per the approved plans. Topographic as-builts of all overland drainage facilities shall be prepared and submitted to the Engineer for review and approval prior to the execution of the Notice of Termination.

Stormwater BMP Inspection and maintenance punch list forms are provided behind the appropriate design intent page in Appendix K.

Inspections and Records During Construction

Inspection Frequency

After commencement of construction, site inspections shall be conducted by the qualified professional once per week as this site is not in a TMDL watershed. Two consecutive working days shall be given between site inspections per week. Prior to filing a Notice of Termination (NOT) or at the end of the permit term, the owner shall have the qualified professional perform a final site inspection.

Records During Inspection

A site map shall be maintained on site indicating the extent of all disturbed onsite areas and drainageways throughout the duration of construction. The site map shall contain all areas expected to undergo initial disturbance or significant site work within every 7-day period. The map shall indicate all areas of the site that have undergone temporary or permanent stabilization. All disturbed areas that have not undergone active site work during the previous 7-day inspection period shall be noted on the map. All sediment control measures shall be inspected and the degree of accumulation as a percentage of the sediment storage volume shall be recorded. Inspector must describe and inspect all points of discharge to natural surface water bodies located within, or immediately adjacent to property boundaries. Photographic record of inspections and any deficiencies shall be included in the inspection reports and photos of corrective action must be recorded upon compliance. Any maintenance required for installed erosion and sediment control structures shall be noted, and documentation of areas where adjustments are needed to those measures shall be provided. Any deficiencies identified with the implementation of the SWPPP shall be recorded. Erosion control measures shall be inspected weekly by a Licensed Professional Engineer or Erosion Control Specialist until the site is completely stabilized. Inspections and maintenance of erosion control structures shall be in accordance with the NYS Pollution Discharge Elimination System for Construction Activities GP-0-20-001 (SPDES) program. These inspection reports should be in compliance with the requirements set forth under part IV.C-4 of the general permit. A copy of the general permit is included in Appendix J.

Inspection Log Book

The Owner/ contractor shall maintain an inspection logbook which shall contain a record of all inspection reports. The site logbook shall be maintained **on site** and shall be made available to the permitting authority upon request. The Owner shall post at the site, in a publicly accessible location, a summary of the site inspection activities on a monthly basis.

Certifications

At the final site inspection, the qualified professional shall certify that the site has undergone final stabilization using either vegetative or structural stabilization methods, and that all temporary erosion and sedimentation measures have been removed. Final certification requires completion of the Notice of Termination form. The Notice of Termination shall be signed by the qualified professional. The owner shall provide the qualified professional with **as built drawings in AutoCAD** format so that the qualified professional can verify that all stormwater practices have been installed in accordance with the approved plans, SWPPP and the General Permit. The owner shall certify that the requirements of the permit have been satisfied within 48 hours of actually meeting such requirements and sign the Notice of Termination.

RELIANCE

Engineer's Certification

The undersigned agrees that this SWPPP has been prepared in accordance with all applicable standards outlined in this report. The undersigned understands that the owner intends to use this SWPPP to support his application for a New York State Pollutant Discharge Elimination System (SPDES) General Permit for Stormwater Runoff from Construction Activity, GP-0-20-001.

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that false statements made herein are punishable as a class A misdemeanor pursuant to Section 210.45 of the Penal Law."

Prepared By: _____ Date: _____

Cooper Koehl
RZ Engineering, PLLC
6320 Fly Road, Suite 109
East Syracuse, NY 13057
(315) 432.1089

Reviewed By: _____ Date: _____

Rudy L. Zona, P.E.
RZ Engineering, PLLC
6320 Fly Road, Suite 109
East Syracuse, NY 13057
(315) 432.1089

Owner's Certification

"I hereby certify under penalty of law that I understand and agree to comply with the terms and conditions of the SWPPP and agree to implement any corrective actions identified by the qualified inspector during a site inspection. I also understand that the owner or operator must comply with the terms and conditions of the most current version of the New York State Pollutant Discharge Elimination System ("SPDES") general permit for stormwater discharges from construction activities and that it is unlawful for any person to cause or contribute to a violation of water quality standards. Furthermore, I am aware that there are significant penalties for submitting false information, that I do not believe to be true, including the possibility of fine and imprisonment for knowing violations."

Owner: _____

Owner's Representative: _____ Date: _____

Title: _____

The owner or operator shall have each of the contractors and subcontractors identified on the following pages sign a copy of the following certification statement below before they commence any construction activity:

"I hereby certify under penalty of law that I understand and agree to comply with the terms and conditions of the SWPPP and agree to implement any corrective actions identified by the qualified inspector during a site inspection. I also understand that the owner or operator must comply with the terms and conditions of the most current version of the New York State Pollutant Discharge Elimination System ("SPDES") general permit for stormwater discharges from construction activities and that it is unlawful for any person to cause or contribute to a violation of water quality standards. Furthermore, I am aware that there are significant penalties for submitting false information, that I do not believe to be true, including the possibility of fine and imprisonment for knowing violations"

In addition to providing the certification statement above, the certification page must also identify the specific elements of the SWPPP that each contractor and subcontractor will be responsible for and include the name and title of the person providing the signature; the name and title of the *trained contractor* responsible for SWPPP implementation; the name, address and telephone number of the contracting firm; the address (or other identifying description) of the site; and the date the certification statement is signed. The *owner or operator* shall attach the certification statement(s) to the copy of the SWPPP that is maintained at the construction site. If new or additional contractors are hired to implement measures identified in the SWPPP after construction has commenced, they must also sign the certification statement and provide the information listed above.

Contractor's / Sub-Contractor's Certification

Contractor's/Sub-Contractor's Certification "I hereby certify that I understand and agree to comply with the terms and conditions of the SWPPP and agree to implement any corrective actions identified by the qualified inspector during a site inspection. I also understand that the owner or operator must comply with the terms and conditions of the New York State Pollution Discharge Elimination System (SPDES) general permit for stormwater discharges from construction activities and that it is unlawful for any person to cause or contribute to a violation of water quality standards. Furthermore, I understand that certifying false, incorrect or inaccurate information is a violation of the referenced permit and the laws of State of New York and could subject me to criminal, civil and/or administrative proceedings."

Contractor: _____

Contractor's Representative: _____ Date: _____

Title: _____

Signature: _____ Date:_____

Contractor's "trained Date: _: _____
(Must have DEC 4 hr. training, responsible for the daily implementation of SWPPP)
Contractor is responsible for SWPPP components identified:

SWPPP Inspections _____
_____
_____

Address: _____

_____

Phone: _____

Fax: _____

Sub-Contractor: _____

Sub-Contractor's Representative: _____ Date: _____

Title: _____

Signature: _____ Date:_____

Sub-Contractor's "trained Date: _: _____
(Must have DEC 4 hr. training, responsible for the daily implementation of SWPPP)
Sub-Contractor is responsible for SWPPP components identified:

_____
_____
_____

Address: _____

_____

Phone: _____

Fax: _____

Sub-Contractor: _____

Sub-Contractor's Representative: _____ Date: _____

Title: _____

Signature: _____ Date:_____

Sub-Contractor's "trained: _____
(Must have DEC 4 hr. training, responsible for the daily implementation of SWPPP)
Sub-Contractor is responsible for SWPPP components identified:

_____
_____
_____

Address: _____

_____

Phone: _____

Fax: _____

Sub-Contractor: _____

Sub-Contractor's Representative: _____ Date: _____

Title: _____

Signature: _____ Date:_____

Sub-Contractor's "trained: _____
(Must have DEC 4 hr. training, responsible for the daily implementation of SWPPP)
Sub-Contractor is responsible for SWPPP components identified:
_____
_____
_____
Address: _____

_____

Phone: _____

Fax: _____

Sub-Contractor: _____

Sub-Contractor's Representative: _____ Date: _____

Title: _____

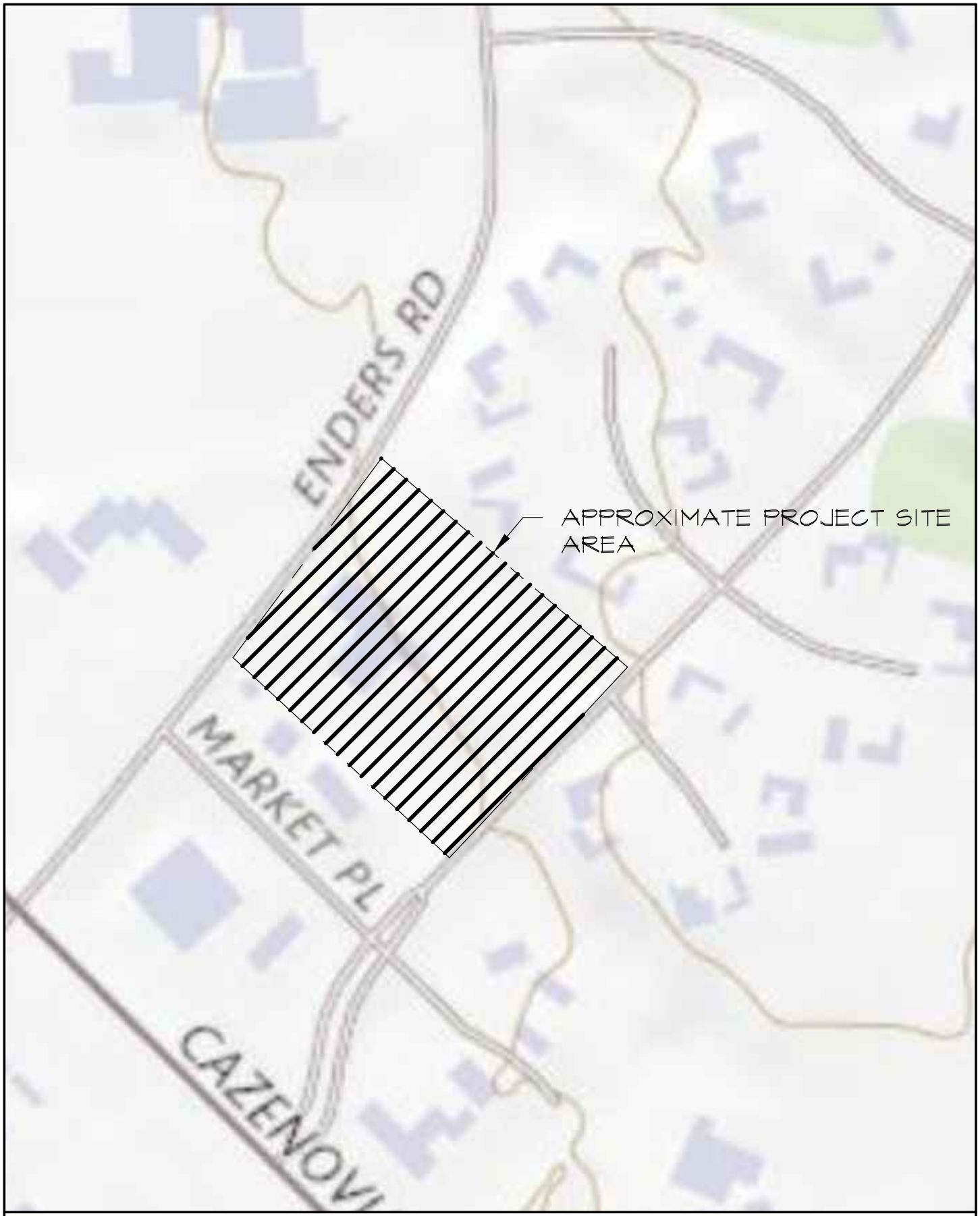
Signature: _____ Date:_____

Sub-Contractor's "trained: _____
(Must have DEC 4 hr. training, responsible for the daily implementation of SWPPP)
Sub-Contractor is responsible for SWPPP components identified:
_____
_____
_____
Address: _____

_____

Phone: _____

Fax: _____



RZ Engineering, PLLC

STORMWATER SANITARY WATER ENVIRONMENTAL TRANSPORTATION

6320 FLY ROAD SUITE 109
EAST SYRACUSE, NY 13057
PH (315) 432-1089
FAX (315) 445-7981

N

ENDERS ROAD
USGS MAP
SCALE 1:1000

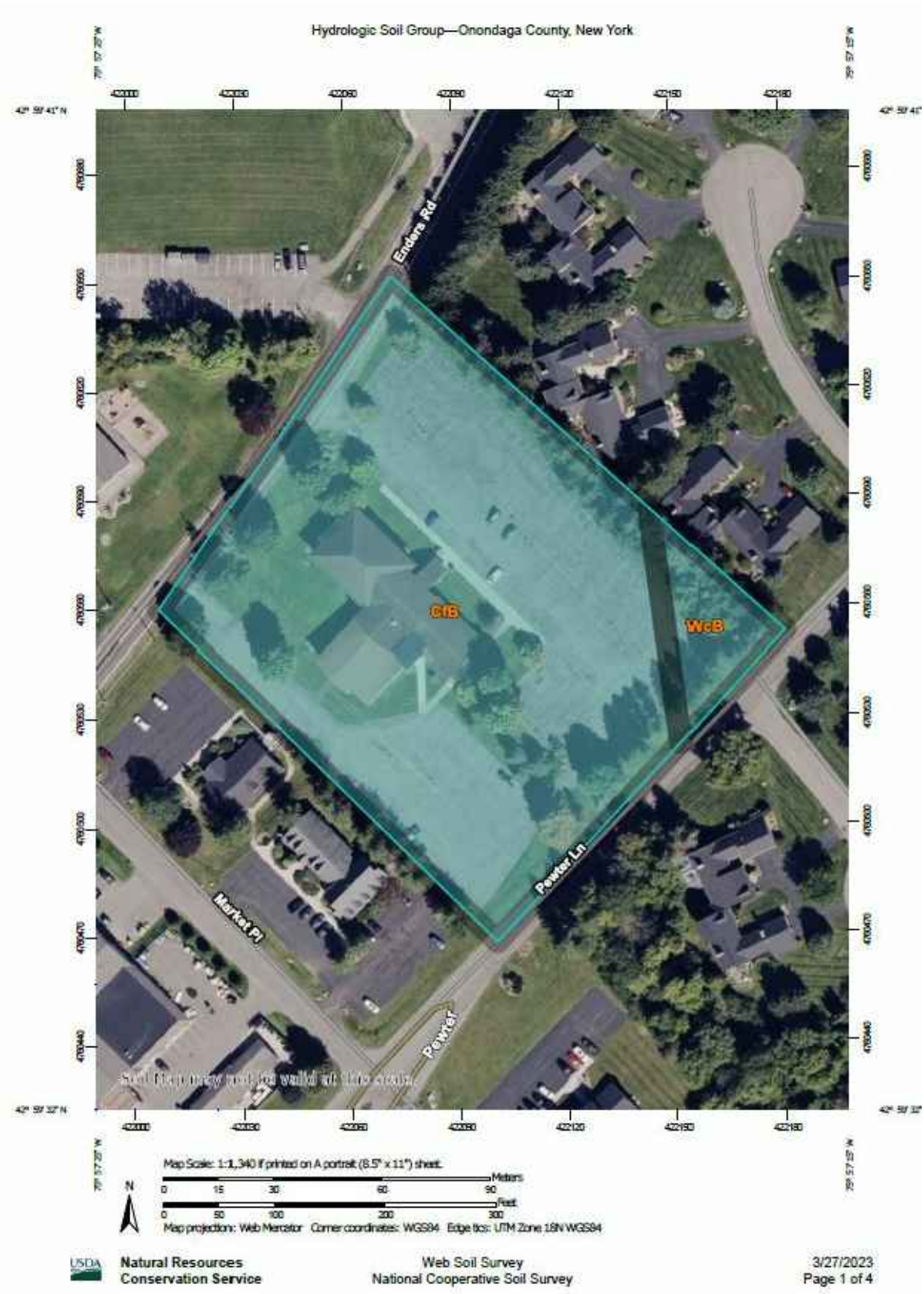
FIGURE 1

RZ Engineering, PLLC
STORMWATER SANITARY WATER ENVIRONMENTAL TRANSPORTATION
6320 FLY ROAD SUITE 109
EAST SYRACUSE, NY 13057
PH (315) 432-1089
FAX (315) 445-7981

N

ENDERS ROAD
AERIAL MAP
SCALE 1:800

FIGURE 2



RZ Engineering, PLLC

STORMWATER SANITARY WATER ENVIRONMENTAL TRANSPORTATION

6320 FLY ROAD SUITE 109
EAST SYRACUSE, NY 13057
PH (315) 432-1089
FAX (315) 445-7981

N

ENDERS ROAD
SOILS MAP
SCALE 1:200

FIGURE 3

ENDERS ROAD

Town of Manlius, Onondaga County, NY

Figure 4: Existing Site Watershed

SCALE: 1:80

RZ Engineering, PLLC
STORMWATER SANITARY WATER ENVIRONMENTAL TRANSPORTATION
6320 FLY ROAD SUITE 109
EAST SYRACUSE, NY 13057
PH (315) 432-1089
FAX (315) 445-7981

ENDERS ROAD
Town of MANLIUS, ONONDAGA County, NY

Figure 5: Proposed Site Watershed

SCALE: 1:80

RZ Engineering, PLLC
STORMWATER SANITARY WATER ENVIRONMENTAL TRANSPORTATION
6320 FLY ROAD SUITE 109
EAST SYRACUSE, NY 13057
PH (315) 432-1089
FAX (315) 445-7981

RZ Engineering, PLLC

STORMWATER SANITARY WATER ENVIRONMENTAL TRANSPORTATION

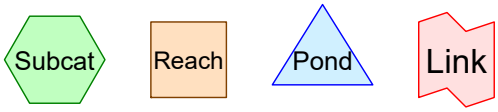
6320 FLY ROAD SUITE 109
EAST SYRACUSE, NY 13057
PH (315) 432-1089
FAX (315) 445-7981

N

UPDATED: 8 / 23 /17

ENDERS ROAD
NYSDEC STORMWATER MAP
SCALE 1:600

FIGURE 6



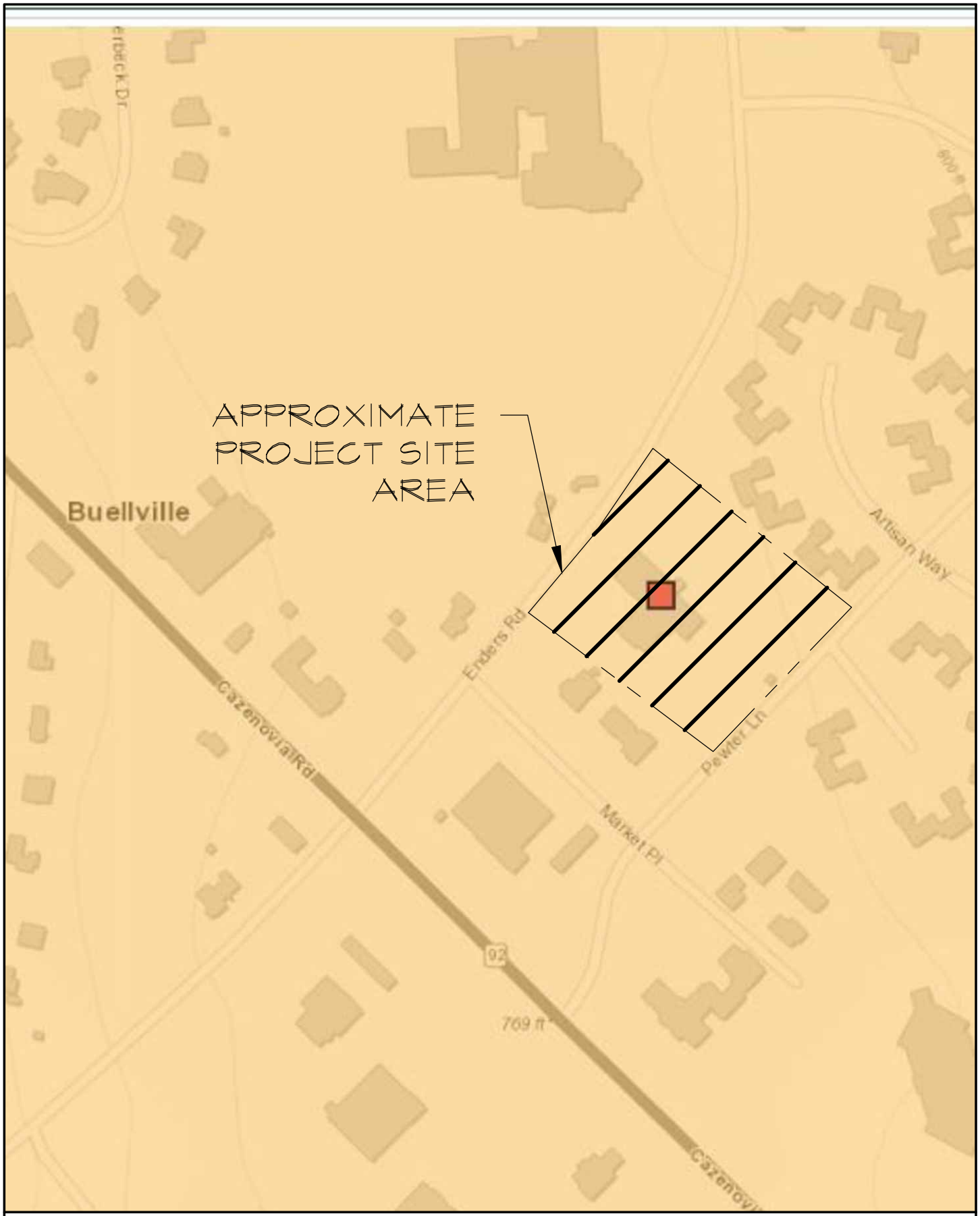
Routing Diagram for Enders Road
Prepared by Microsoft, Printed 3/28/2023
HydroCAD® 10.00-20 s/n 05023 © 2017 HydroCAD Software Solutions LLC

RZ Engineering, PLLC
STORMWATER SANITARY WATER ENVIRONMENTAL TRANSPORTATION
6320 FLY ROAD SUITE 109
EAST SYRACUSE, NY 13057
PH (315) 432-1089
FAX (315) 445-7981

N

ENDERS ROAD
SHPO MAP
SCALE 1:600

FIGURE 8



RZ Engineering, PLLC

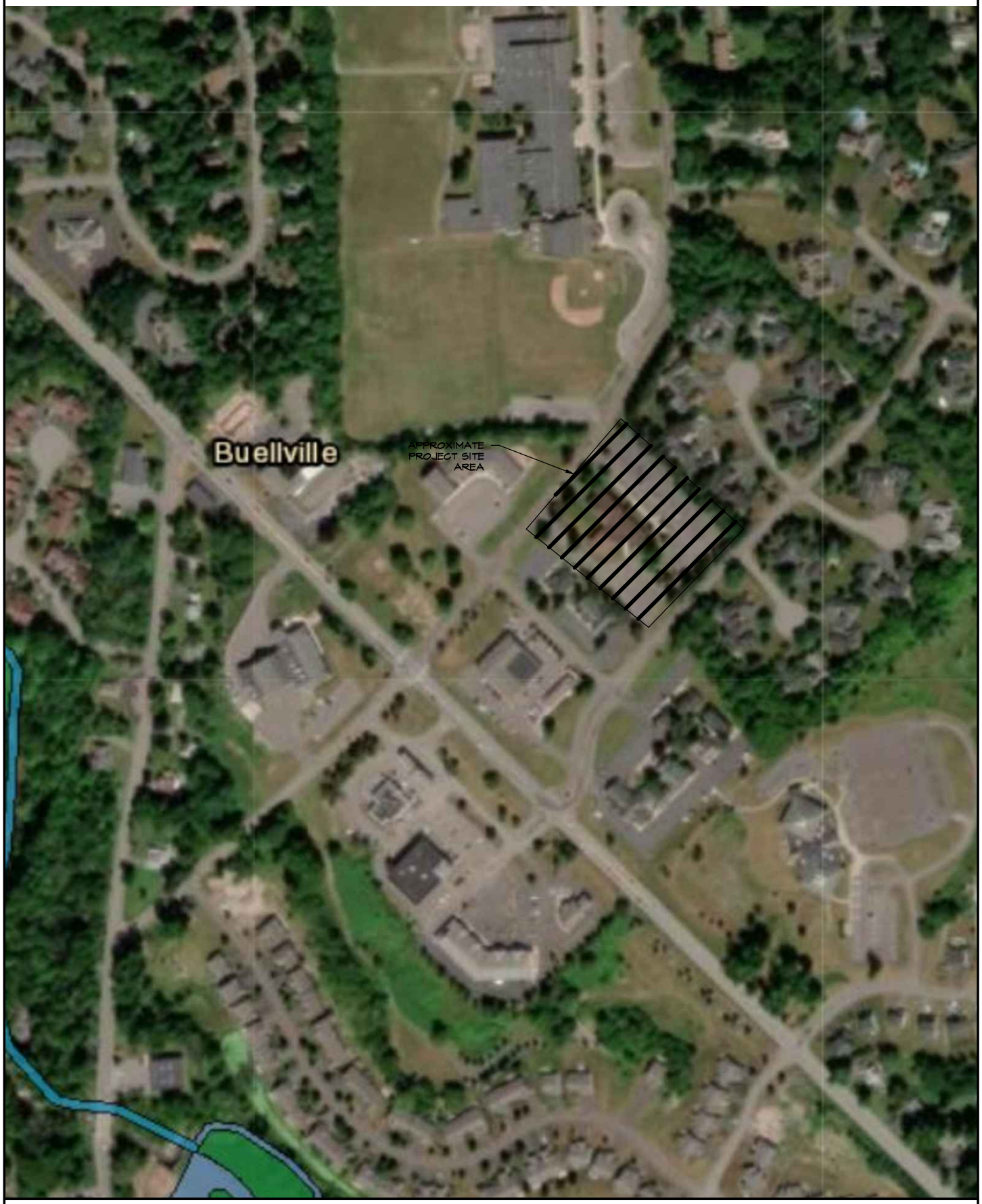
STORMWATER SANITARY WATER ENVIRONMENTAL TRANSPORTATION

6320 FLY ROAD SUITE 109
EAST SYRACUSE, NY 13057
PH (315) 432-1089
FAX (315) 445-7981

N

ENDERS ROAD
NYSDEC WETLANDS AND
ENDANGERED SPECIES MAP
SCALE 1:400

FIGURE 9

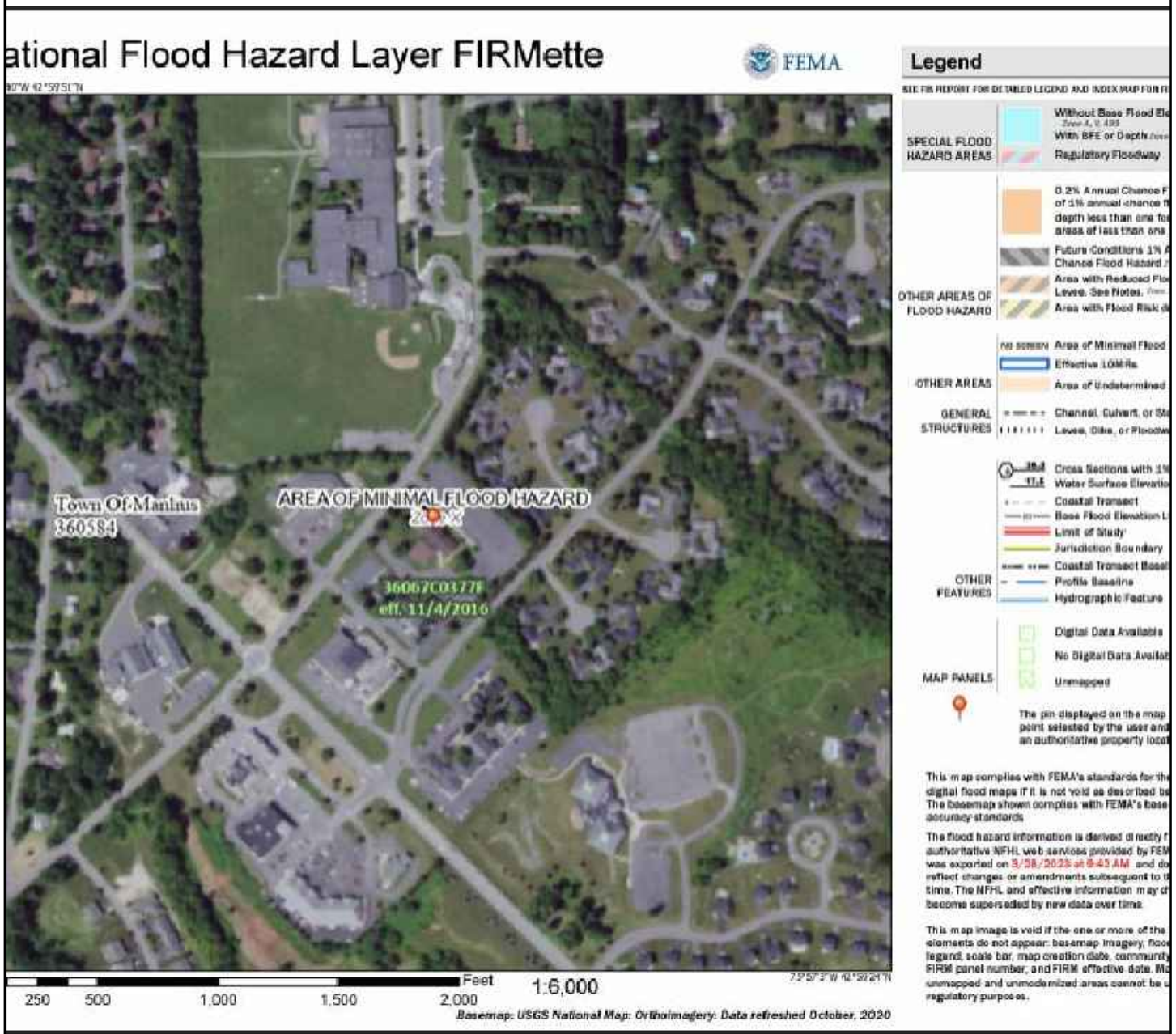


RZ Engineering, PLLC
STORMWATER SANITARY WATER ENVIRONMENTAL TRANSPORTATION
6320 FLY ROAD SUITE 109
EAST SYRACUSE, NY 13057
PH (315) 432-1089
FAX (315) 445-7981

N

ENDERS ROAD
FEDERAL WETLANDS MAP
SCALE 1:1000

FIGURE 10



RZ Engineering, PLLC

STORMWATER SANITARY WATER ENVIRONMENTAL TRANSPORTATION

6320 FLY ROAD SUITE 109
EAST SYRACUSE, NY 13057
PH (315) 432-1089
FAX (315) 445-7981

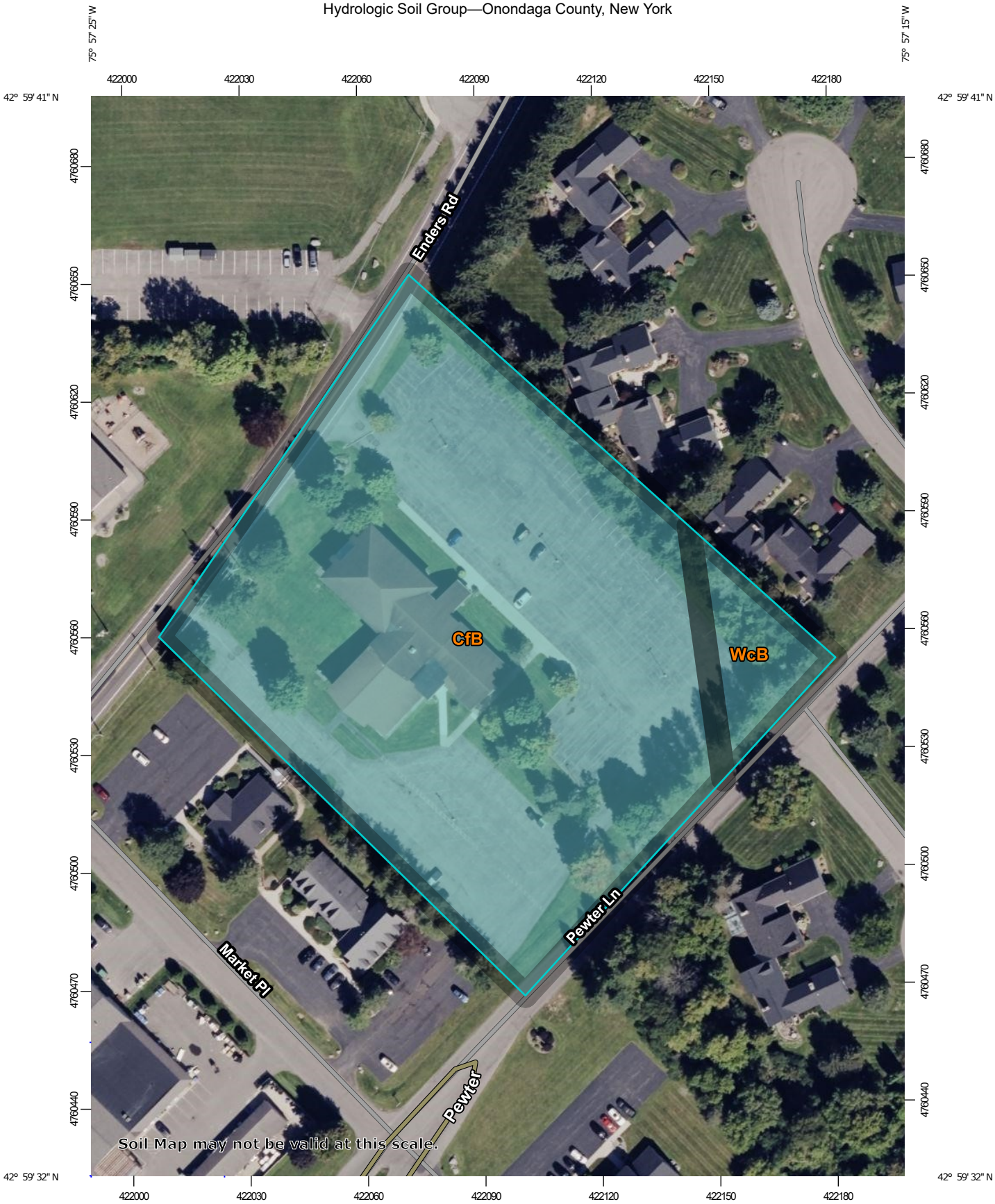
N

ENDERS ROAD
NATIONAL FLOOD INSURANCE MAP
SCALE 1:500

FIGURE 11

APPENDIX A

Hydrologic Soil Group—Onondaga County, New York



Map Scale: 1:1,340 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0 15 30 60 90

Feet: 0 50 100 200 300

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 18N WGS84

MAP LEGEND

Area of Interest (AOI)

Area of Interest (AOI)

Soils

Soil Rating Polygons

- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Soil Rating Lines

- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Soil Rating Points

- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Water Features

Streams and Canals

Transportation

- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background

Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Onondaga County, New York
Survey Area Data: Version 17, Sep 10, 2022

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Sep 15, 2022—Oct 28, 2022

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
CfB	Cazenovia silt loam, 2 to 8 percent slopes	C	3.7	93.3%
WcB	Wassaic silt loam, 0 to 8 percent slopes	C	0.3	6.7%
Totals for Area of Interest			**3.9**	**100.0%**

Description

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.

Rating Options

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

APPENDIX B

Extreme Precipitation Tables

Northeast Regional Climate Center

Data represents point estimates calculated from partial duration series. All precipitation amounts are displayed in inches.

Metadata for Point

Smoothing
No
State
Location
Latitude
42.993 degrees North
Longitude
75.956 degrees West
Elevation
230 feet
Date/Time
Mon Mar 27 2023 09:08:38 GMT-0400 (Eastern Daylight Time)

Extreme Precipitation Estimates

	5min	10min	15min	30min	60min	120min		1hr	2hr	3hr	6hr	12hr	24hr	48hr		1day	2day	4day	7day	10day	
1yr	0.28	0.43	0.52	0.70	0.86	0.98	1yr	0.74	0.96	1.10	1.38	1.68	2.06	2.31	1yr	1.82	2.22	2.65	3.19	3.70	1
2yr	0.33	0.50	0.62	0.84	1.03	1.18	2yr	0.89	1.15	1.30	1.62	1.97	2.39	2.69	2yr	2.12	2.59	3.04	3.65	4.22	2
5yr	0.39	0.60	0.74	1.02	1.30	1.46	5yr	1.12	1.43	1.62	1.99	2.43	2.94	3.32	5yr	2.61	3.19	3.73	4.39	5.01	5
10yr	0.45	0.69	0.86	1.20	1.55	1.72	10yr	1.34	1.68	1.91	2.33	2.85	3.44	3.89	10yr	3.05	3.74	4.35	5.05	5.72	1
25yr	0.55	0.84	1.04	1.49	1.95	2.15	25yr	1.69	2.10	2.38	2.86	3.52	4.24	4.79	25yr	3.75	4.61	5.35	6.08	6.80	2
50yr	0.64	0.97	1.21	1.73	2.33	2.54	50yr	2.01	2.48	2.82	3.35	4.13	4.96	5.62	50yr	4.39	5.40	6.26	7.00	7.76	5
100yr	0.74	1.12	1.41	2.03	2.79	3.01	100yr	2.41	2.94	3.33	3.91	4.85	5.81	6.59	100yr	5.14	6.34	7.32	8.06	8.85	1
200yr	0.87	1.30	1.65	2.39	3.34	3.56	200yr	2.88	3.48	3.94	4.58	5.70	6.80	7.74	200yr	6.02	7.44	8.57	9.29	10.11	2
500yr	1.07	1.59	2.05	2.98	4.23	4.47	500yr	3.65	4.37	4.94	5.64	7.06	8.39	9.57	500yr	7.42	9.20	10.56	11.20	12.04	5

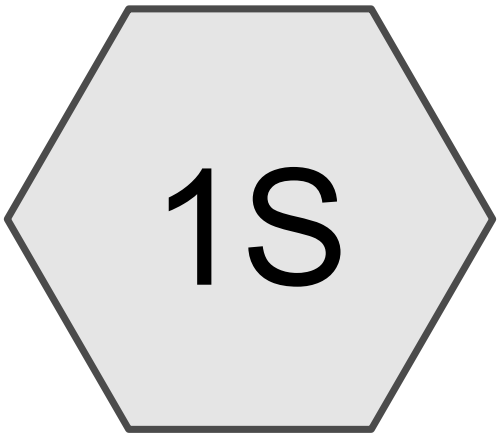
Lower Confidence Limits

	5min	10min	15min	30min	60min	120min		1hr	2hr	3hr	6hr	12hr	24hr	48hr		1day	2day	4day	7day	10day	
1yr	0.24	0.38	0.46	0.62	0.76	0.87	1yr	0.66	0.85	0.92	1.10	1.40	1.64	2.00	1yr	1.45	1.92	2.38	2.79	3.37	1y
2yr	0.32	0.49	0.60	0.82	1.01	1.13	2yr	0.87	1.11	1.26	1.55	1.90	2.33	2.62	2yr	2.07	2.52	2.95	3.56	4.12	2y
5yr	0.35	0.54	0.68	0.93	1.18	1.33	5yr	1.02	1.30	1.47	1.85	2.26	2.74	3.10	5yr	2.43	2.98	3.51	4.12	4.73	5y
10yr	0.39	0.60	0.74	1.04	1.34	1.48	10yr	1.15	1.45	1.66	2.06	2.53	3.10	3.50	10yr	2.75	3.37	3.97	4.59	5.24	10
25yr	0.44	0.66	0.83	1.18	1.55	1.70	25yr	1.34	1.66	1.94	2.38	2.91	3.62	4.09	25yr	3.21	3.93	4.68	5.28	6.00	25
50yr	0.47	0.71	0.88	1.27	1.71	1.86	50yr	1.48	1.82	2.17	2.63	3.23	4.07	4.57	50yr	3.60	4.40	5.30	5.88	6.63	50
100yr	0.51	0.77	0.96	1.39	1.90	2.35	100yr	1.64	2.30	2.43	2.91	3.58	4.55	5.11	100yr	4.03	4.92	5.99	6.51	7.35	10
200yr	0.55	0.83	1.05	1.52	2.12	2.69	200yr	1.83	2.63	2.70	3.20	3.96	5.09	5.73	200yr	4.51	5.51	6.78	7.22	8.13	20
500yr	0.88	1.31	1.68	2.44	3.47	3.24	500yr	3.00	3.16	3.08	3.64	4.53	5.91	6.64	500yr	5.23	6.38	7.98	8.24	9.28	50

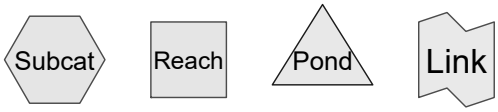
Upper Confidence Limits

	5min	10min	15min	30min	60min	120min		1hr	2hr	3hr	6hr	12hr	24hr	48hr		1day	2day	4day	7day	10da
1yr	0.30	0.46	0.56	0.76	0.93	1.07	1yr	0.80	1.04	1.20	1.54	1.84	2.23	2.59	1yr	1.97	2.49	2.85	3.41	3.99
2yr	0.35	0.53	0.66	0.89	1.10	1.23	2yr	0.95	1.20	1.36	1.71	2.07	2.50	2.80	2yr	2.21	2.70	3.13	3.76	4.34
5yr	0.42	0.65	0.81	1.12	1.42	1.61	5yr	1.22	1.57	1.76	2.17	2.62	3.12	3.52	5yr	2.76	3.39	3.97	4.66	5.32
10yr	0.49	0.76	0.94	1.32	1.70	1.99	10yr	1.47	1.95	2.16	2.66	3.20	3.80	4.22	10yr	3.36	4.06	4.77	5.50	6.21

APPENDIX C



EXDA-1



Routing Diagram for Enders Road
Prepared by Microsoft, Printed 3/28/2023
HydroCAD® 10.00-20 s/n 05023 © 2017 HydroCAD Software Solutions LLC

Summary for Subcatchment 1S: EXDA-1

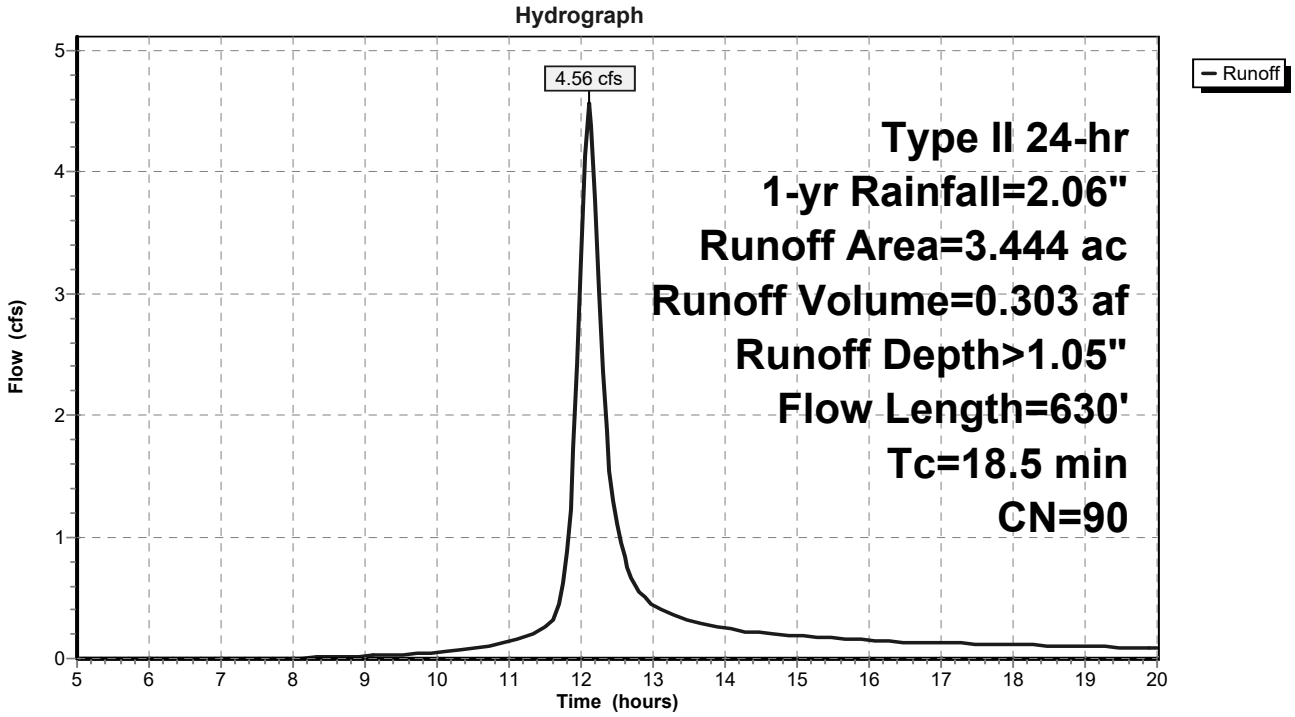
Runoff = 17.76 cfs @ 12.10 hrs, Volume= 1.251 af, Depth> 4.36"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-yr Rainfall=5.81"

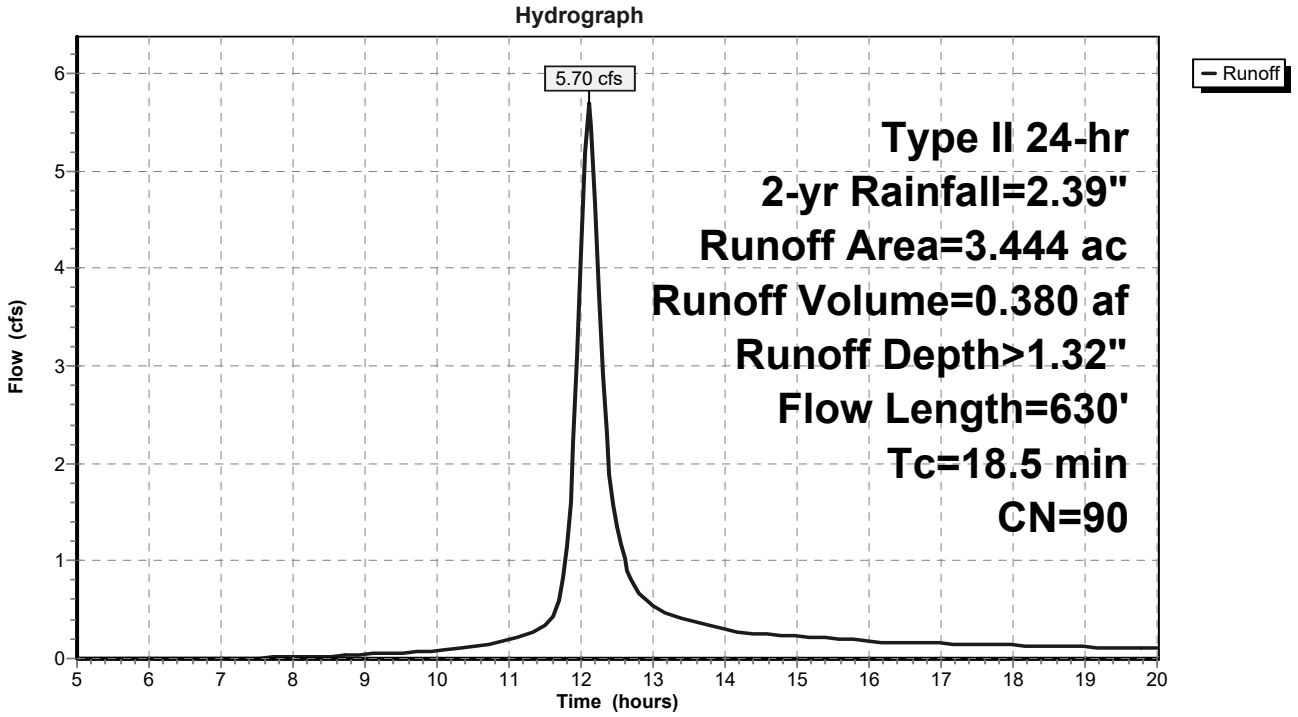
	Area (ac)	CN	Description
*	2.273	98	Impervious
	1.171	74	>75% Grass cover, Good, HSG C
	3.444	90	Weighted Average
	1.171		34.00% Pervious Area
	2.273		66.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.8	100	0.0940	2.05		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 2.06"
0.7	65	0.0061	1.59		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.6	65	0.1523	1.95		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.6	119	0.0235	3.11		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
15.8	281	0.0018	0.30		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
18.5	630	Total			

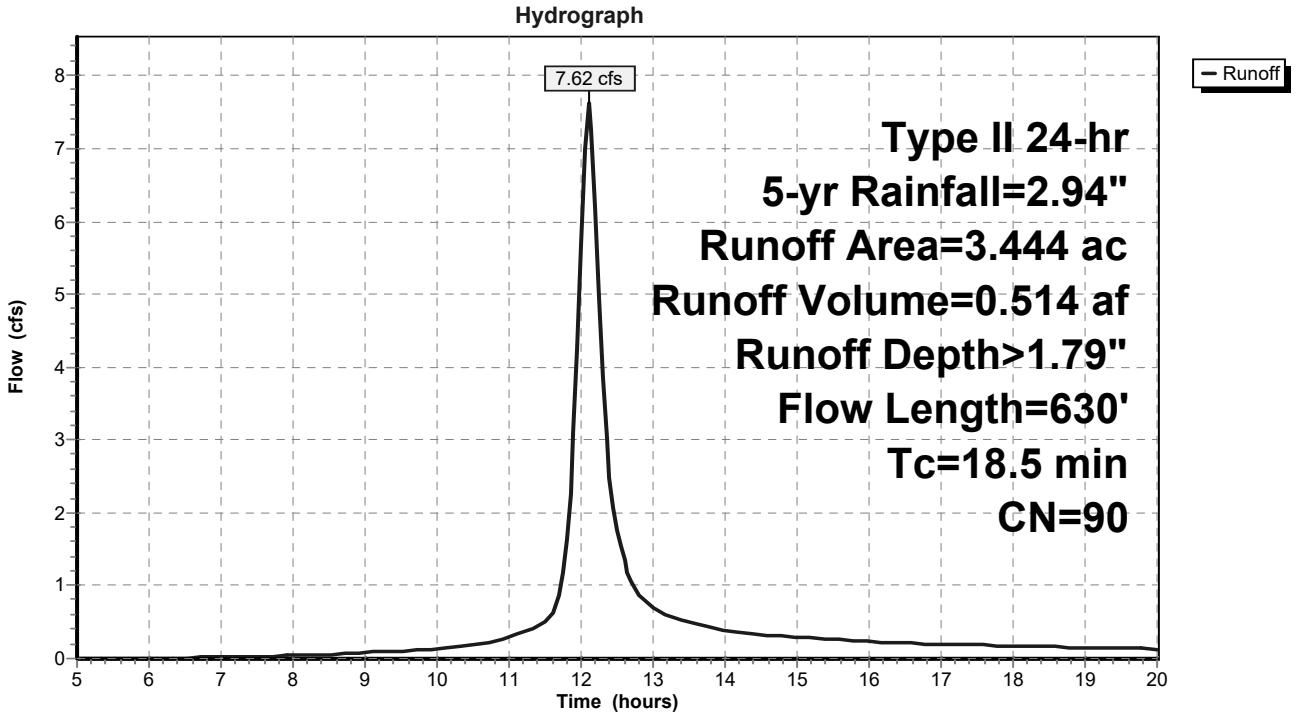
Subcatchment 1S: EXDA-1



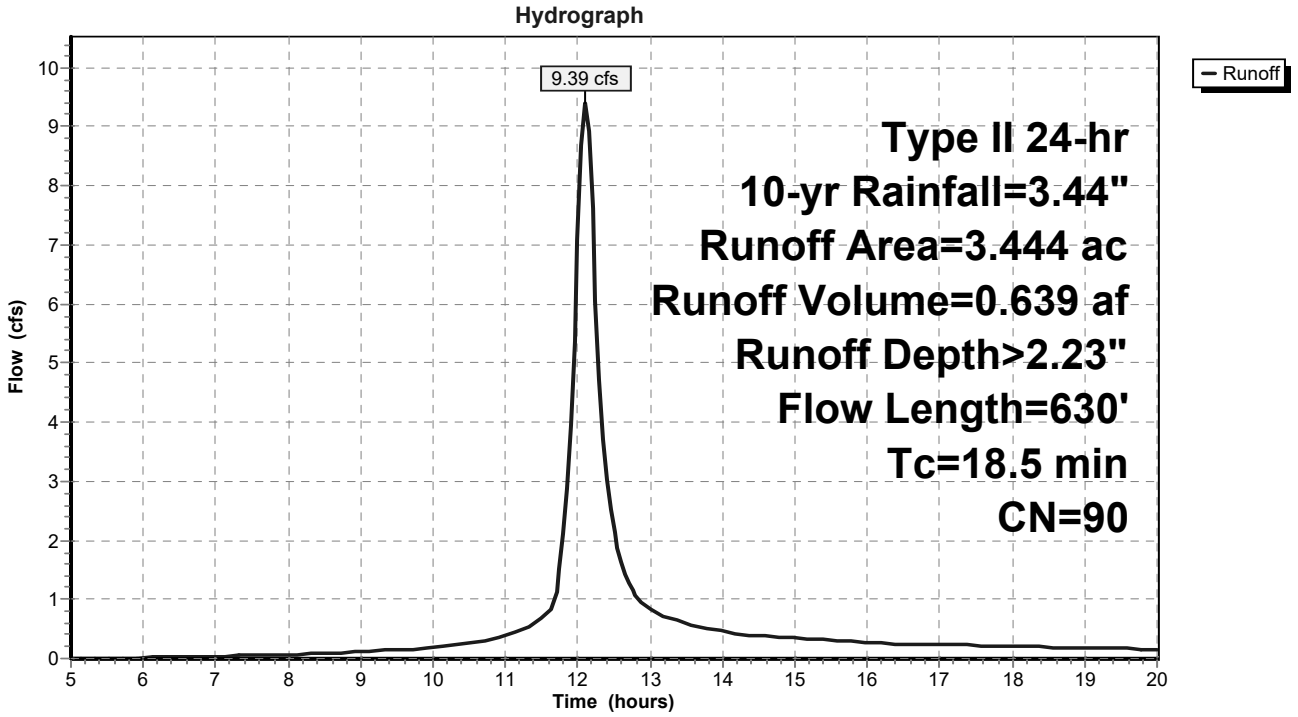
Subcatchment 1S: EXDA-1



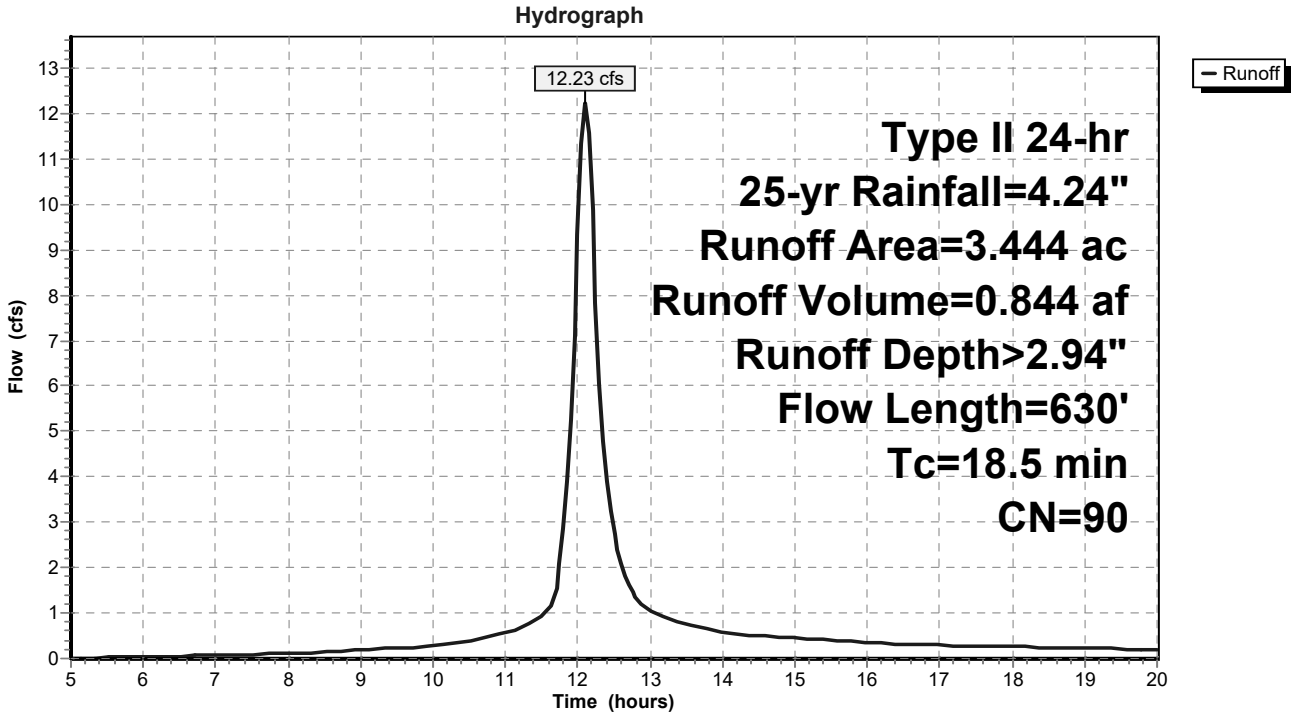
Subcatchment 1S: EXDA-1



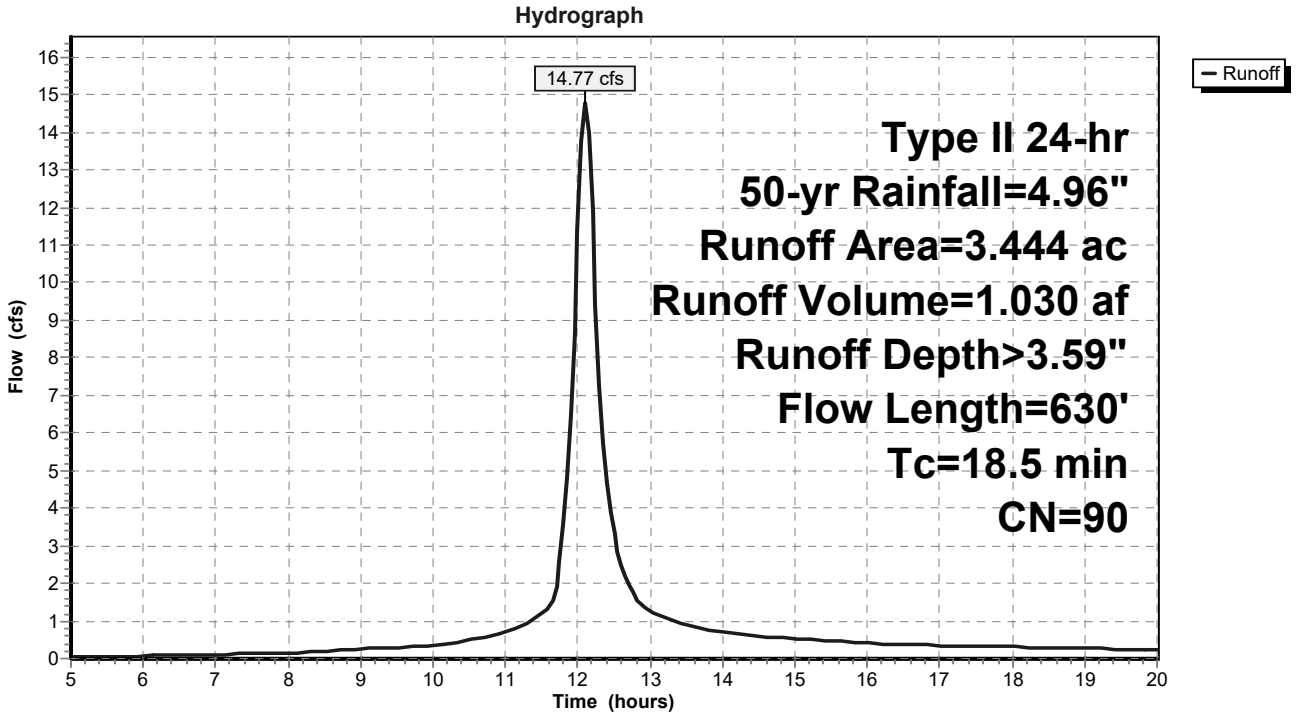
Subcatchment 1S: EXDA-1



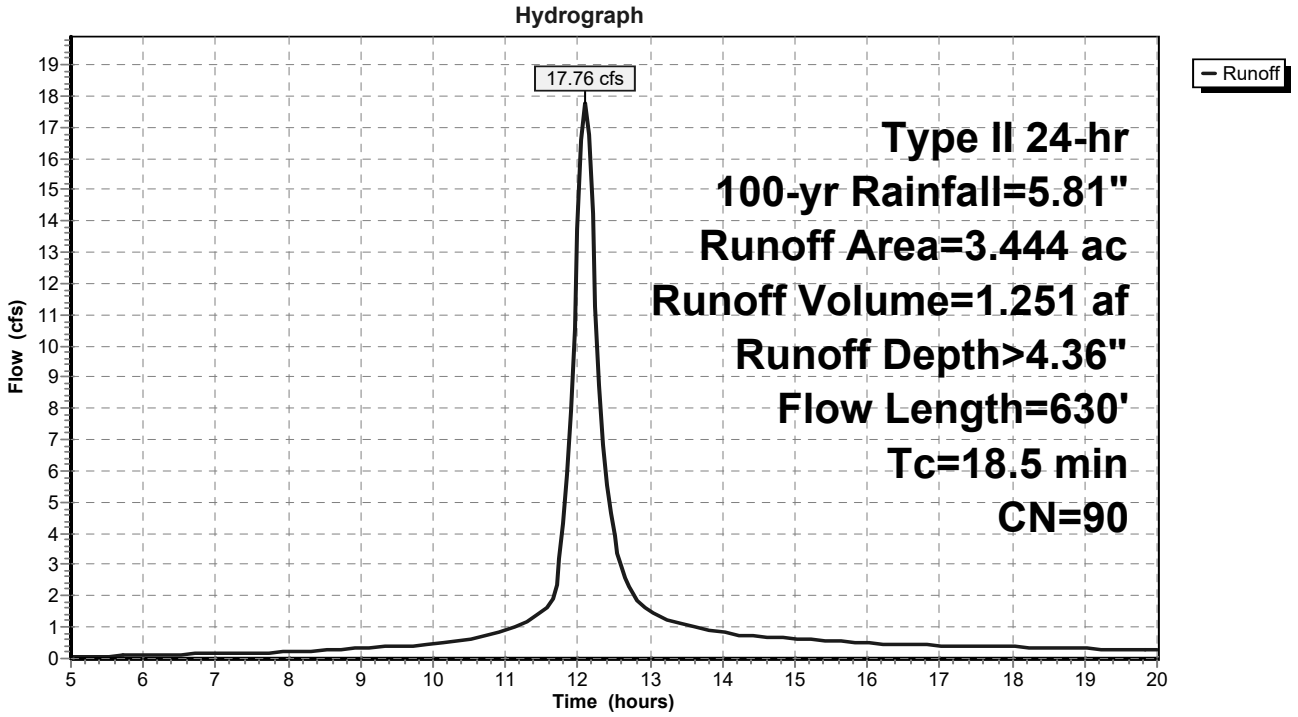
Subcatchment 1S: EXDA-1



Subcatchment 1S: EXDA-1

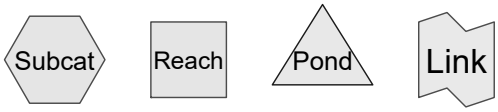


Subcatchment 1S: EXDA-1



APPENDIX D

PRDA-1



Routing Diagram for Enders Road
Prepared by Microsoft, Printed 3/28/2023
HydroCAD® 10.00-20 s/n 05023 © 2017 HydroCAD Software Solutions LLC

Summary for Subcatchment 2S: PRDA-1

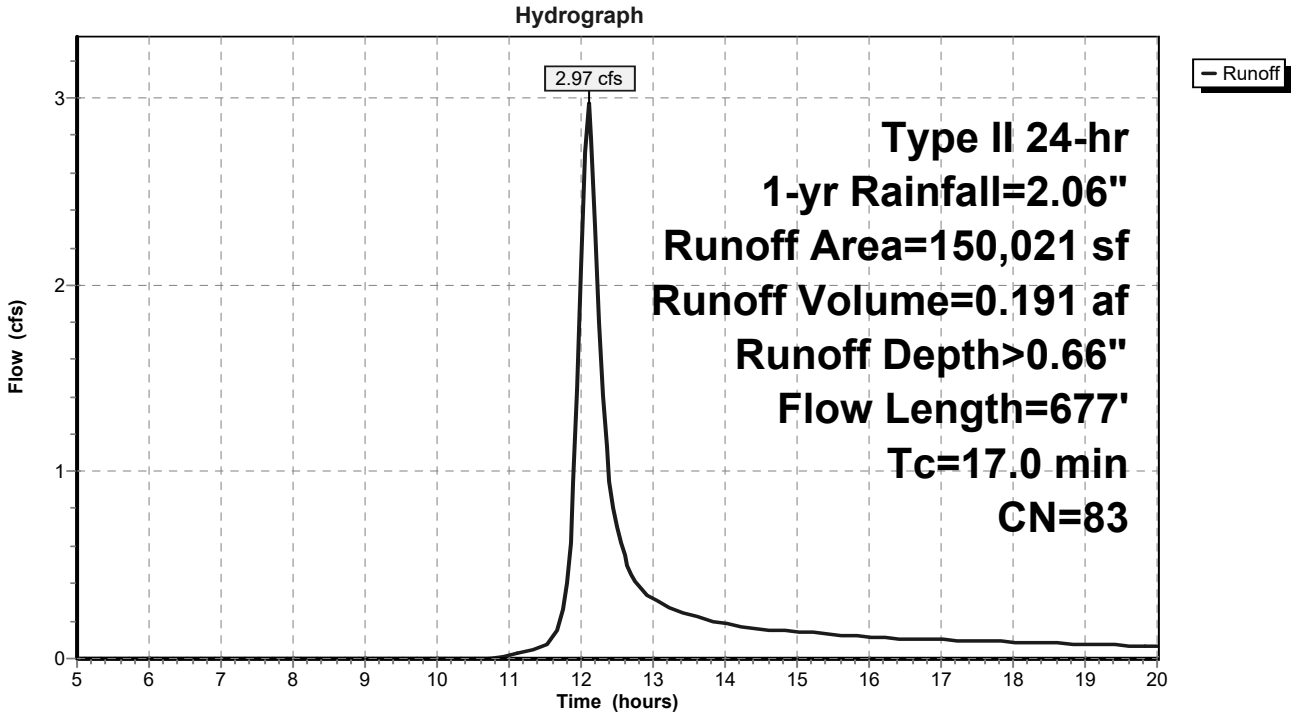
Runoff = 16.10 cfs @ 12.09 hrs, Volume= 1.045 af, Depth> 3.64"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-yr Rainfall=5.81"

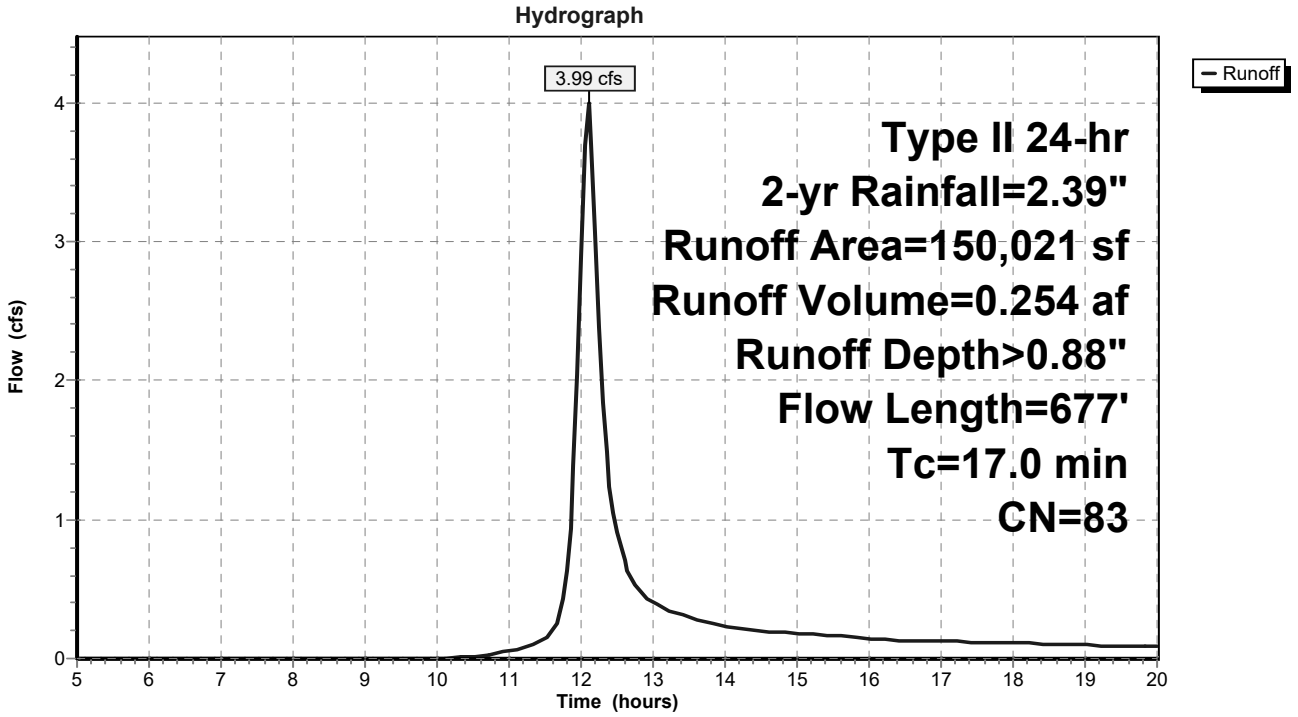
	Area (sf)	CN	Description
*	54,842	98	Impervious
	95,179	74	>75% Grass cover, Good, HSG C
	150,021	83	Weighted Average
	95,179		63.44% Pervious Area
	54,842		36.56% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.3	100	0.1000	0.18		**Sheet Flow,** Grass: Dense n= 0.240 P2= 2.06"
5.7	421	0.0309	1.23		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.7	88	0.0114	2.17		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.3	68	0.0147	0.85		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
17.0	677	Total			

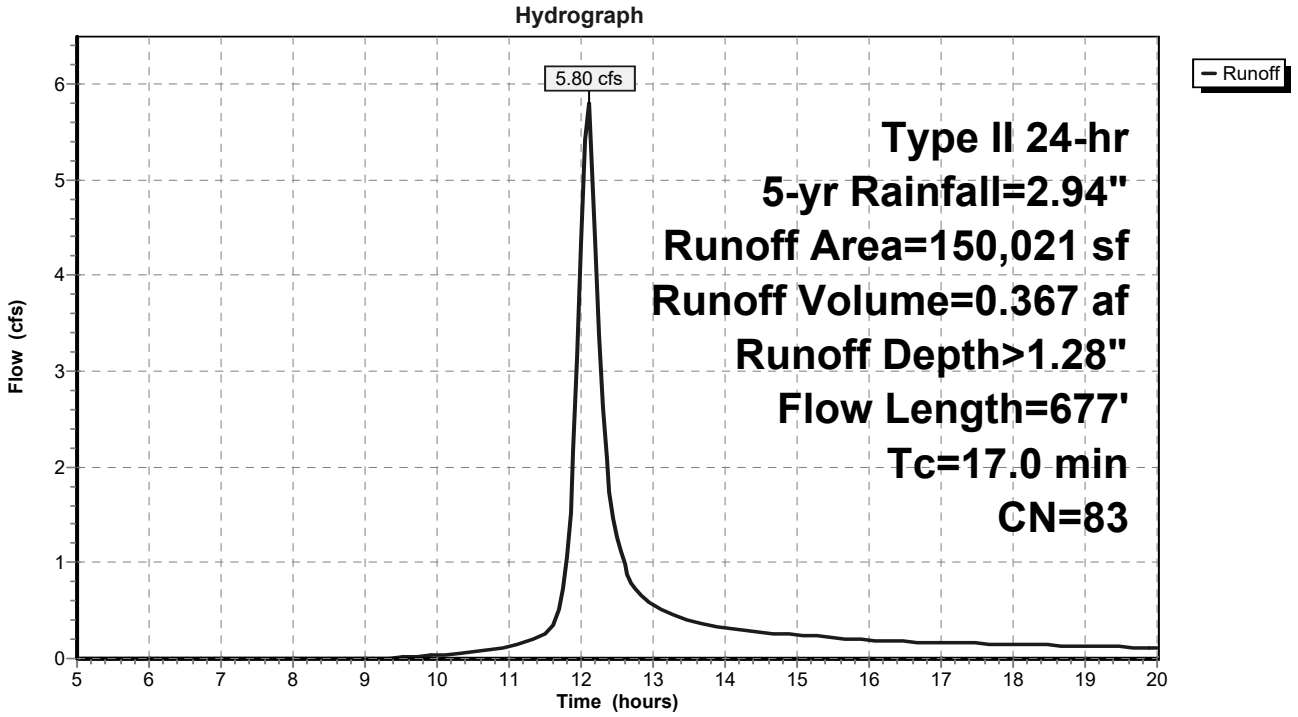
Subcatchment 2S: PRDA-1



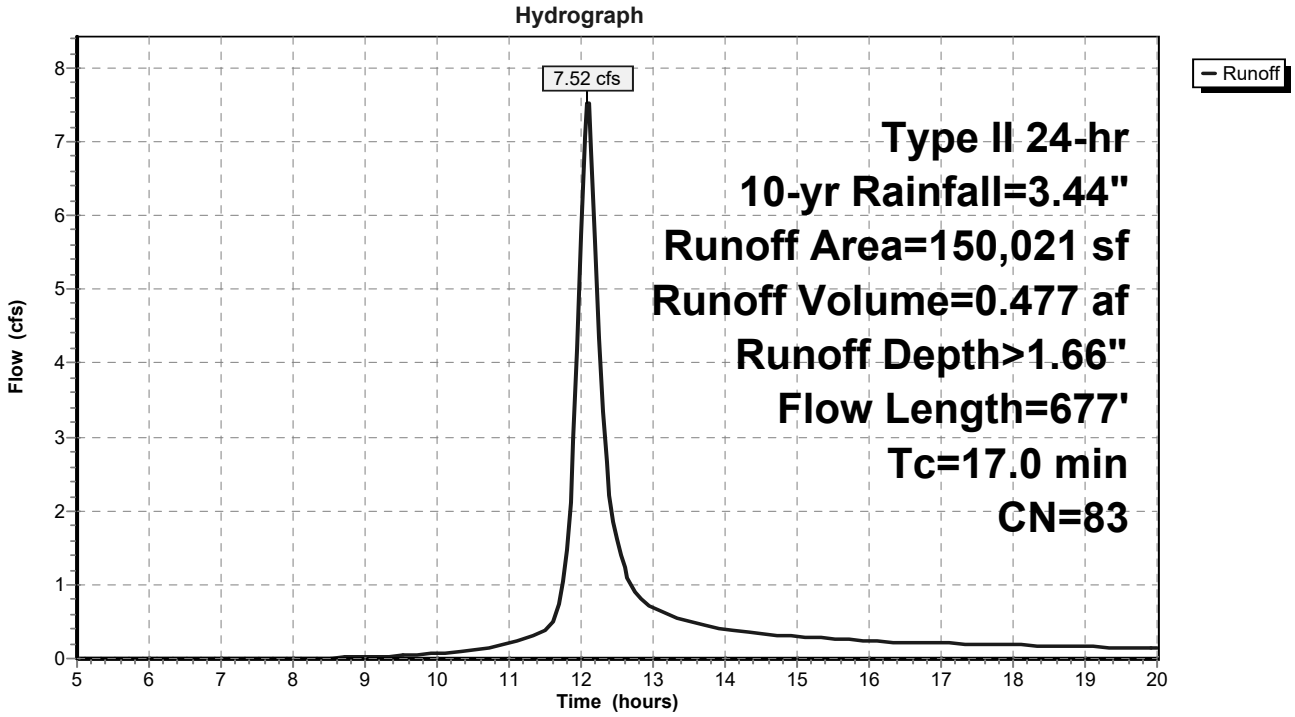
Subcatchment 2S: PRDA-1



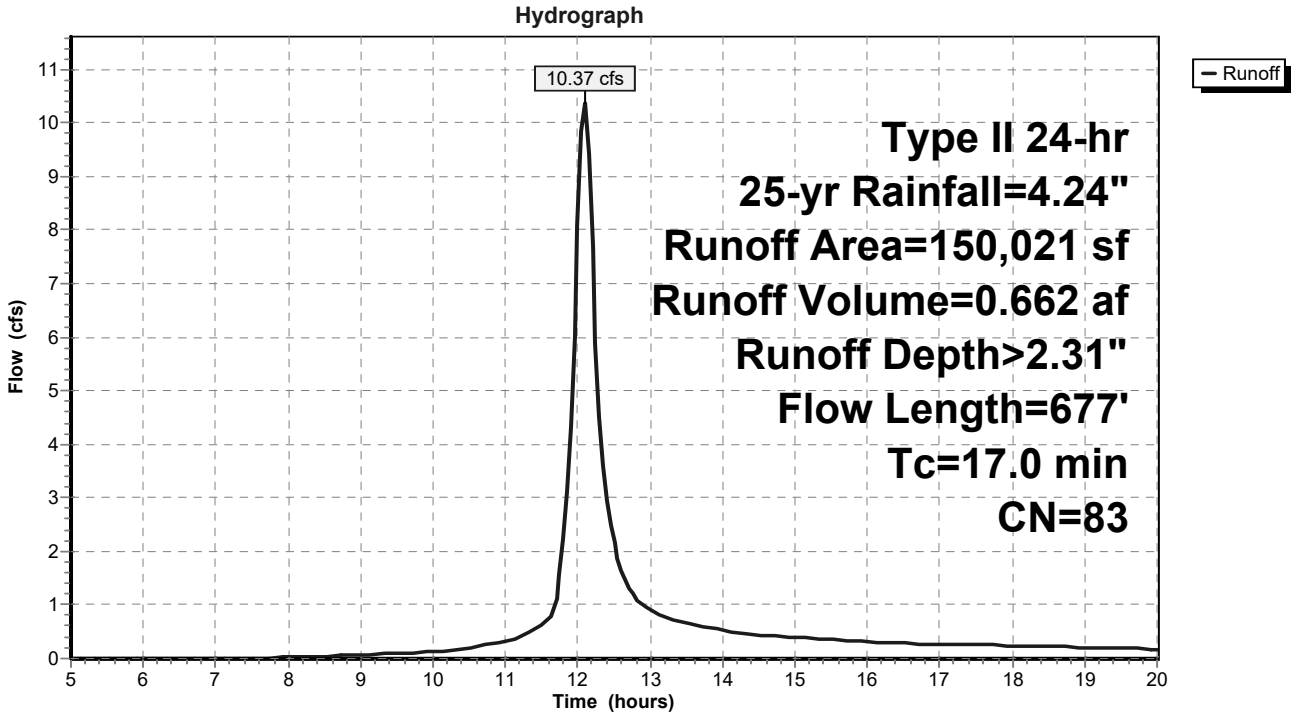
Subcatchment 2S: PRDA-1



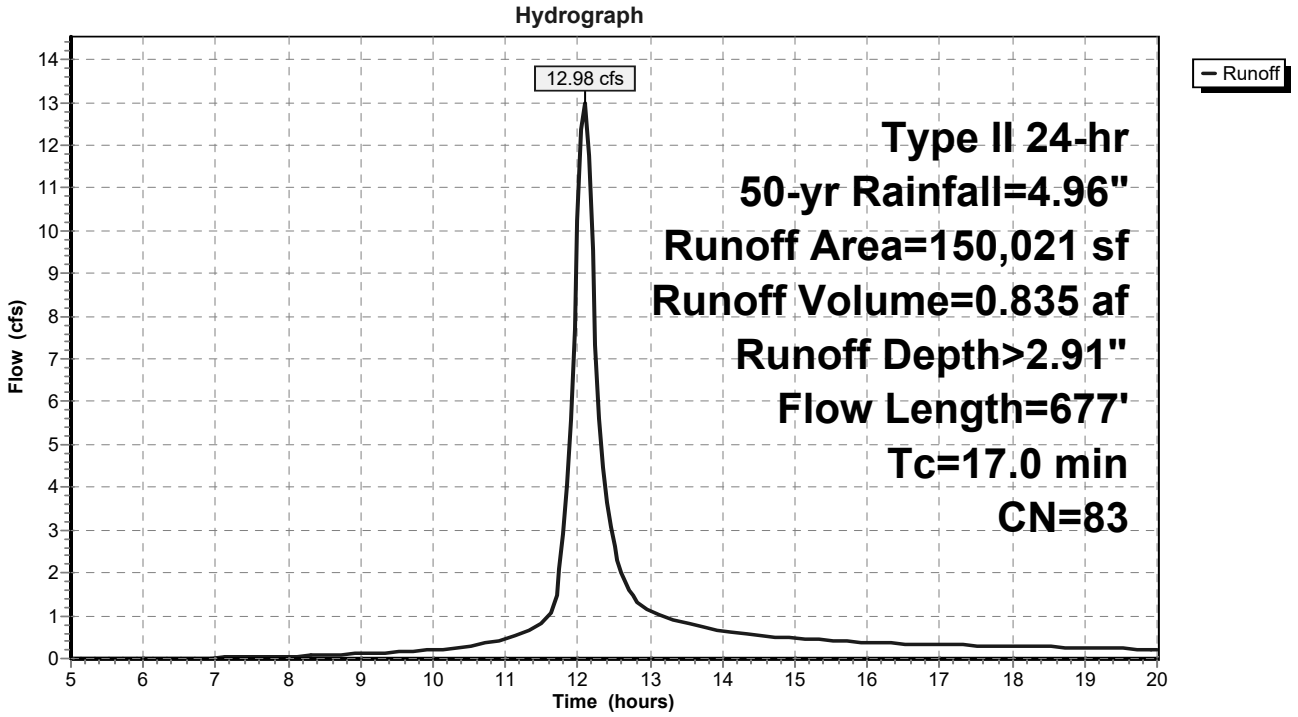
Subcatchment 2S: PRDA-1



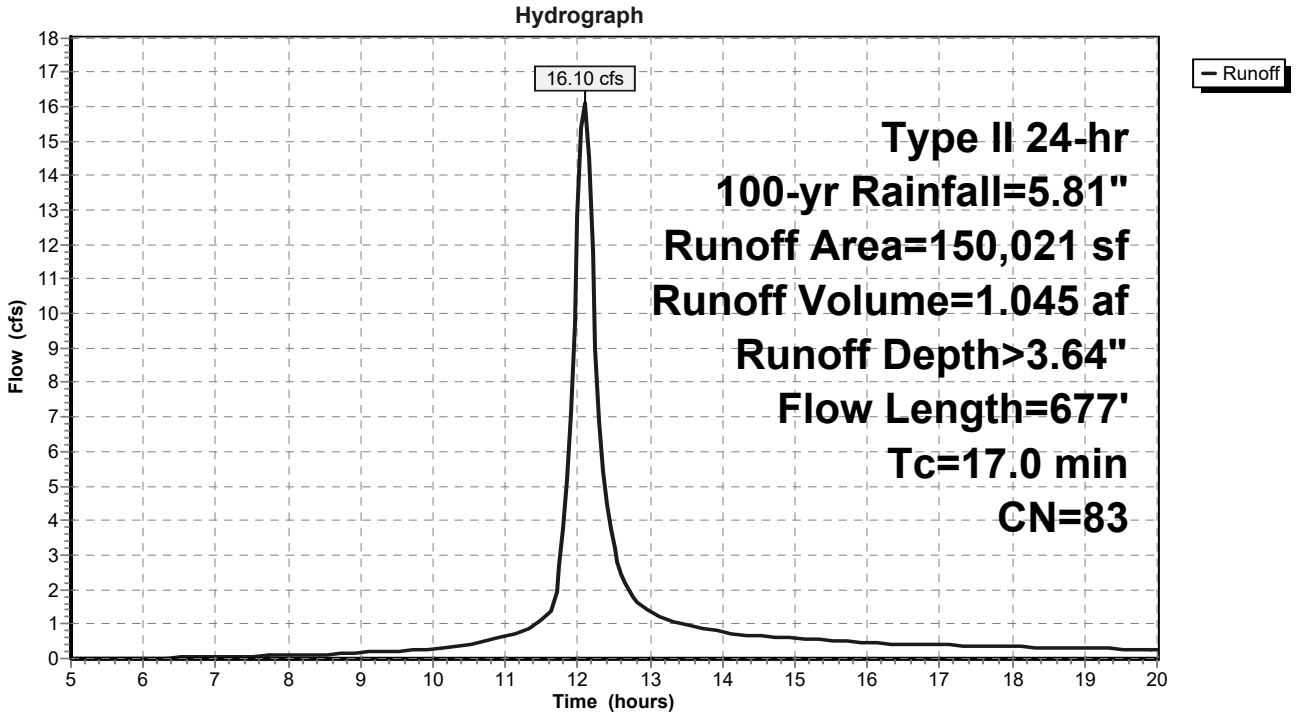
Subcatchment 2S: PRDA-1



Subcatchment 2S: PRDA-1



Subcatchment 2S: PRDA-1



APPENDIX E
(OMITTED)

APPENDIX F

WATER & POLLUTION CONTROL FEDERATION

6

C-VALUES

storm, is common. The range of coefficients, classified with respect to the general character of the tributary area reported in use, is:

Description of Area	Runoff Coefficients
Business	
Downtown	0.70 to 0.95
Neighborhood	0.50 to 0.70
Residential	
Single-family	0.30 to 0.50
Multi-units, detached	0.40 to 0.60
Multi-units, attached	0.60 to 0.75
Residential (suburban)	0.25 to 0.40
Apartment	0.50 to 0.70
Industrial	
Light	0.50 to 0.80
Heavy	0.60 to 0.90
Parks, cemeteries	0.10 to 0.25
Playgrounds	0.20 to 0.35
Railroad yard	0.20 to 0.35
Unimproved	0.10 to 0.30

Downtown .95

Residential = 0.40

It often is desirable to develop a composite runoff coefficient based on the percentage of different types of surface in the drainage area. This procedure often is applied to typical "sample" blocks as a guide to selection of reasonable values of the coefficient for an entire area. Coefficients with respect to surface type currently in use are:

Character of Surface	Runoff Coefficients
Pavement	
Asphaltic and Concrete	0.70 to 0.95
Brick	0.70 to 0.85
Roofs	0.75 to 0.95
Lawns, sandy soil	
Flat, 2 percent	0.05 to 0.10
Average, 2 to 7 percent	0.10 to 0.15
Steep, 7 percent	0.15 to 0.20
Lawns, heavy soil	
Flat, 2 percent	0.13 to 0.17
Average, 2 to 7 percent	0.18 to 0.22
Steep, 7 percent	0.25 to 0.35

The coefficients in these two tabulations are applicable for storms of 5- to 10-yr frequencies. Less frequent, higher intensity storms will require the use of higher coefficients because infiltration and other losses have a proportionally smaller effect on runoff. The coefficients are based on the assumption that the design storm does not occur when the ground surface is frozen.

(*c*) **Coefficients Varying with Time.**—Figure 11 shows the variation of the runoff coefficient with respect to length of time of prior wetting,

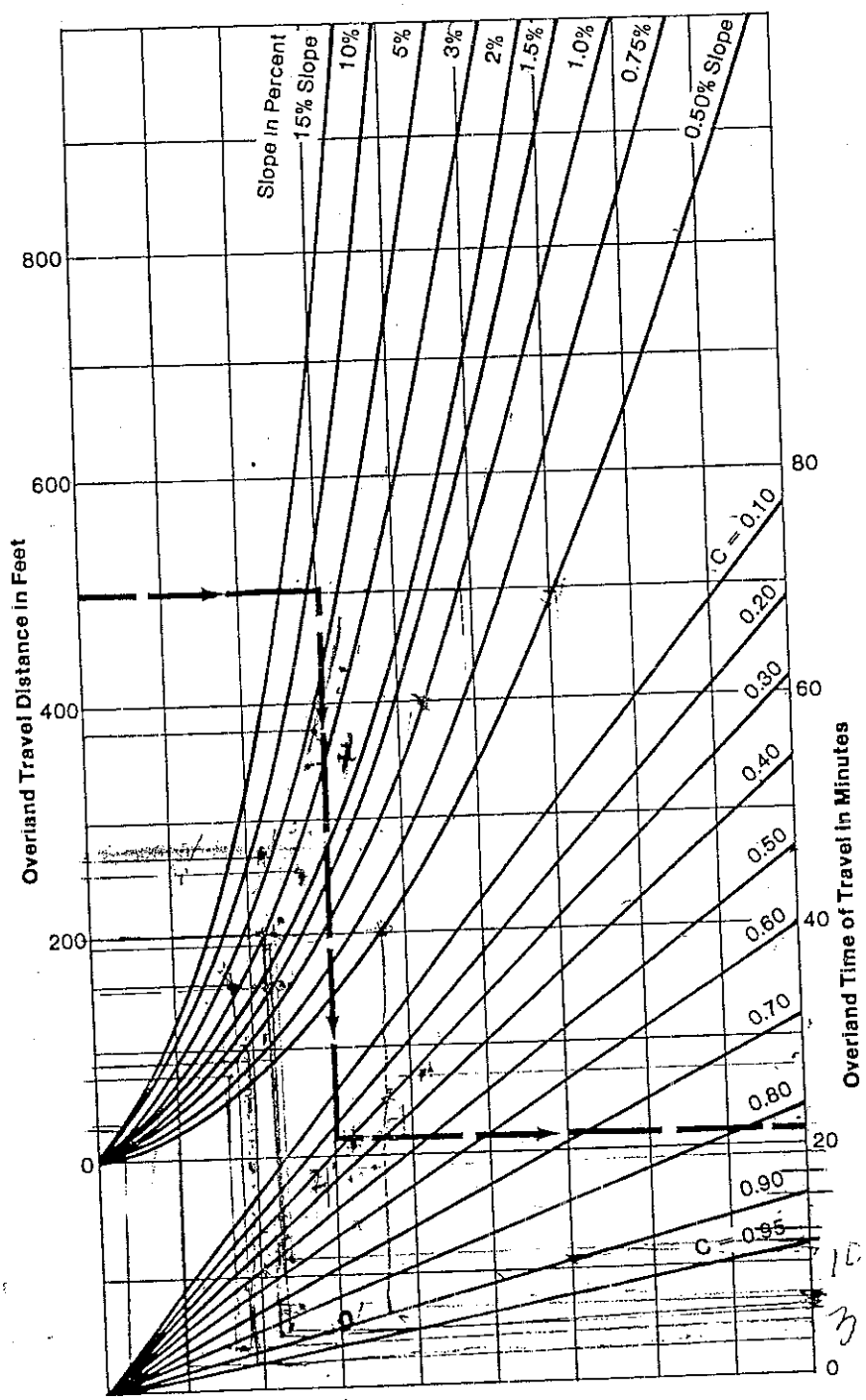
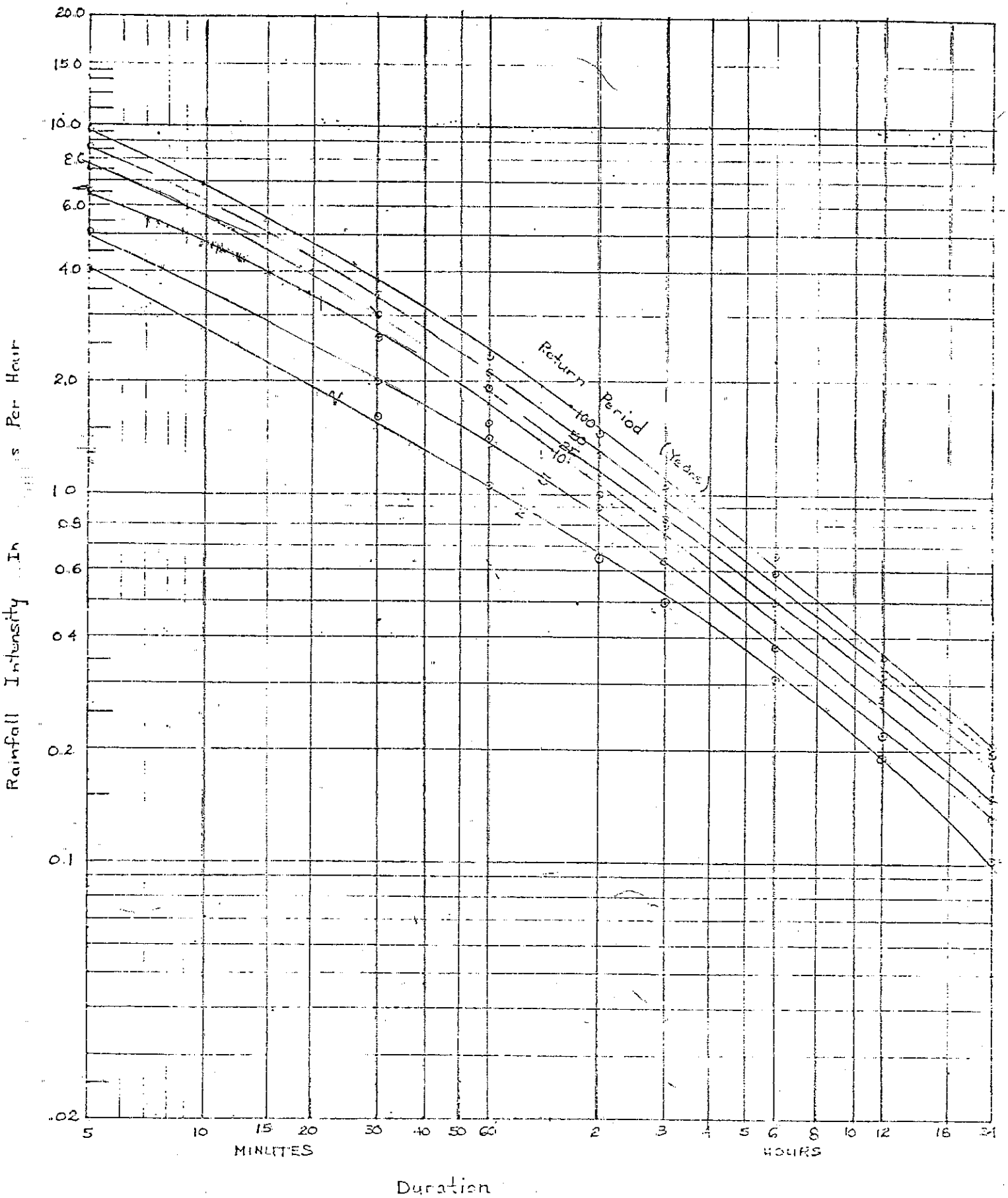


Figure 3-10 Overland time of flow graph

Syracuse, New York 1903-1970



APPENDIX G
(OMITTED)

APPENDIX H

0644089821

NOTICE OF INTENT

New York State Department of Environmental Conservation
Division of Water
625 Broadway, 4th Floor
Albany, New York 12233-3505

NYR _____
(for DEC use only)

Stormwater Discharges Associated with Construction Activity Under State Pollutant Discharge Elimination System (SPDES) General Permit # GP-0-20-001

All sections must be completed unless otherwise noted. Failure to complete all items may result in this form being returned to you, thereby delaying your coverage under this General Permit. Applicants must read and understand the conditions of the permit and prepare a Stormwater Pollution Prevention Plan prior to submitting this NOI. Applicants are responsible for identifying and obtaining other DEC permits that may be required.

-IMPORTANT-

RETURN THIS FORM TO THE ADDRESS ABOVE

OWNER/OPERATOR MUST SIGN FORM

Owner/Operator Information

Owner/Operator (Company Name/Private Owner Name/Municipality Name)
Th Icon Companies of Syracuse LLC

Owner/Operator Contact Person Last Name (NOT CONSULTANT)
Graziano

Owner/Operator Contact Person First Name
Zazzara

Owner/Operator Mailing Address
344 S. Warren St. Suite 202

City
Syracuse

State
NY

Zip
13202 -

Phone (Owner/Operator)
315 - 29 - 9 62

Fax (Owner/Operator)
- -

Email (Owner/Operator)
gzazzara@theiconcompanies.com

FED TAX ID
45 - 5442527 (not required for individuals)

Project Site Information

Project/Site Name
Enders Road

Street Address (NOT P.O. BOX)
4600 Enders Road

Side of Street
○ **North** ○ **South** ● **East** ○ **West**

City/Town/Village (THAT ISSUES BUILDING PERMIT)
Manlius

State: NY
Zip: 13104 -
County: Onondaga
DEC Region: 7

Name of Nearest Cross Street
Market Place

Distance to Nearest Cross Street (Feet)
197

Project In Relation to Cross Street
○ **North** ○ **South** ○ **East** ● **West**

Tax Map Numbers
Section-Block-Parcel
117.2-01-04.0

Tax Map Numbers

1. Provide the Geographic Coordinates for the project site. To do this, go to the NYSDEC Stormwater Interactive Map on the DEC website at:

https://gisservices.dec.ny.gov/gis/stormwater/

Zoom into your Project Location such that you can accurately click on the centroid of your site. Once you have located the centroid of your project site, go to the bottom right hand corner of the map for the X, Y coordinates. Enter the coordinates into the boxes below. For problems with the interactive map use the help function.

X Coordinates (Easting)
-7 5 9 5 6
Ex. -73.749

Y Coordinates (Northing)
4 2 9 9 4
Ex. 42.652

2. What is the nature of this construction project?

○ **New Construction**

○ **Redevelopment with increase in impervious area**

● **Redevelopment with no increase in impervious area**

3. Select the predominant land use for both pre and post development conditions.
SELECT ONLY ONE CHOICE FOR EACH

Pre-Development Existing Land Use

- ○ FOREST
- ○ PASTURE/OPEN LAND
- ○ CULTIVATED LAND
- ○ SINGLE FAMILY HOME
- ○ SINGLE FAMILY SUBDIVISION
- ○ TOWN HOME RESIDENTIAL
- ○ MULTIFAMILY RESIDENTIAL
- ○ INSTITUTIONAL/SCHOOL
- ○ INDUSTRIAL
- ● COMMERCIAL
- ○ ROAD/HIGHWAY
- ○ RECREATIONAL/SPORTS FIELD
- ○ BIKE PATH/TRAIL
- ○ LINEAR UTILITY
- ○ PARKING LOT
- ○ OTHER

Post-Development Future Land Use

- ○ SINGLE FAMILY HOME
- ○ SINGLE FAMILY SUBDIVISION — Number of Lots
- ○ TOWN HOME RESIDENTIAL
- ○ MULTIFAMILY RESIDENTIAL
- ○ INSTITUTIONAL/SCHOOL
- ○ INDUSTRIAL
- ● COMMERCIAL
- ○ MUNICIPAL
- ○ ROAD/HIGHWAY
- ○ RECREATIONAL/SPORTS FIELD
- ○ BIKE PATH/TRAIL
- ○ LINEAR UTILITY (water, sewer, gas, etc.)
- ○ PARKING LOT
- ○ CLEARING/GRADING ONLY
- ○ DEMOLITION, NO REDEVELOPMENT
- ○ WELL DRILLING ACTIVITY *(Oil, Gas, etc.)
- ○ OTHER

***Note**: for gas well drilling, non-high volume hydraulic fractured wells only

4. In accordance with the larger common plan of development or sale, enter the total project site area; the total area to be disturbed; existing impervious area to be disturbed (for redevelopment activities); and the future impervious area constructed within the disturbed area. (Round to the nearest tenth of an acre.)

Total Site Area	Total Area To Be Disturbed	Existing Impervious Area To Be Disturbed	Future Impervious Area Within Disturbed Area
3.4	1.2	1.2	0.5

5. Do you plan to disturb more than 5 acres of soil at any one time? ○ **Yes** ● **No**

6. Indicate the percentage of each Hydrologic Soil Group(HSG) at the site.

A	B	C	D
0 %	0 %	100 %	0 %

7. Is this a phased project? ○ **Yes** ● **No**

8. Enter the planned start and end dates of the disturbance activities.

Start Date __ / __ / ____ – **End Date** __ / __ / ____

9. Identify the nearest surface waterbody(ies) to which construction site runoff will discharge.

Name

Limestone Creek

9a. Type of waterbody identified in Question 9?

- ○ Wetland / State Jurisdiction On Site (Answer 9b)
- ○ Wetland / State Jurisdiction Off Site
- ○ Wetland / Federal Jurisdiction On Site (Answer 9b)
- ○ Wetland / Federal Jurisdiction Off Site
- ○ Stream / Creek On Site
- ● Stream / Creek Off Site
- ○ River On Site
- ○ River Off Site
- ○ Lake On Site
- ○ Lake Off Site
- ○ Other Type On Site
- ○ Other Type Off Site

9b. How was the wetland identified?

- ○ Regulatory Map
- ○ Delineated by Consultant
- ○ Delineated by Army Corps of Engineers
- ○ Other (identify)

10. Has the surface waterbody(ies) in question 9 been identified as a 303(d) segment in Appendix E of GP-0-20-001? ○ **Yes** ● **No**

11. Is this project located in one of the Watersheds identified in Appendix C of GP-0-20-001? ○ **Yes** ● **No**

12. Is the project located in one of the watershed areas associated with AA and AA-S classified waters? ○ **Yes** ● **No**
If no, skip question 13.

13. Does this construction activity disturb land with no existing impervious cover and where the Soil Slope Phase is identified as an E or F on the USDA Soil Survey? ○ **Yes** ● **No**
If Yes, what is the acreage to be disturbed?

.

14. Will the project disturb soils within a State regulated wetland or the protected 100 foot adjacent area? ○ **Yes** ● **No**

15. Does the site runoff enter a separate storm sewer system (including roadside drains, swales, ditches, culverts, etc)? ● Yes ○ No ○ Unknown

16. What is the name of the municipality/entity that owns the separate storm sewer system?

Town of Manlius

17. Does any runoff from the site enter a sewer classified as a Combined Sewer? ○ Yes ● No ○ Unknown

18. Will future use of this site be an agricultural property as defined by the NYS Agriculture and Markets Law? ○ Yes ● No

19. Is this property owned by a state authority, state agency, federal government or local government? ○ Yes ● No

20. Is this a remediation project being done under a Department approved work plan? (i.e. CERCLA, RCRA, Voluntary Cleanup Agreement, etc.) ○ Yes ● No

21. Has the required Erosion and Sediment Control component of the SWPPP been developed in conformance with the current NYS Standards and Specifications for Erosion and Sediment Control (aka Blue Book)? ● Yes ○ No

22. Does this construction activity require the development of a SWPPP that includes the post-construction stormwater management practice component (i.e. Runoff Reduction, Water Quality and Quantity Control practices/techniques)? ○ Yes ● No
If No, skip questions 23 and 27-39.

23. Has the post-construction stormwater management practice component of the SWPPP been developed in conformance with the current NYS Stormwater Management Design Manual? ○ Yes ● No

24. The Stormwater Pollution Prevention Plan (SWPPP) was prepared by:

- ● **Professional Engineer (P.E.)**
- ○ **Soil and Water Conservation District (SWCD)**
- ○ **Registered Landscape Architect (R.L.A)**
- ● **Certified Professional in Erosion and Sediment Control (CPESC)**
- ○ **Owner/Operator**
- ○ **Other**

SWPPP Preparer
Rudy Zona

Contact Name (Last, Space, First)
Zona Rudy

Mailing Address
6320 Fly Road

City
East Syracuse

State Zip
NY 13057-

Phone
315-43-210

Fax
-

Email
rzona@rzengineering.com

SWPPP Preparer Certification

I hereby certify that the Stormwater Pollution Prevention Plan (SWPPP) for this project has been prepared in accordance with the terms and conditions of the GP-0-20-001. Furthermore, I understand that certifying false, incorrect or inaccurate information is a violation of this permit and the laws of the State of New York and could subject me to criminal, civil and/or administrative proceedings.

First Name
Rudy

MI
L

Last Name
Zona

Signature

Date
3/28/2023

25. Has a construction sequence schedule for the planned management practices been prepared? ○ Yes ● No

26. Select **all** of the erosion and sediment control practices that will be employed on the project site:

Temporary Structural

- ● Check Dams
- ● Construction Road Stabilization
- ● Dust Control
- ○ Earth Dike
- ○ Level Spreader
- ○ Perimeter Dike/Swale
- ○ Pipe Slope Drain
- ○ Portable Sediment Tank
- ○ Rock Dam
- ● Sediment Basin
- ○ Sediment Traps
- ● Silt Fence
- ● Stabilized Construction Entrance
- ● Storm Drain Inlet Protection
- ○ Straw/Hay Bale Dike
- ○ Temporary Access Waterway Crossing
- ○ Temporary Stormdrain Diversion
- ○ Temporary Swale
- ○ Turbidity Curtain
- ○ Water bars

Biotechnical

- ○ Brush Matting
- ○ Wattling

Vegetative Measures

- ○ Brush Matting
- ○ Dune Stabilization
- ○ Grassed Waterway
- ○ Mulching
- ○ Protecting Vegetation
- ○ Recreation Area Improvement
- ● Seeding
- ● Sodding
- ○ Straw/Hay Bale Dike
- ○ Streambank Protection
- ○ Temporary Swale
- ○ Topsoiling
- ○ Vegetating Waterways

Permanent Structural

- ○ Debris Basin
- ○ Diversion
- ○ Grade Stabilization Structure
- ● Land Grading
- ○ Lined Waterway (Rock)
- ○ Paved Channel (Concrete)
- ○ Paved Flume
- ○ Retaining Wall
- ○ Riprap Slope Protection
- ○ Rock Outlet Protection
- ○ Streambank Protection

Other

Post-construction Stormwater Management Practice (SMP) Requirements

Important: Completion of Questions 27-39 is not required if response to Question 22 is No.

27. Identify all site planning practices that were used to prepare the final site plan/layout for the project.

- ○ **Preservation of Undisturbed Areas**
- ○ **Preservation of Buffers**
- ○ **Reduction of Clearing and Grading**
- ○ **Locating Development in Less Sensitive Areas**
- ○ **Roadway Reduction**
- ● **Sidewalk Reduction**
- ● **Driveway Reduction**
- ○ **Cul-de-sac Reduction**
- ○ **Building Footprint Reduction**
- ● **Parking Reduction**

27a. Indicate which of the following soil restoration criteria was used to address the requirements in Section 5.1.6("Soil Restoration") of the Design Manual (2010 version).

○ All disturbed areas will be restored in accordance with the Soil Restoration requirements in Table 5.3 of the Design Manual (see page 5-22).

○ Compacted areas were considered as impervious cover when calculating the **WQv Required**, and the compacted areas were assigned a post-construction Hydrologic Soil Group (HSG) designation that is one level less permeable than existing conditions for the hydrology analysis.

28. Provide the total Water Quality Volume (WQv) required for this project (based on final site plan/layout).

Total WQv Required

☐☐☐.☐☐☐ **acre-feet**

29. Identify the RR techniques (Area Reduction), RR techniques(Volume Reduction) and Standard SMPs with RRv Capacity in Table 1 (See Page 9) that were used to reduce the Total WQv Required(#28).

Also, provide in Table 1 the total impervious area that contributes runoff to each technique/practice selected. For the Area Reduction Techniques, provide the total contributing area (includes pervious area) and, if applicable, the total impervious area that contributes runoff to the technique/practice.

Note: Redevelopment projects shall use Tables 1 and 2 to identify the SMPs used to treat and/or reduce the WQv required. If runoff reduction techniques will not be used to reduce the required WQv, skip to question 33a after identifying the SMPs.

Table 1 - Runoff Reduction (RR) Techniques and Standard Stormwater Management Practices (SMPs)

	Total Contributing Area (acres)		Total Contributing Impervious Area (acres)
RR Techniques (Area Reduction)			
○ Conservation of Natural Areas (RR-1) ...	___ . ___	and/or	___ . ___
○ Sheetflow to Riparian Buffers/Filters Strips (RR-2)	___ . ___	and/or	___ . ___
○ Tree Planting/Tree Pit (RR-3)	___ . ___	and/or	___ . ___
○ Disconnection of Rooftop Runoff (RR-4) ..	___ . ___	and/or	___ . ___
RR Techniques (Volume Reduction)			
○ Vegetated Swale (RR-5)			___ . ___
○ Rain Garden (RR-6)			___ . ___
○ Stormwater Planter (RR-7)			___ . ___
○ Rain Barrel/Cistern (RR-8)			___ . ___
○ Porous Pavement (RR-9)			___ . ___
○ Green Roof (RR-10)			___ . ___
Standard SMPs with RRv Capacity			
○ Infiltration Trench (I-1)			___ . ___
○ Infiltration Basin (I-2)			___ . ___
○ Dry Well (I-3)			___ . ___
○ Underground Infiltration System (I-4)			___ . ___
○ Bioretention (F-5)			___ . ___
○ Dry Swale (O-1)			___ . ___
Standard SMPs			
○ Micropool Extended Detention (P-1)			___ . ___
○ Wet Pond (P-2)			___ . ___
○ Wet Extended Detention (P-3)			___ . ___
○ Multiple Pond System (P-4)			___ . ___
○ Pocket Pond (P-5)			___ . ___
○ Surface Sand Filter (F-1)			___ . ___
○ Underground Sand Filter (F-2)			___ . ___
○ Perimeter Sand Filter (F-3)			___ . ___
○ Organic Filter (F-4)			___ . ___
○ Shallow Wetland (W-1)			___ . ___
○ Extended Detention Wetland (W-2)			___ . ___
○ Pond/Wetland System (W-3)			___ . ___
○ Pocket Wetland (W-4)			___ . ___
○ Wet Swale (O-2)			___ . ___

Table 2 - Alternative SMPs (DO NOT INCLUDE PRACTICES BEING USED FOR PRETREATMENT ONLY)

Alternative SMP	Total Contributing Impervious Area (acres)
○ **Hydrodynamic**	___ . ___
○ **Wet Vault**	___ . ___
○ **Media Filter**	___ . ___
○ **Other** _____	___ . ___

Provide the name and manufacturer of the Alternative SMPs (i.e. proprietary practice(s)) being used for WQv treatment.

Name _____

Manufacturer _____

Note: Redevelopment projects which do not use RR techniques, shall use questions 28, 29, 33 and 33a to provide SMPs used, total WQv required and total WQv provided for the project.

30. Indicate the Total RRv provided by the RR techniques (Area/Volume Reduction) and Standard SMPs with RRv capacity identified in question 29.

Total RRv provided

___ . ___ **acre-feet**

31. Is the Total RRv provided (#30) greater than or equal to the total WQv required (#28).

○ **Yes** ○ **No**

If Yes, go to question 36.
If No, go to question 32.

32. Provide the Minimum RRv required based on HSG.
[Minimum RRv Required = (P)(0.95)(Ai)/12, Ai=(S)(Aic)]

Minimum RRv Required

___ . ___ **acre-feet**

32a. Is the Total RRv provided (#30) greater than or equal to the Minimum RRv Required (#32)?

○ **Yes** ○ **No**

If Yes, go to question 33.
Note: Use the space provided in question #39 to summarize the specific site limitations and justification for not reducing 100% of WQv required (#28). A detailed evaluation of the specific site limitations and justification for not reducing 100% of the WQv required (#28) must also be included in the SWPPP.
If No, sizing criteria has not been met, so NOI can not be processed. SWPPP preparer must modify design to meet sizing criteria.

33. Identify the Standard SMPs in Table 1 and, if applicable, the Alternative SMPs in Table 2 that were used to treat the remaining total WQv(=Total WQv Required in 28 - Total RRv Provided in 30).

Also, provide in Table 1 and 2 the total impervious area that contributes runoff to each practice selected.

Note: Use Tables 1 and 2 to identify the SMPs used on Redevelopment projects.

33a. Indicate the Total WQv provided (i.e. WQv treated) by the SMPs identified in question #33 and Standard SMPs with RRv Capacity identified in question 29.

WQv Provided

[ ][ ][ ].[ ][ ][ ] **acre-feet**

Note: For the standard SMPs with RRv capacity, the WQv provided by each practice = the WQv calculated using the contributing drainage area to the practice - RRv provided by the practice. (See Table 3.5 in Design Manual)

34. Provide the sum of the Total RRv provided (#30) and the WQv provided (#33a). [ ][ ][ ].[ ][ ][ ]

35. Is the sum of the RRv provided (#30) and the WQv provided (#33a) greater than or equal to the total WQv required (#28)? ○ **Yes** ○ **No**

If Yes, go to question 36.
If No, sizing criteria has not been met, so NOI can not be processed. SWPPP preparer must modify design to meet sizing criteria.

36. Provide the total Channel Protection Storage Volume (CPv) required and provided or select waiver (36a), if applicable.

CPv Required

[ ][ ][ ].[ ][ ][ ] **acre-feet**

CPv Provided

[ ][ ][ ].[ ][ ][ ] **acre-feet**

36a. The need to provide channel protection has been waived because:

○ Site discharges directly to tidal waters or a fifth order or larger stream.

● Reduction of the total CPv is achieved on site through runoff reduction techniques or infiltration systems.

37. Provide the Overbank Flood (Qp) and Extreme Flood (Qf) control criteria or select waiver (37a), if applicable.

Total Overbank Flood Control Criteria (Qp)

Pre-Development

[ ][ ][ ].[ ][ ][ ] **CFS**

Post-development

[ ][ ][ ].[ ][ ][ ] **CFS**

Total Extreme Flood Control Criteria (Qf)

Pre-Development

[ ][ ][ ].[ ][ ][ ] **CFS**

Post-development

[ ][ ][ ].[ ][ ][ ] **CFS**

37a. The need to meet the Qp and Qf criteria has been waived because:

- ○ Site discharges directly to tidal waters or a fifth order or larger stream.
- ● Downstream analysis reveals that the Qp and Qf controls are not required

38. Has a long term Operation and Maintenance Plan for the post-construction stormwater management practice(s) been developed? ○ **Yes** ○ **No**

If Yes, Identify the entity responsible for the long term Operation and Maintenance

39. Use this space to summarize the specific site limitations and justification for not reducing 100% of WQv required(#28). (See question 32a) This space can also be used for other pertinent project information.

40. Identify other DEC permits, existing and new, that are required for this project/facility.

- ○ Air Pollution Control
- ○ Coastal Erosion
- ○ Hazardous Waste
- ○ Long Island Wells
- ○ Mined Land Reclamation
- ○ Solid Waste
- ○ Navigable Waters Protection / Article 15
- ○ Water Quality Certificate
- ○ Dam Safety
- ○ Water Supply
- ○ Freshwater Wetlands/Article 24
- ○ Tidal Wetlands
- ○ Wild, Scenic and Recreational Rivers
- ○ Stream Bed or Bank Protection / Article 15
- ○ Endangered or Threatened Species(Incidental Take Permit)
- ○ Individual SPDES
- ○ SPDES Multi-Sector GP N Y R
- ○ Other
- ● None

41. Does this project require a US Army Corps of Engineers Wetland Permit? ○ **Yes** ● **No**
If Yes, Indicate Size of Impact. .

42. Is this project subject to the requirements of a regulated, traditional land use control MS4? ● **Yes** ○ **No**
(If No, skip question 43)

43. Has the "MS4 SWPPP Acceptance" form been signed by the principal executive officer or ranking elected official and submitted along with this NOI? ● **Yes** ○ **No**

44. If this NOI is being submitted for the purpose of continuing or transferring coverage under a general permit for stormwater runoff from construction activities, please indicate the former SPDES number assigned. N Y R

Owner/Operator Certification

I have read or been advised of the permit conditions and believe that I understand them. I also understand that, under the terms of the permit, there may be reporting requirements. I hereby certify that this document and the corresponding documents were prepared under my direction or supervision. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations. I further understand that coverage under the general permit will be identified in the acknowledgment that I will receive as a result of submitting this NOI and can be as long as sixty (60) business days as provided for in the general permit. I also understand that, by submitting this NOI, I am acknowledging that the SWPPP has been developed and will be implemented as the first element of construction, and agreeing to comply with all the terms and conditions of the general permit for which this NOI is being submitted.

Print First Name: Graziano

MI:

Print Last Name: Zazzara

Owner/Operator Signature:

Date: 03 / 28 / 2023

ATTACHMENT 1

Construction Stormwater Compliance Inspection Report

Project Name and Location:	Date:	Page 1 of 2
	Permit # (if any): **NYR**	
Municipality: County:	Entry Time:	Exit Time:
On-site Representative(s) and contact information:	Weather Conditions:	
Name and Address of SPDES Permittee/Title/Phone/Fax Numbers: Contacted: Yes ☐ No ☐		

INSPECTION CHECKLIST

SPDES Authority

	Yes	No	N/A		Law, rule or permit citation
1.	☐	☐	☐	Is a copy of the NOI posted at the construction site for public viewing?	
2.	☐	☐	☐	Is an up-to-date copy of the signed SWPPP retained at the construction site?	
3.	☐	☐	☐	Is a copy of the SPDES General Permit retained at the construction site?	

SWPPP Content

	Yes	No	N/A		Law, rule or permit citation
4.	☐	☐	☐	Does the SWPPP describe and identify the erosion & sediment control measures to be employed?	
5.	☐	☐	☐	Does the SWPPP provide a maintenance schedule for the erosion & sediment control measures?	
6.	☐	☐	☐	Does the SWPPP describe and identify the post-construction SW control measures to be employed?	
7.	☐	☐	☐	Does the SWPPP identify the contractor(s) and subcontractor(s) responsible for each measure?	
8.	☐	☐	☐	Does the SWPPP include all the necessary 'CONTRACTOR CERTIFICATION' statements?	
9.	☐	☐	☐	Is the SWPPP signed/certified by the permittee?	

Recordkeeping

	Yes	No	N/A		Law, rule or permit citation
10.	☐	☐	☐	Are inspections performed as required by the permit (every 7 days and after ½" rain event)?	
11.	☐	☐	☐	Are the site inspections performed by a qualified professional?	
12.	☐	☐	☐	Are all required reports properly signed/certified?	
13.	☐	☐	☐	Does the SWPPP include copies of the monthly/quarterly written summaries of compliance status?	

Visual Observations

	Yes	No	N/A		Law, rule or permit citation
14.	☐	☐	☐	Are all erosion and sediment control measures installed/constructed?	
15.	☐	☐	☐	Are all erosion and sediment control measures maintained properly?	
16.	☐	☐	☐	Have all disturbances of 5 acres or more been approved prior to the disturbance?	
17.	☐	☐	☐	Are stabilization measures initiated in inactive areas?	
18.	☐	☐	☐	Are permanent stormwater control measures implemented?	
19.	☐	☐	☐	Was there a discharge into the receiving water on the day of inspection?	
20.	☐	☐	☐	Are receiving waters free of there evidence of turbidity, sedimentation, or oil ? (If no , complete Page 2)	

Overall Inspection Rating: ❑ Satisfactory ❑ Marginal ❑ Unsatisfactory	
Name/Agency of Lead Inspector:	**Signature of Lead Inspector:**
Names/Agencies of Other Inspectors:	

Water Quality Observations

Describe the discharge(s) [source(s), impact on receiving water(s), etc.] _____

_____

_____

_____

_____

Describe the quality of the receiving water(s) both upstream and downstream of the discharge_____

_____

_____

_____

_____

Describe any other water quality standards or permit violations _____

_____

_____

Additional Comments:_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

☐ Photographs attached

SITE PLAN/SKETCH

Inspector (print name)	**Date of Inspection**
Qualified Professional (print name)	**Qualified Professional Signature**

The above signed acknowledges that, to the best of his/her knowledge, all information provided on the forms is accurate and complete.

Maintaining Water Quality

Yes No NA
[ ] [ ] [ ] Is there an increase in turbidity causing a substantial visible contrast to natural conditions?
[ ] [ ] [ ] Is there residue from oil and floating substances, visible oil film, or globules or grease?
[ ] [ ] [ ] All disturbance is within the limits of the approved plans.
[ ] [ ] [ ] Have receiving lake/bay, stream, and/or wetland been impacted by silt from project?

Housekeeping

1. General Site Conditions
Yes No NA
[ ] [ ] [ ] Is construction site litter and debris appropriately managed?
[ ] [ ] [ ] Are facilities and equipment necessary for implementation of erosion and sediment control in working order and/or properly maintained?
[ ] [ ] [ ] Is construction impacting the adjacent property?
[ ] [ ] [ ] Is dust adequately controlled?

2. Temporary Stream Crossing
Yes No NA
[ ] [ ] [ ] Maximum diameter pipes necessary to span creek without dredging are installed.
[ ] [ ] [ ] Installed non-woven geotextile fabric beneath approaches.
[ ] [ ] [ ] Is fill composed of aggregate (no earth or soil)?
[ ] [ ] [ ] Rock on approaches is clean enough to remove mud from vehicles & prevent sediment from entering stream during high flow.

Runoff Control Practices

1. Excavation Dewatering
Yes No NA
[ ] [ ] [ ] Upstream and downstream berms (sandbags, inflatable dams, etc.) are installed per plan.
[ ] [ ] [ ] Clean water from upstream pool is being pumped to the downstream pool.
[ ] [ ] [ ] Sediment laden water from work area is being discharged to a silt-trapping device.
[ ] [ ] [ ] Constructed upstream berm with one-foot minimum freeboard.

2. Level Spreader
Yes No NA
[ ] [ ] [ ] Installed per plan.
[ ] [ ] [ ] Constructed on undisturbed soil, not on fill, receiving only clear, non-sediment laden flow.
[ ] [ ] [ ] Flow sheets out of level spreader without erosion on downstream edge.

3. Interceptor Dikes and Swales
Yes No NA
[ ] [ ] [ ] Installed per plan with minimum side slopes 2H:1V or flatter.
[ ] [ ] [ ] Stabilized by geotextile fabric, seed, or mulch with no erosion occurring.
[ ] [ ] [ ] Sediment-laden runoff directed to sediment trapping structure

Runoff Control Practices (continued)

4. Stone Check Dam

Yes No NA

[ ] [ ] [ ] Is channel stable? (flow is not eroding soil underneath or around the structure).
[ ] [ ] [ ] Check is in good condition (rocks in place and no permanent pools behind the structure).
[ ] [ ] [ ] Has accumulated sediment been removed?.

5. Rock Outlet Protection

Yes No NA

[ ] [ ] [ ] Installed per plan.
[ ] [ ] [ ] Installed concurrently with pipe installation.

Soil Stabilization

1. Topsoil and Spoil Stockpiles

Yes No NA

[ ] [ ] [ ] Stockpiles are stabilized with vegetation and/or mulch.
[ ] [ ] [ ] Sediment control is installed at the toe of the slope.

2. Revegetation

Yes No NA

[ ] [ ] [ ] Temporary seedings and mulch have been applied to idle areas.
[ ] [ ] [ ] 4 inches minimum of topsoil has been applied under permanent seedings

Sediment Control Practices

1. Stabilized Construction Entrance

Yes No NA

[ ] [ ] [ ] Stone is clean enough to effectively remove mud from vehicles.
[ ] [ ] [ ] Installed per standards and specifications?
[ ] [ ] [ ] Does all traffic use the stabilized entrance to enter and leave site?
[ ] [ ] [ ] Is adequate drainage provided to prevent ponding at entrance?

2. Silt Fence

Yes No NA

[ ] [ ] [ ] Installed on Contour, 10 feet from toe of slope (not across conveyance channels).
[ ] [ ] [ ] Joints constructed by wrapping the two ends together for continuous support.
[ ] [ ] [ ] Fabric buried 6 inches minimum.
[ ] [ ] [ ] Posts are stable, fabric is tight and without rips or frayed areas.
Sediment accumulation is ___% of design capacity.

Sediment Control Practices (continued)

3. Storm Drain Inlet Protection (Use for Stone & Block; Filter Fabric; Curb; or, Excavated practices)

Yes No NA

[ ] [ ] [ ] Installed concrete blocks lengthwise so open ends face outward, not upward.
[ ] [ ] [ ] Placed wire screen between No. 3 crushed stone and concrete blocks.
[ ] [ ] [ ] Drainage area is 1acre or less.
[ ] [ ] [ ] Excavated area is 900 cubic feet.
[ ] [ ] [ ] Excavated side slopes should be 2:1.
[ ] [ ] [ ] 2" x 4" frame is constructed and structurally sound.
[ ] [ ] [ ] Posts 3-foot maximum spacing between posts.
[ ] [ ] [ ] Fabric is embedded 1 to 1.5 feet below ground and secured to frame/posts with staples at max 8-inch spacing.
[ ] [ ] [ ] Posts are stable, fabric is tight and without rips or frayed areas.

Sediment accumulation ___% of design capacity.

4. Temporary Sediment Trap

Yes No NA

[ ] [ ] [ ] Outlet structure is constructed per the approved plan or drawing.
[ ] [ ] [ ] Geotextile fabric has been placed beneath rock fill.

Sediment accumulation is ___% of design capacity.

5. Temporary Sediment Basin

Yes No NA

[ ] [ ] [ ] Basin and outlet structure constructed per the approved plan.
[ ] [ ] [ ] Basin side slopes are stabilized with seed/mulch.
[ ] [ ] [ ] Drainage structure flushed and basin surface restored upon removal of sediment basin facility.

Sediment accumulation is ___% of design capacity.

Note: Not all erosion and sediment control practices are included in this listing. Add additional pages to this list as required by site specific design.
Construction inspection checklists for post-development stormwater management practices can be found in Appendix F of the New York Stormwater Management Design Manual.

New York State Department of Environmental Conservation
Division of Water
625 Broadway, 4th Floor
Albany, New York 12233-3505
(NOTE: Submit completed form to address above)

NOTICE OF TERMINATION for Storm Water Discharges Authorized under the SPDES General Permit for Construction Activity

Please indicate your permit identification number: NYR ___ ___ ___ ___ ___ ___

I. Owner or Operator Information	
1. Owner/Operator Name:	
2. Street Address:	
3. City/State/Zip:	
4. Contact Person:	4a.Telephone:
4b. Contact Person E-Mail:	
II. Project Site Information	
5. Project/Site Name:	
6. Street Address:	
7. City/Zip:	
8. County:	
III. Reason for Termination	
9a. □ All disturbed areas have achieved final stabilization in accordance with the general permit and SWPPP. ***Date final stabilization completed** (month/year): _____	
9b. □ Permit coverage has been transferred to new owner/operator. Indicate new owner/operator's permit identification number: NYR ___ ___ ___ ___ ___ ___ (Note: Permit coverage can not be terminated by owner identified in I.1. above until new owner/operator obtains coverage under the general permit)	
9c. □ Other (Explain on Page 2)	
IV. Final Site Information:	
10a. Did this construction activity require the development of a SWPPP that includes post-construction stormwater management practices? □ yes □ no (If no, go to question 10f.)	
10b. Have all post-construction stormwater management practices included in the final SWPPP been constructed? □ yes □ no (If no, explain on Page 2)	
10c. Identify the entity responsible for long-term operation and maintenance of practice(s)? _____	

NOTICE OF TERMINATION for Storm Water Discharges Authorized under the SPDES General Permit for Construction Activity - continued

10d. Has the entity responsible for long-term operation and maintenance been given a copy of the operation and maintenance plan required by the general permit? □ yes □ no

10e. Indicate the method used to ensure long-term operation and maintenance of the post-construction stormwater management practice(s):

□ Post-construction stormwater management practice(s) and any right-of-way(s) needed to maintain practice(s) have been deeded to the municipality.

□ Executed maintenance agreement is in place with the municipality that will maintain the post-construction stormwater management practice(s).

□ For post-construction stormwater management practices that are privately owned, a mechanism is in place that requires operation and maintenance of the practice(s) in accordance with the operation and maintenance plan, such as a deed covenant in the owner or operator's deed of record.

□ For post-construction stormwater management practices that are owned by a public or private institution (e.g. school, university or hospital), government agency or authority, or public utility; policy and procedures are in place that ensures operation and maintenance of the practice(s) in accordance with the operation and maintenance plan.

10f. Provide the total area of impervious surface (i.e. roof, pavement, concrete, gravel, etc.) constructed within the disturbance area? _____ (acres)

11. Is this project subject to the requirements of a regulated, traditional land use control MS4? □ yes □ no

(If Yes, complete section VI - "MS4 Acceptance" statement

V. Additional Information/Explanation:

(Use this section to answer questions 9c. and 10b., if applicable)

VI. MS4 Acceptance - MS4 Official (principal executive officer or ranking elected official) or Duly Authorized Representative (Note: Not required when 9b. is checked -transfer of coverage)

I have determined that it is acceptable for the owner or operator of the construction project identified in question 5 to submit the Notice of Termination at this time.

Printed Name:

Title/Position:

Signature:	Date:

NOTICE OF TERMINATION for Storm Water Discharges Authorized under the SPDES General Permit for Construction Activity - continued	
VII. Qualified Inspector Certification - Final Stabilization:	
I hereby certify that all disturbed areas have achieved final stabilization as defined in the current version of the general permit, and that all temporary, structural erosion and sediment control measures have been removed. Furthermore, I understand that certifying false, incorrect or inaccurate information is a violation of the referenced permit and the laws of the State of New York and could subject me to criminal, civil and/or administrative proceedings.	
Printed Name:	
Title/Position:	
Signature:	Date:
VIII. Qualified Inspector Certification - Post-construction Stormwater Management Practice(s):	
I hereby certify that all post-construction stormwater management practices have been constructed in conformance with the SWPPP. Furthermore, I understand that certifying false, incorrect or inaccurate information is a violation of the referenced permit and the laws of the State of New York and could subject me to criminal, civil and/or administrative proceedings.	
Printed Name:	
Title/Position:	
Signature:	Date:
IX. Owner or Operator Certification	
I hereby certify that this document was prepared by me or under my direction or supervision. My determination, based upon my inquiry of the person(s) who managed the construction activity, or those persons directly responsible for gathering the information, is that the information provided in this document is true, accurate and complete. Furthermore, I understand that certifying false, incorrect or inaccurate information is a violation of the referenced permit and the laws of the State of New York and could subject me to criminal, civil and/or administrative proceedings.	
Printed Name:	
Title/Position:	
Signature:	Date:

(NYS DEC Notice of Termination - January 2015)

APPENDIX I

STANDARD AND SPECIFICATIONS FOR STABILIZED CONSTRUCTION ACCESS

Definition & Scope

A stabilized pad of aggregate underlain with geotextile located at any point where traffic will be entering or leaving a construction site to or from a public right-of-way, street, alley, sidewalk, or parking area. The purpose of stabilized construction access is to reduce or eliminate the tracking of sediment onto public rights-of-way or streets.

Conditions Where Practice Applies

A stabilized construction access shall be used at all points of construction ingress and egress.

Design Criteria

See Figure 2.1 on page 2.31 for details.

Aggregate Size: Use a matrix of 1-4 inch stone, or reclaimed or recycled concrete equivalent.

Thickness: Not less than six (6) inches.

Width: 12-foot minimum but not less than the full width of points where ingress or egress occurs. 24-foot minimum if there is only one access to the site.

Length: As required, but not less than 50 feet (except on a single residence lot where a 30 foot minimum would apply).

Geotextile: To be placed over the entire area to be covered with aggregate. Filter cloth will not be required on a single-family residence lot. Piping of surface water under entrance shall be provided as required. If piping is impossible, a mountable berm with 5:1 slopes will be permitted.

Criteria for Geotextile: The geotextile shall be woven or nonwoven fabric consisting only of continuous chain polymeric filaments or yarns of polyester. The fabric shall be inert to commonly encountered chemicals, hydro-carbons, mildew, rot resistant, and conform to the fabric properties as shown:

Fabric Properties[3]	Light Duty[1] Roads Grade Subgrade	Heavy Duty[2] Haul Roads Rough Graded	Test Method
Grab Tensile Strength (lbs)	200	220	ASTM D1682
Elongation at Failure (%)	50	60	ASTM D1682
Mullen Burst Strength (lbs)	190	430	ASTM D3786
Puncture Strength (lbs)	40	125	ASTM D751 Modified
Equivalent	40-80	40-80	US Std Sieve
Opening Size			CW-02215
Aggregate Depth	6	10	-

[1]Light Duty Road: Area sites that have been graded to subgrade and where most travel would be single axle vehicles and an occasional multi-axle truck. Acceptable materials are Trevira Spunbond 1115, Mirafi 100X, Typar 3401, or equivalent.

[2]Heavy Duty Road: Area sites with only rough grading, and where most travel would be multi-axle vehicles. Acceptable materials are Trevira Spunbond 1135, Mirafi 600X, or equivalent.

[3]Fabrics not meeting these specifications may be used only when design procedure and supporting documentation are supplied to determine aggregate depth and fabric strength.

Maintenance

The access shall be maintained in a condition which will prevent tracking of sediment onto public rights-of-way or streets. This may require periodic top dressing with additional aggregate. All sediment spilled, dropped, or washed onto public rights-of-way must be removed immediately.

When necessary, wheels must be cleaned to remove sediment prior to entrance onto public rights-of-way. When washing is required, it shall be done on an area stabilized with aggregate, which drains into an approved sediment-trapping device. All sediment shall be prevented from entering storm drains, ditches, or watercourses.

STANDARD AND SPECIFICATIONS FOR CONSTRUCTION ROAD STABILIZATION

Definition & Scope

The stabilization of temporary construction access routes, on-site vehicle transportation routes, and construction parking areas to control erosion on temporary construction routes and parking areas.

Conditions Where Practice Applies

All traffic routes and parking areas for temporary use by construction traffic.

Design Criteria

Construction roads should be located to reduce erosion potential, minimize impact on existing site resources, and maintain operations in a safe manner. Highly erosive soils, wet or rocky areas, and steep slopes should be avoided. Roads should be routed where seasonal water tables are deeper than 18 inches. Surface runoff and control should be in accordance with other standards.

Road Grade – A maximum grade of 12% is recommended, although grades up to 15% are possible for short distances.

Road Width – 12 foot minimum for one-way traffic or 24 foot minimum for two-way traffic.

Side Slope of Road Embankment – 2:1 or flatter.

Ditch Capacity – On-site roadside ditch and culvert capacities shall be the 10 yr. peak runoff.

Composition – Use a 6-inch layer of NYS DOT sub-base Types 1,2,3, 4 or equivalent as specified in NYSDOT Standard Specifications.

Construction Specifications

1. Clear and strip roadbed and parking areas of all vegetation, roots, and other objectionable material.

2. Locate parking areas on naturally flat areas as available. Keep grades sufficient for drainage, but not more than 2 to 3 percent.

3. Provide surface drainage and divert excess runoff to stabilized areas.

4. Maintain cut and fill slopes to 2:1 or flatter and stabilized with vegetation as soon as grading is accomplished.

5. Spread 6-inch layer of sub-base material evenly over the full width of the road and smooth to avoid depressions.

6. Provide appropriate sediment control measures to prevent offsite sedimentation.

Maintenance

Inspect construction roads and parking areas periodically for condition of surface. Top dress with new gravel as needed. Check ditches for erosion and sedimentation after rainfall events. Maintain vegetation in a healthy, vigorous condition. Areas producing sediment should be treated immediately.

New York State
DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Division of Water

Deep-Ripping and Decompaction

April 2008

New York State
Department of Environmental Conservation

Document Prepared by:

John E. Lacey,
Land Resource Consultant and Environmental Compliance Monitor
(Formerly with the Division of Agricultural Protection and Development Services,
NYS Dept. of Agriculture & Markets)

Alternative Stormwater Management
Deep-Ripping and Decompaction

Description

The two-phase practice of 1) “Deep Ripping;” and 2) “Decompaction” (deep subsoiling), of the soil material as a step in the cleanup and restoration/landscaping of a construction site, helps mitigate the physically induced impacts of soil compression; i.e.: soil compaction or the substantial increase in the bulk density of the soil material.

Deep Ripping and Decompaction are key factors which help in restoring soil pore space and permeability for water infiltration. Conversely, the physical actions of cut-and-fill work, land grading, the ongoing movement of construction equipment and the transport of building materials throughout a site alter the architecture and structure of the soil, resulting in: the mixing of layers (horizons) of soil materials, compression of those materials and diminished soil porosity which, if left unchecked, severely impairs the soil’s water holding capacity and vertical drainage (rainfall infiltration), from the surface downward.

In a humid climate region, compaction damage on a site is virtually guaranteed over the duration of a project. Soil in very moist to wet condition when compacted, will have severely reduced permeability. Figure 1 displays the early stage of the deep-ripping phase (Note that all topsoil was stripped prior to construction access, and it remains stockpiled until the next phase – decompaction – is complete). A heavy-duty tractor is pulling a three-shank ripper on the first of several series of incrementally deepening passes through the construction access corridor's densely compressed subsoil material. Figure 2 illustrates the approximate volumetric composition of a loam surface soil when conditions are good for plant growth, with adequate natural pore space for fluctuating moisture conditions.

Fig. 1. A typical deep ripping phase of this practice, during the first in a series of progressively deeper “rips” through severely compressed subsoil.

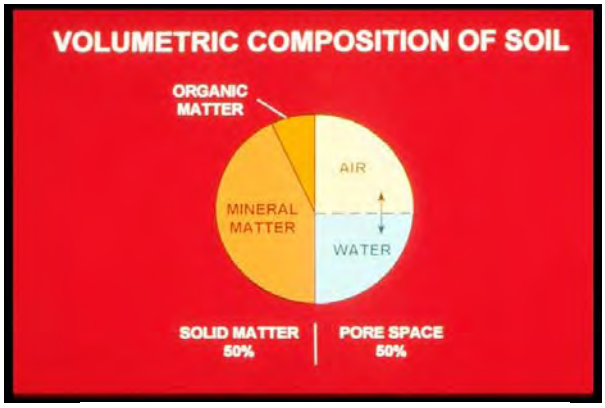


Fig. 2. About 50% of the volume of undisturbed loam surface soil is pore space, when soil is in good condition for plant growth. Brady, 2002.

Recommended Application of Practice

The objective of Deep Ripping and Decompaction is to effectively fracture (vertically and laterally) through the thickness of the physically compressed subsoil material (see Figure 3), restoring soil porosity and permeability and aiding infiltration to help reduce runoff. Together with topsoil stripping, the "two-phase" practice of Deep Ripping and Decompaction first became established as a "best management practice" through ongoing success on commercial farmlands affected by heavy utility construction right-of-way projects (transmission pipelines and large power lines).

Fig. 3. Construction site with significant compaction of the deep basal till subsoil extends 24 inches below this exposed cut-and-fill work surface.

Soil permeability, soil drainage and cropland productivity were restored. For broader construction application, the two-phase practice of Deep Ripping and Decompaction is best adapted to areas impacted with significant soil compaction, on contiguous open portions of large construction sites and inside long, open construction corridors used as temporary access over the duration of construction. Each mitigation area should have minimal above-and-below-ground obstructions for the easy avoidance and maneuvering of a large tractor and ripping/decompacting implements. Conversely, the complete two-phase practice is not recommended in congested or obstructed areas due to the limitations on tractor and implement movement.

Benefits

Aggressive "deep ripping" through the compressed thickness of exposed subsoil before the replacement/respreading of the topsoil layer, followed by "decompaction," i.e.: "sub-soiling," through the restored topsoil layer down into the subsoil, offers the following benefits:

- Increases the project (larger size) area's direct surface infiltration of rainfall by providing the open site's mitigated soil condition and lowers the demand on concentrated runoff control structures

- Enhances direct groundwater recharge through greater dispersion across and through a broader surface than afforded by some runoff-control structural measures

- Decreases runoff volume generated and provides hydrologic source control

- May be planned for application in feasible open locations either alone or in

conjunction with plans for structural practices (e.g., subsurface drain line or infiltration basin) serving the same or contiguous areas

- Promotes successful long-term revegetation by restoring soil permeability, drainage and water holding capacity for healthy (rather than restricted) root-system development of trees, shrubs and deep rooted ground cover, minimizing plant drowning during wet periods and burnout during dry periods.

Feasibility / Limitations

The effectiveness of Deep Ripping and Decompaction is governed mostly by site factors such as: the original (undisturbed) soil's hydrologic characteristics; the general slope; local weather/timing (soil moisture) for implementation; the space-related freedom of equipment/implement maneuverability (noted above in **Recommended Application of Practice**), and by the proper selection and operation of tractor and implements (explained below in **Design Guidance**). The more notable site-related factors include:

Soil

In the undisturbed condition, each identified soil type comprising a site is grouped into one of four categories of soil hydrology, Hydrologic Soil Group A, B, C or D, determined primarily by a range of characteristics including soil texture, drainage capability when thoroughly wet, and depth to water table. The natural rates of infiltration and transmission of soil-water through the undisturbed soil layers for Group A is "high" with a low runoff potential while soils in Group B are moderate in infiltration and the transmission of soil-water with a moderate runoff potential, depending somewhat on slope. Soils in Group C have slow rates of infiltration and transmission of soil-water and a moderately high runoff potential influenced by soil texture and slope; while soils in Group D have exceptionally slow rates of infiltration and transmission of soil-water, and high runoff potential.

In Figure 4, the profile displays the undisturbed horizons of a soil in Hydrologic Soil Group C and the naturally slow rate of infiltration through the subsoil. The slow rate of infiltration begins immediately below the topsoil horizon (30 cm), due to the limited amount of macro pores, e.g.: natural subsoil fractures, worm holes and root channels. Infiltration after the construction-induced mixing and compression of such subsoil material is virtually absent; but can be restored back to this natural level with the two-phase practice of deep ripping and decompaction, followed by the permanent establishment of an appropriate, deep taproot

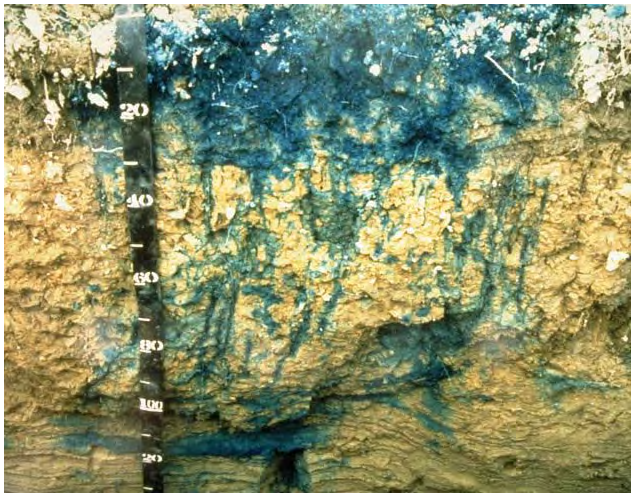


Fig. 4. Profile (in centimeters) displaying the infiltration test result of the natural undisturbed horizons of a soil in Hydrologic Soil Group C.

lawn/ground cover to help maintain the restored subsoil structure. Infiltration after construction-induced mixing and compression of such subsoil material can be notably rehabilitated with the Deep Ripping and Decompaction practice, which prepares the site for the appropriate long-term lawn/ground cover mix including deep taproot plants such as clover, fescue or trefoil, etc. needed for all rehabilitated soils.

Generally, soils in Hydrologic Soil Groups A and B, which respectively may include deep, well-drained, sandy-gravelly materials or deep, moderately well-drained basal till materials, are among the easier ones to restore permeability and infiltration, by deep ripping and decompaction. Among the many different soils in Hydrologic Soil Group C are those unique glacial tills having a natural fragipan zone, beginning about 12 to 18 inches (30 – 45cm), below surface. Although soils in Hydrologic Soil Group C do require a somewhat more carefully applied level of the Deep Ripping and Decompaction practice, it can greatly benefit such affected areas by reducing the runoff and fostering infiltration to a level equal to that of pre-disturbance.

Soils in Hydrologic Soil Group D typically have a permanent high water table close to the surface, influenced by a clay or other highly impervious layer of material. In many locations with clay subsoil material, the bulk density is so naturally high that heavy trafficking has little or no added impact on infiltration; and structural runoff control practices rather than Deep Ripping and Decompaction should be considered.

The information about Hydrologic Soil Groups is merely a general guideline. Site-specific data such as limited depths of cut-and-fill grading with minimal removal or translocation of the inherent subsoil materials (as analyzed in the county soil survey) or, conversely, the excavation and translocation of deeper, unconsolidated substratum or consolidated bedrock materials (unlike the analyzed subsoil horizons' materials referred to in the county soil survey) should always be taken into account.

Sites made up with significant quantities of large rocks, or having a very shallow depth to bedrock, are not conducive to deep ripping and decompation (subsoiling); and other measures may be more practical.

Slope

The two-phase application of 1) deep ripping and 2) decompaction (deep subsoiling), is most practical on flat, gentle and moderate slopes. In some situations, such as but not limited to temporary construction access corridors, inclusion areas that are moderately steep along a project's otherwise gentle or moderate slope may also be deep ripped and decompacted. For limited instances of moderate steepness on other projects, however, the post-construction land use and the relative alignment of the potential ripping and decompaction work in relation to the lay of the slope should be reviewed for safety and practicality. In broad construction areas predominated by moderately steep or steep slopes, the practice is generally not used.

Local Weather/Timing/Soil Moisture

Effective fracturing of compressed subsoil material from the exposed work surface, laterally and vertically down through the affected zone is achieved only when the soil material is moderately dry to moderately moist. Neither one of the two-phases, deep ripping nor decompaction (deep

subsoiling), can be effectively conducted when the soil material (subsoil or replaced topsoil) is in either a "plastic" or "liquid" state of soil consistency. Pulling the respective implements legs through the soil when it is overly moist only results in the "slicing and smearing" of the material or added "squeezing and compression" instead of the necessary fracturing. Ample drying time is needed for a "rippable" soil condition not merely in the material close to the surface, but throughout the material located down to the bottom of the physically compressed zone of the subsoil.

The "poor man's Atterberg field test" for soil plasticity is a simple "hand-roll" method used for quick, on-site determination of whether or not the moisture level of the affected soil material is low enough for: effective deep ripping of subsoil; respreading of topsoil in a friable state; and final decompaction (deep subsoiling). Using a sample of soil material obtained from the planned bottom depth of ripping, e.g.: 20 - 24 inches below exposed subsoil surface, the sample is hand rolled between the palms down to a 1/8-inch diameter thread. (Use the same test for stored topsoil material before respreading on the site.) If the respective soil sample crumbles apart in segments no greater than 3/8 of an inch long, by the time it is rolled down to 1/8 inch diameter, it is low enough in moisture for deep ripping (or topsoil replacement), and decompaction. Conversely, as shown in Figure 5, if the rolled sample stretches out in increments greater than 3/8 of an inch long before crumbling, it is in a "plastic" state of soil consistency and is too wet for subsoil ripping (as well as topsoil replacement) and final decompaction.

Fig. 5. Augered from a depth of 19 inches below the surface of the replaced topsoil, this subsoil sample was hand rolled to a 1/8-inch diameter. The test shows the soil at this site stretches out too far without crumbling; it indicates the material is in a plastic state of consistence, too wet for final decompaction (deep subsoiling) at this time.

Design Guidance

Beyond the above-noted site factors, a vital requirement for the effective Deep Ripping and Decompaction (deep subsoiling), is implementing the practice in its distinct, two-phase process:

1) Deep rip the affected thickness of exposed subsoil material (see Figure 10 and 11), aggressively fracturing it before the protected topsoil is reapplied on the site (see Figure 12); and

2) Decompact (deep subsoil), simultaneously through the restored topsoil layer and the upper half of the affected subsoil (Figure 13). The second phase, "decompaction," mitigates the partial recompaction which occurs during the heavy process of topsoil spreading/grading. Prior to deep ripping and decompacting the site, all construction activity, including construction equipment and material storage, site cleanup and trafficking (Figure 14), should be finished; and the site closed off to further disturbance. Likewise, once the practice is underway and the area's soil permeability and

rainfall infiltration are being restored, a policy limiting all further traffic to permanent travel lanes is maintained.

The other critical elements, outlined below, are: using the proper implements (deep, heavy-duty rippers and subsoilers), and ample pulling-power equipment (tractors); and conducting the practice at the appropriate speed, depth and pattern(s) of movement.

Note that an appropriate plan for the separate practice of establishing a healthy perennial ground cover, with deep rooting to help maintain the restored soil structure, should be developed in advance. This may require the assistance of an agronomist or landscape horticulturist.

Implements

Avoid the use of all undersize implements. The small-to-medium, light-duty tool will, at best, only "scarify" the uppermost surface portion of the mass of compacted subsoil material. The term "chisel plow" is commonly but incorrectly applied to a broad range of implements. While a few may be adapted for the moderate subsoiling of non-impacted soils, the majority are less durable and used for only lighter land-fitting (see Figure 6).

Fig. 6. A light duty chisel implement, not adequate for either the deep ripping or decompaction (deep subsoiling) phase.

Fig. 7. One of several variations of an agricultural ripper. This unit has long, rugged shanks mounted on a steel V-frame for deep, aggressive fracturing through Phase 1.

Use a "heavy duty" agricultural-grade, deep ripper (see Figures 7,9,10 and 11) for the first phase: the lateral and vertical fracturing of the mass of exposed and compressed subsoil, down and through, to the bottom of impact, prior to the replacement of the topsoil layer. (Any oversize rocks which are uplifted to the subsoil surface during the deep ripping phase are picked and removed.) Like the heavy-duty class of implement for the first phase, the decompaction (deep subsoiling) of Phase 2 is conducted with the heavy-duty version of the deep subsoiler. More preferable is the angled-leg variety of deep subsoiler (shown in Figures 8 and 13). It minimizes the inversion of the subsoil and topsoil layers while laterally and vertically fracturing the upper half of the previously ripped subsoil layer and all of the topsoil layer by delivering a momentary, wave-like "lifting and shattering" action up through the soil layers as it is pulled.

Pulling-Power of Equipment

Use the following rule of thumb for tractor horsepower (hp) whenever deep ripping and decompacting a significantly impacted site: For both types of implement, have at least 40 hp of tractor pull available for each mounted shank/ leg.

Using the examples of a 3-shank and a 5-shank implement, the respective tractors should have 120 and 200 hp available for fracturing down to the final depth of 20-to-24 inches per phase. Final depth for the deep ripping in Phase 1 is achieved incrementally by a progressive series of passes (see Depth and Patterns of Movement, below); while for Phase 2, the full operating depth of the deep subsoiler is applied from the beginning.

The operating speed for pulling both types of implement should not exceed 2 to 3 mph. At this slow and managed rate of operating speed, maximum functional performance is sustained by the tractor and the implement performing the soil fracturing. Referring to Figure 8, the implement is the 6-leg version of the deep angled-leg subsoiler. Its two outside legs are "chained up" so that only four legs will be engaged (at the maximum depth), requiring no less than 160 hp, (rather than 240 hp) of pull. The 4-wheel drive, articulated-frame tractor in Figure 8 is 174 hp. It will be decompacting this unobstructed, former construction access area simultaneously through 11 inches of replaced topsoil and the upper 12 inches of the previously deep-ripped subsoil. In constricted areas of Phase 1) Deep Ripping, a medium-size tractor with adequate hp, such as the one in Figure 9 pulling a 3-shank deep ripper, may be more maneuverable.

Fig. 8. A deep, angled-leg subsoiler, ideal for Phase 2 decompaction of after the topsoil layer is graded on top of the ripped subsoil.

Fig. 9. This medium tractor is pulling a 3-shank deep ripper. The severely compacted construction access corridor is narrow, and the 120 hp tractor is more maneuverable for Phase 1 deep ripping (subsoil fracturing), here.

Some industrial-grade variations of ripping implements are attached to power graders and bulldozers. Although highly durable, they are generally not recommended. Typically, the shanks or "teeth" of these rippers are too short and stout; and they are mounted too far apart to achieve the well-distributed type of lateral and vertical fracturing of the soil materials necessary to restore soil permeability and infiltration. In addition, the power graders and bulldozers, as pullers, are far less maneuverable for turns and patterns than the tractor.

Depth and Patterns of Movement

As previously noted both Phase 1 Deep Ripping through significantly compressed, exposed subsoil and Phase 2 Decompaction (deep subsoiling) through the replaced topsoil and upper subsoil need to be performed at maximum capable depth of each implement. With an implement's guide wheels attached, some have a "normal" maximum operating depth of 18 inches, while others may go deeper. In many situations, however, the tractor/implement operator must first remove the guide wheels and other non essential elements from the implement. This adapts the ripper or the deep subsoiler for skillful pulling with its frame only a few inches above surface, while the shanks or legs, fracture the soil material 20-to-24 inches deep.

There may be construction sites where the depth of the exposed subsoil's compression is moderate, e.g.: 12 inches, rather than deep. This can be verified by using a ¾ inch cone penetrometer and a shovel to test the subsoil for its level of compaction, incrementally, every three inches of increasing depth. Once the full thickness of the subsoil's compacted zone is finally "pieced" and there is a significant drop in the psi measurements of the soil penetrometer, the depth/thickness of compaction is determined. This is repeated at several representative locations of the construction site. If the thickness of the site's subsoil compaction is verified as, for example, ten inches, then the Phase 1 Deep Ripping can be correspondingly reduced to the implement's minimum operable depth of 12 inches. However, the Phase 2 simultaneous Decompation (subsoiling) of an 11 inch thick layer of replaced topsoil and the upper subsoil should run at the subsoiling implements full operating depth.

Fig. 10. An early pass with a 3-shank deep ripper penetrating only 8 inches into this worksite's severely compressed subsoil.

Fig. 11. A repeat run of the 3-shank ripper along the same patterned pass area as Fig. 9; here, incrementally reaching 18 of the needed 22 inches of subsoil fracture.

Typically, three separate series (patterns) are used for both the Phase 1 Deep Ripping and the Phase 2 Decompaction on significantly compacted sites. For Phase 1, each series begins with a moderate depth of rip and, by repeat-pass, continues until full depth is reached. Phase 2 applies the full depth of Decompation (subsoiling), from the beginning.

Every separate series (pattern) consists of parallel, forward-and-return runs, with each progressive

pass of the implement's legs or shanks evenly staggered between those from the previous pass. This compensates for the shank or leg-spacing on the implement, e.g., with 24-to-30 inches between each shank or leg. The staggered return pass ensures lateral and vertical fracturing actuated every 12 to 15 inches across the densely compressed soil mass.

Large, Unobstructed Areas

For larger easy areas, use the standard patterns of movement:

- The first series (pattern) of passes is applied lengthwise, parallel with the longest spread of the site; gradually progressing across the site's width, with each successive pass.

- The second series runs obliquely, crossing the first series at an angle of about 45 degrees.

- The third series runs at right angle (or 90 degrees), to the first series to complete the fracturing and shattering on severely compacted sites, and avoid leaving large unbroken blocks of compressed soil material. (In certain instances, the third series may be optional, depending on how thoroughly the first two series loosen the material and eliminate large chunks/blocks of material as verified by tests with a ¾-inch cone penetrometer.)

Fig. 12. Moderately dry topsoil is being replaced on the affected site now that Phase 1 deep ripping of the compressed subsoil is complete.

Fig. 13. The same deep, angled-leg subsoiler shown in Fig. 7 is engaged at maximum depth for Phase 2, decompaction (deep soiling), of the replaced topsoil and the upper subsoil materials.

Corridors

In long corridors of limited width and less maneuverability than larger sites, e.g.: along compacted areas used as temporary construction access, a modified series of pattern passes are used.

- First, apply the same initial lengthwise, parallel series of passes described above.

● A second series of passes makes a broad “S” shaped pattern of rips, continually and gradually alternating the “S” curves between opposite edges inside the compacted corridor.

● The third and final series again uses the broad, alternating S pattern, but it is “flip-flopped” to continually cross the previous S pattern along the corridor’s centerline. This final series of the S pattern curves back along the edge areas skipped by the second series.

Maintenance and Cost

Once the two-phase practice of Deep Ripping and Decompation is completed, two items are essential for maintaining a site’s soil porosity and permeability for infiltration. They are: planting and maintaining the appropriate ground cover with deep roots to maintain the soil structure (see Figure 15); and keeping the site free of traffic or other weight loads.

Note that site-specific choice of an appropriate vegetative ground-cover seed mix, including the proper seeding ratio of one or more perennial species with a deep taproot system and the proper amount of lime and soil nutrients (fertilizer mix) adapted to the soil-needs, are basic to the final practice of landscaping, i.e: surface tillage, seeding/planting/fertilizing and culti-packing or mulching is applied. The "maintenance" of an effectively deep-ripped and decompacted area is generally limited to the successful perennial (long-term) landscape ground cover; as long as no weight-bearing force of soil compaction is applied.

Fig. 14. The severely compacted soil of a temporary construction yard used daily by heavy equipment for four months; shown before deep ripping, topsoil replacement, and decompaction.

Fig. 15. The same site as Fig. 14 after deep ripping of the exposed subsoil, topsoil replacement, decompaction through the topsoil and upper subsoil and final surface tillage and revegetation to maintain soil permeability and infiltration.

The Deep Ripping and Decompaction practice is, by necessity, more extensive than periodic subsoiling of farmland.The cost of deep ripping and decompacting (deep subsoiling), will vary according to the depth and severity of soil-material compression and the relative amount of tractor and implement time that is required. In some instances, depending on open maneuverability, two-to-three acres of compacted project area may be deep-ripped in one day. In other situations of more severe compaction and - or less maneuverability, as little as one acre may be fully ripped in a day. Generally, if the Phase 1) Deep Ripping is fully effective, the Phase 2) Decompaction should be completed in 2/3 to 3/4 of the time required for Phase 1.

Using the example of two acres of Phase 1) Deep Ripping in one day, at $1800 per day, the net cost is $900 per acre. If the Phase 2) Decompacting or deep subsoiling takes 3/4 the time as Phase 1, it costs $675 per acre for a combined total of $1575 per acre to complete the practice (these figures do not include the cost of the separate practice of topsoil stripping and replacement). Due to the many variables, it must be recognized that cost will be determined by the specific conditions or constraints of the site and the availability of proper equipment.

Resources

Publications:

- American Society of Agricultural Engineers. 1971. *Compaction of Agricultural Soils.* ASAE.

- Brady, N.C., and R.R. Weil. 2002. *The Nature and Properties of Soils. 13th ed.* Pearson Education, Inc.

- Baver, L.D. 1948. *Soil Physics.* John Wiley & Sons.

- Carpachi, N. 1987 (1995 fifth printing). *Excavation and Grading Handbook, Revised. 2nd ed.* Craftsman Book Company
- Ellis, B. (Editor). 1997. Safe & Easy Lawn Care: The Complete Guide to Organic Low Maintenance Lawn. Houghton Mifflin.

- Harpstead, M.I., T.J. Sauer, and W.F. Bennett. 2001. *Soil Science Simplified. 4th ed.* Iowa State University Press.

- Magdoff, F., and H. van Es. 2000. *Building Soils for Better Crops. 2nd ed.* Sustainable Agricultural Networks

- McCarthy, D.F. 1993. *Essentials of Soil Mechanics and Foundations, Basic Geotechnics 4th ed.* Regents/Prentice Hall.

- Plaster, E.J. 1992. *Soil Science & Management. 3rd ed.* Delmar Publishers.

- Union Gas Limited, Ontario, Canada. 1984. *Rehabilitation of Agricultural Lands, Dawn-Kerwood Loop Pipeline; Technical Report*. Ecological Services for Planning, Ltd.; Robinson, Merritt & Devries, Ltd. and Smith, Hoffman Associates, Ltd.

- US Department of Agriculture in cooperation with Cornell University Agricultural Experiment Station. Various years. *Soil Survey of (various names) County, New York.* USDA.

Internet Access:

- Examples of implements:

V-Rippers. Access by internet search of *John Deere Ag -New Equipment for 915* (larger-frame model) *V-Rippe*; and, *for 913* (smaller-frame model) *V-Ripper*. Deep, angled-leg subsoiler. Access by internet search of: B*igham Brothers Shear Bolt Paratill-Subsoiler.* http://salesmanual.deere.com/sales/salesmanual/en_NA/primary_tillage/2008/feature/rippers/915v_pattern_frame.html?sbu=ag&link=prodcat Last visited March 08.

- Soils data of USDA Natural Resources Conservation Service. *NRCS Web Soil Survey.* http://websoilsurvey.nrcs.usda.gov/app/ and *USDA-NRCS Official Soil Series Descriptions; View by Name.* http://ortho.ftw.nrcs.usda.gov/cgi-bin/osd/osdname.cgi . *Last visited Jan. 08.*

- Soil penetrometer information. Access by internet searches of: *Diagnosing Soil Compaction using a Penetrometer (soil compaction tester), PSU Extension;* as well as *Dickey-john Soil Compaction Tester*. http://www.dickey-johnproducts.com/pdf/SoilCompactionTest.pdf and http://cropsoil.psu.edu/Extension/Facts/uc178pdf Last visited Sept. 07

STANDARD AND SPECIFICATIONS FOR DIVERSION

Definition & Scope

A drainage way of parabolic or trapezoidal cross-section with a supporting ridge on the lower side that is constructed across the slope to intercept and convey runoff to stable outlets at non-erosive velocities.

Conditions Where Practice Applies

Diversions are used where:

1. Runoff from higher areas has potential for damaging properties, causing erosion, or interfering with, or preventing the establishment of, vegetation on lower areas.
2. Surface and/or shallow subsurface flow is damaging sloping upland.
3. The length of slopes needs to be reduced so that soil loss will be kept to a minimum.

Diversions are only applicable below stabilized or protected areas. Avoid establishment on slopes greater than fifteen percent. Diversions should be used with caution on soils subject to slippage. Construction of diversions shall be in compliance with state and local drainage and water laws.

Design Criteria

Location

Diversion location shall be determined by considering outlet conditions, topography, land use, soil type, length of slope, seep planes (when seepage is a problem), and the development layout.

Capacity

Peak rates of runoff values used in determining the capacity requirements shall be calculated using the most current hydrologic data from the Northeast Regional Climate Center in an appropriate model.

The constructed diversion shall have capacity to carry, as a minimum, the peak discharge from a 10 year frequency rainfall event with freeboard of not less than 0.3 feet.

Diversions designed to protect homes, schools, industrial buildings, roads, parking lots, and comparable high-risk areas, and those designed to function in connection with other structures, shall have sufficient capacity to carry peak runoff expected from a storm frequency consistent with the hazard involved.

Cross Section

The diversion channel shall be parabolic or trapezoidal in shape. Parabolic Diversion design charts are provided in Tables 3.2, 3.3 and 3.4 on pages 3.10, 3.12 and 3.13**.** The diversion shall be designed to have stable side slopes. The side slopes shall not be steeper than 2:1 and shall be flat enough to ensure ease of maintenance of the diversion and its protective vegetative cover.

The ridge shall have a minimum width of four feet at the design water elevation; a minimum of 0.3 feet freeboard and a reasonable settlement factor shall be provided.

Velocity and Grade

The permissible velocity for the specified method of stabilization will determine the maximum grade. Maximum permissible velocities of flow for the stated conditions of stabilization shall be as shown in Table 3.1 on page 3.10 of this standard.

Diversions are not usually applicable below high sediment producing areas unless land treatment practices or structural measures, designed to prevent damaging accumulations of sediment in the channels, are installed with, or before, the diversions.

Outlets

Each diversion must have an adequate outlet. The outlet may be a grassed waterway, vegetated or paved area, grade stabilization structure, flow spreader, flow diffuser, stable watercourse, or subsurface drain outlet. In all cases, the outlet must convey runoff to a point where outflow will not cause damage. Vegetated outlets shall be installed before diversion construction, if needed, to ensure establishment of

vegetative cover in the outlet channel.

The design elevation of the water surface in the diversion shall not be lower than the design elevation of the water surface in the outlet at their junction when both are operating at design flow.

Stabilization

Vegetated diversions shall be stabilized in accordance with the following tables.

Table 3.1
Diversion Maximum Permissible Design Velocities Table

Soil Texture	Retardance and Cover	Permissible Velocity (ft / second) for Selected Channel Vegetation
Sand, Silt, Sandy loam, silty loam, loamy sand (ML, SM, SP, SW)	C-Kentucky 31 tall fescue and Kentucky bluegrass	3.0
	D-Annuals[1] Small grain (rye, oats, barley, millet) Ryegrass	2.5
Silty clay loam, Sandy clay loam (ML-CL, SC)	C-Kentucky 31 tall fescue and Kentucky bluegrass	4.0
	D-Annuals[1] Small grain (rye, oats, barley, millet) Ryegrass	3.5
Clay (CL)	C-Kentucky 31 tall fescue and Kentucky bluegrass	5.0
	D-Annuals[1] Small grain (rye, oats, barley, millet) Ryegrass	4.0
[1] Annuals—Use only as temporary protection until permanent vegetation is established.		

Table 3.2 - Retardance Factors for Various Grasses and Legumes Table

Retardance	Cover	Condition
A	Reed canarygrass	Excellent stand, tall (average 36 inches)
B	Smooth bromegrass	Good stand, mowed (average 12 to 15 inches)
	Tall fescue	Good stand, unmowed (average 18 inches)
	Grass-legume mixture—Timothy, smooth bromegrass, or Orchard grass with birdsfoot trefoil	Good stand, uncut (average 20 inches)
	Reed canarygrass	Good stand, mowed (average 12 to 15 inches)
	Tall fescue, with birdsfoot trefoil or ladino clover	Good stand, uncut (average 18 inches)
C	Redtop	Good stand, headed (15 to 20 inches)
	Grass-legume mixture—summer (Orchard grass, redtop, Annual ryegrass, and ladino or white clover)	Good stand, uncut (6 to 8 inches)
	Kentucky bluegrass	Good stand, headed (6 to 12 inches)
D	Red fescue	Good stand, headed (12 to 18 inches)
	Grass-legume mixture—fall, spring (Orchard grass, redtop, Annual ryegrass, and white or ladino clover)	Good stand, uncut (4 to 5 inches)

Figure 3.4
Diversion Detail

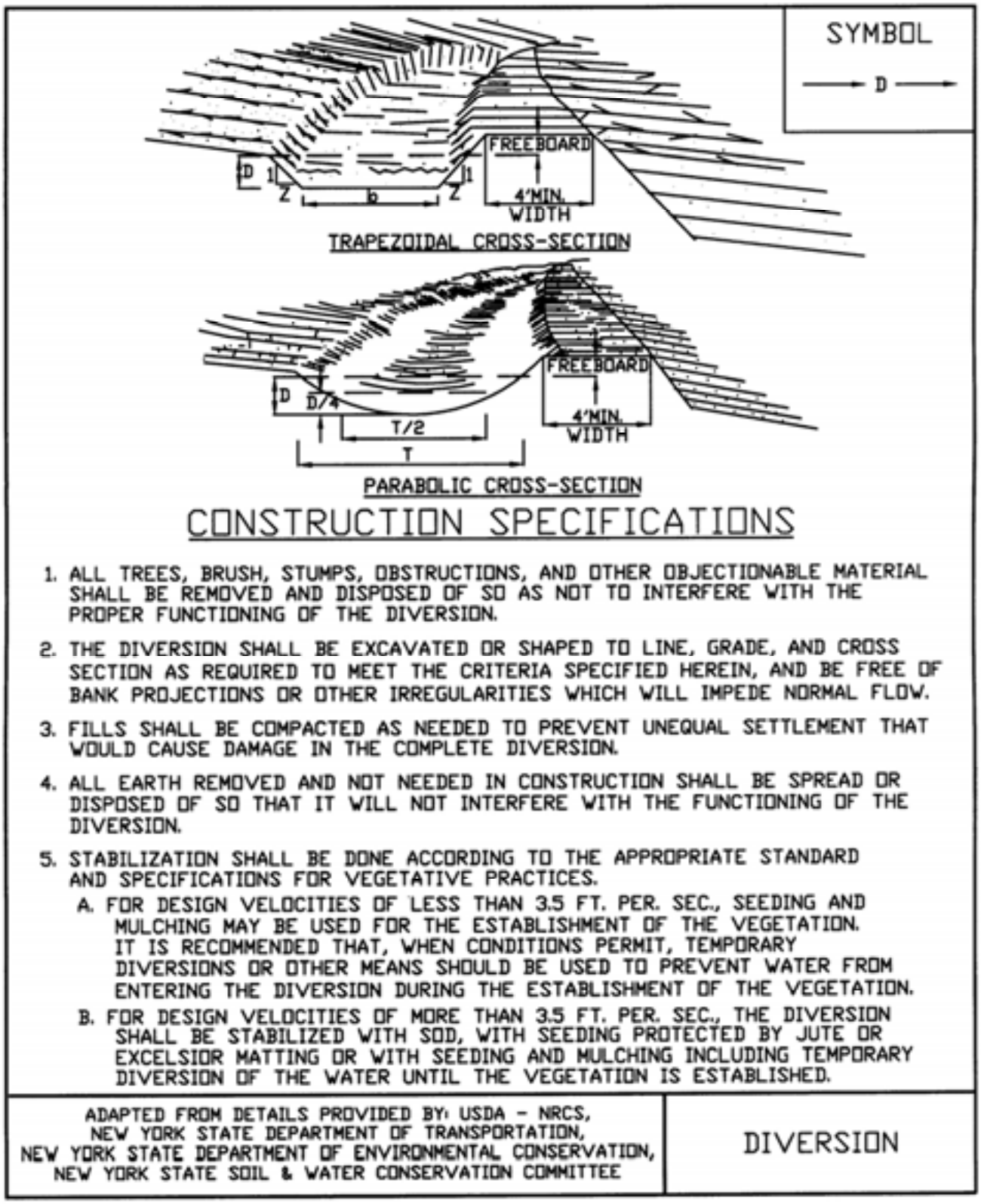


Table 3.3
Parabolic Diversion Design, Without Freeboard Tables - 1 (USDA– NRCS)

PARABOLIC DIVERSION DESIGN, WITHOUT FREEBOARD

RETARDANCE - D & C
GRADE, % - 0.50

V_1 Based on Permissible Velocity of the Soil With Retardance "D"
Top Width, Depth & V_2 Based on Retardance "C"

Q	V_1 = 2.0			V_1 = 2.5			V_1 = 3.0			V_1 = 3.5			V_1 = 4.0			V_1 = 4.5			V_1 = 5.0			V_1 = 5.5			V_1 = 6.0		
cfs	T	D	V_2	T	D	V_2	T	D	V_2	T	D	V_2	T	D	V_2	T	D	V_2	T	D	V_2	T	D	V_2	T	D	V_2
15	9	1.6	1.6																								
20	11	1.6	1.7																								
25	14	1.6	1.7	9	1.9	2.1																					
30	17	1.6	1.7	11	1.9	2.2	8	2.2	2.5																		
35	20	1.6	1.7	12	1.9	2.3	9	2.1	2.6																		
40	22	1.6	1.7	14	1.8	2.3	11	2.1	2.7																		
45	25	1.5	1.7	16	1.8	2.3	12	2.0	2.8																		
50	28	1.5	1.7	18	1.8	2.4	13	2.0	2.8	10	2.4	3.2															
55	31	1.5	1.7	19	1.8	2.4	15	2.0	2.8	11	2.4	3.3															
60	33	1.5	1.7	21	1.8	2.4	16	2.0	2.8	11	2.4	3.3															
65	36	1.5	1.8	23	1.8	2.4	17	2.0	2.9	12	2.4	3.3															
70	39	1.5	1.7	24	1.8	2.4	18	2.0	2.9	13	2.3	3.4															
75	42	1.5	1.8	26	1.8	2.4	19	2.0	2.9	14	2.3	3.4	11	2.7	3.7												
80	44	1.5	1.8	28	1.8	2.4	21	2.0	2.9	15	2.3	3.4	12	2.7	3.8												
90	50	1.5	1.8	31	1.8	2.4	24	2.0	2.9	17	2.3	3.4	13	2.7	3.8												
100	55	1.5	1.8	35	1.8	2.4	26	2.0	2.9	19	2.3	3.5	15	2.6	3.9	12	3.0	4.1									

PARABOLIC DIVERSION DESIGN, WITHOUT FREEBOARD

RETARDANCE - D & C
GRADE, % - 1.0

V_1 based on Permissible Velocity of the Soil With Retardance "D"
Top Width, Depth & V_2 Based on Retardance "C"

Q	V_1 = 2.0			V_1 = 2.5			V_1 = 3.0			V_1 = 3.5			V_1 = 4.0			V_1 = 4.5			V_1 = 5.0			V_1 = 5.5			V_1 = 6.0		
cfs	T	D	V_2	T	D	V_2	T	D	V_2	T	D	V_2	T	D	V_2	T	D	V_2	T	D	V_2	T	D	V_2	T	D	V_2
15	13	1.1	1.5	8	1.3	2.0																					
20	18	1.1	1.5	11	1.3	2.1	8	1.5	2.6																		
25	22	1.1	1.5	14	1.3	2.1	9	1.5	2.6	8	1.6	3.0															
30	27	1.1	1.5	17	1.3	2.1	11	1.5	2.7	9	1.6	3.0															
35	31	1.1	1.5	19	1.3	2.2	13	1.5	2.8	11	1.6	3.1	8	1.8	3.6												
40	35	1.1	1.5	22	1.3	2.1	15	1.4	2.8	12	1.6	3.1	9	1.8	3.7												
45	40	1.1	1.5	25	1.3	2.2	17	1.5	2.8	13	1.6	3.2	10	1.8	3.7												
50	44	1.1	1.5	28	1.3	2.2	19	1.4	2.8	15	1.6	3.2	11	1.8	3.7	9	2.0	4.2									
55	46	1.1	1.5	30	1.3	2.2	20	1.4	2.8	16	1.5	3.3	12	1.8	3.8	10	2.0	4.3									
60	53	1.1	1.5	33	1.3	2.2	22	1.4	2.8	18	1.5	3.3	14	1.7	3.8	10	2.0	4.3									
65	57	1.1	1.5	36	1.3	2.2	24	1.4	2.8	19	1.5	3.3	15	1.7	3.8	11	2.0	4.3	9	2.2	4.7						
70	61	1.1	1.5	38	1.3	2.2	26	1.4	2.8	21	1.5	3.3	16	1.7	3.9	12	2.0	4.4	10	2.2	4.7						
75	66	1.1	1.5	41	1.3	2.2	28	1.4	2.9	22	1.5	3.3	17	1.7	3.9	13	2.0	4.5	11	2.2	4.7						
80	70	1.1	1.5	44	1.3	2.2	29	1.4	2.9	24	1.5	3.3	18	1.7	3.9	14	2.0	4.4	11	2.2	4.9						
90	79	1.1	1.5	49	1.3	2.2	33	1.4	2.9	27	1.5	3.3	20	1.7	3.9	15	1.9	4.5	13	2.2	4.9	11	2.4	5.2			
100	87	1.1	1.5	55	1.3	2.2	37	1.4	2.9	29	1.5	3.3	22	1.7	3.9	17	1.9	4.5	14	2.2	4.9	12	2.4	5.3			

Table 3.4
Parabolic Diversion Design, Without Freeboard Tables - 2 (USDA– NRCS)

PARABOLIC DIVERSION DESIGN, WITHOUT FREEBOARD

RETARDANCE - D & C
GRADE, % - 1.5

V_1 Based on Permissible Velocity of the Soil With Retardance "D"
Top Width, Depth & V_2 Based on Retardance "C"

Q	V_1 = 2.0			V_1 = 2.5			V_1 = 3.0			V_1 = 3.5			V_1 = 4.0			V_1 = 4.5			V_1 = 5.0			V_1 = 5.5			V_1 = 6.0		
cfs	T	D	V_2	T	D	V_2	T	D	V_2	T	D	V_2	T	D	V_2	T	D	V_2	T	D	V_2	T	D	V_2	T	D	V_2
15	17	0.9	1.4	11	1.1	1.9	8	1.2	2.4																		
20	23	0.9	1.4	15	1.0	1.9	10	1.2	2.5	7	1.4	3.0	6	1.5	3.4												
25	28	0.9	1.4	19	1.0	1.9	12	1.2	2.6	8	1.4	3.2	7	1.5	3.6												
30	34	0.9	1.4	22	1.0	1.9	15	1.2	2.6	10	1.3	3.2	8	1.5	3.6	7	1.6	4.0									
35	40	0.9	1.4	26	1.0	2.0	17	1.1	2.6	12	1.3	3.3	10	1.4	3.7	8	1.6	4.1									
40	45	0.9	1.4	30	1.0	1.9	20	1.2	2.6	14	1.3	3.3	11	1.4	3.7	9	1.6	4.2	7	1.8	4.6						
45	51	0.9	1.4	33	1.0	2.0	22	1.1	2.6	15	1.3	3.4	12	1.4	3.8	10	1.5	4.3	8	1.8	4.6						
50	56	0.9	1.4	37	1.0	2.0	25	1.1	2.7	17	1.3	3.4	14	1.4	3.9	11	1.5	4.3	9	1.8	4.8						
55	62	0.9	1.5	41	1.0	2.0	27	1.1	2.6	19	1.3	3.4	15	1.4	3.9	12	1.5	4.3	10	1.7	4.9	8	1.9	5.1			
60	67	0.9	1.5	44	1.0	2.0	30	1.1	2.7	20	1.3	3.4	16	1.4	3.9	14	1.5	4.4	11	1.7	4.9	9	1.9	5.2			
65	73	0.9	1.5	48	1.0	2.0	32	1.1	2.7	22	1.3	3.4	18	1.4	3.9	15	1.5	4.4	11	1.7	5.0	10	1.9	5.3			
70	78	0.9	1.5	51	1.0	2.0	34	1.1	2.7	24	1.3	3.4	19	1.4	3.9	16	1.5	4.4	12	1.7	4.9	10	1.9	5.4	9	2.1	5.6
75	83	0.9	1.5	55	1.0	2.0	37	1.1	2.7	25	1.3	3.4	21	1.4	3.9	17	1.5	4.4	13	1.7	5.0	11	1.9	5.4	9	2.1	5.6
80	89	0.9	1.5	59	1.0	2.0	39	1.1	2.7	27	1.3	3.4	22	1.4	3.9	18	1.5	4.4	14	1.7	5.0	12	1.9	5.5	10	2.1	5.8
90	100	0.9	1.5	66	1.0	2.0	44	1.1	2.7	30	1.3	3.5	25	1.4	3.9	20	1.5	4.4	16	1.7	5.0	13	1.9	5.4	11	2.0	5.9
100				73	1.0	2.0	49	1.1	2.7	33	1.3	3.5	27	1.4	3.9	22	1.5	4.5	17	1.7	5.1	15	1.9	5.5	12	2.0	6.0

PARABOLIC DIVERSION DESIGN, WITHOUT FREEBOARD

RETARDANCE - D & C
GRADE, % - 2.0

V_1 Based on Permissible Velocity of the Soil With Retardance "D"
Top Width, Depth & V_2 Based on Retardance "C"

Q	V_1 = 2.0			V_1 = 2.5			V_1 = 3.0			V_1 = 3.5			V_1 = 4.0			V_1 = 4.5			V_1 = 5.0			V_1 = 5.5			V_1 = 6.0		
cfs	T	D	V_2	T	D	V_2	T	D	V_2	T	D	V_2	T	D	V_2	T	D	V_2	T	D	V_2	T	D	V_2	T	D	V_2
15	21	0.8	1.3	13	0.9	1.9	9	1.0	2.4	7	1.2	2.9															
20	28	0.8	1.3	17	0.9	1.9	12	1.0	2.4	9	1.1	3.0	7	1.3	3.5	5	1.4	3.8									
25	35	0.8	1.3	21	0.9	1.9	15	1.0	2.4	11	1.1	3.0	8	1.3	3.7	7	1.4	4.0									
30	41	0.8	1.3	26	0.9	1.9	18	1.0	2.5	13	1.1	3.0	10	1.2	3.7	8	1.3	4.2	7	1.5	4.5						
35	48	0.8	1.4	30	0.9	1.9	22	1.0	2.4	15	1.1	3.1	11	1.2	3.8	9	1.3	4.2	8	1.5	4.7						
40	55	0.8	1.3	34	0.9	1.9	25	1.0	2.5	18	1.1	3.1	13	1.2	3.8	11	1.3	4.3	9	1.5	4.7	7	1.7	5.0			
45	62	0.8	1.4	38	0.9	1.9	28	1.0	2.5	20	1.1	3.1	14	1.2	3.8	12	1.3	4.3	10	1.4	4.8	8	1.6	5.2			
50	68	0.8	1.4	42	0.9	1.9	31	1.0	2.5	22	1.1	3.1	16	1.2	3.9	13	1.3	4.3	11	1.4	4.8	9	1.6	5.3	8	1.7	5.6
55	75	0.8	1.4	46	0.9	1.9	34	1.0	2.5	24	1.1	3.1	17	1.2	3.8	14	1.3	4.3	12	1.4	4.9	10	1.6	5.3	8	1.7	5.8
60	82	0.8	1.4	51	0.9	1.9	37	1.0	2.5	26	1.1	3.1	19	1.2	3.9	16	1.3	4.4	13	1.4	4.8	11	1.6	5.3	9	1.7	5.7
65	88	0.8	1.4	55	0.9	1.9	40	1.0	2.5	28	1.1	3.1	21	1.2	3.9	17	1.3	4.4	14	1.4	4.9	11	1.6	5.4	10	1.7	5.7
70	95	0.8	1.4	59	0.9	1.9	43	1.0	2.5	30	1.1	3.1	22	1.2	3.9	18	1.3	4.4	15	1.4	4.9	12	1.6	5.4	10	1.7	5.8
75				63	0.9	1.9	46	1.0	2.5	32	1.1	3.2	24	1.2	3.9	20	1.3	4.4	16	1.4	5.0	13	1.6	5.5	11	1.7	5.9
80				67	0.9	2.0	48	1.0	2.5	35	1.1	3.1	25	1.2	3.9	21	1.3	4.4	17	1.4	4.9	14	1.6	5.4	12	1.7	6.0
90				75	0.9	2.0	54	1.0	2.5	39	1.1	3.2	28	1.2	3.9	23	1.3	4.4	19	1.4	4.9	16	1.6	5.5	13	1.7	5.9
100				83	0.9	2.0	60	1.0	2.5	43	1.1	3.2	31	1.2	3.9	26	1.3	4.4	21	1.4	5.0	17	1.6	5.5	15	1.7	6.0

STANDARD AND SPECIFICATIONS FOR DUST CONTROL

Definition & Scope

The control of dust resulting from land-disturbing activities, to prevent surface and air movement of dust from disturbed soil surfaces that may cause off-site damage, health hazards, and traffic safety problems.

Conditions Where Practice Applies

On construction roads, access points, and other disturbed areas subject to surface dust movement and dust blowing where off-site damage may occur if dust is not controlled.

Design Criteria

Construction operations should be scheduled to minimize the amount of area disturbed at one time. Buffer areas of vegetation should be left where practical. Temporary or permanent stabilization measures shall be installed. No specific design criteria is given; see construction specifications below for common methods of dust control.

Water quality must be considered when materials are selected for dust control. Where there is a potential for the material to wash off to a stream, ingredient information must be provided to the NYSDEC.

No polymer application shall take place without written approval from the NYSDEC.

Construction Specifications

A. **Non-driving Areas** – These areas use products and materials applied or placed on soil surfaces to prevent airborne migration of soil particles.

Vegetative Cover – For disturbed areas not subject to traffic, vegetation provides the most practical method of dust control (see Section 3).

Mulch (including gravel mulch) – Mulch offers a fast effective means of controlling dust. This can also include rolled erosion control blankets.

Spray adhesives – These are products generally composed of polymers in a liquid or solid form that are mixed with water to form an emulsion that is sprayed on the soil surface with typical hydroseeding equipment. The mixing ratios and application rates will be in accordance with the manufacturer's recommendations for the specific soils on the site. In no case should the application of these adhesives be made on wet soils or if there is a probability of precipitation within 48 hours of its proposed use. Material Safety Data Sheets will be provided to all applicators and others working with the material.

B. **Driving Areas** – These areas utilize water, polymer emulsions, and barriers to prevent dust movement from the traffic surface into the air.

Sprinkling – The site may be sprayed with water until the surface is wet. This is especially effective on haul roads and access route to provide short term limited dust control.

Polymer Additives – These polymers are mixed with water and applied to the driving surface by a water truck with a gravity feed drip bar, spray bar or automated distributor truck. The mixing ratios and application rates will be in accordance with the manufacturer's recommendations. Incorporation of the emulsion into the soil will be done to the appropriate depth based on expected traffic. Compaction after incorporation will be by vibratory roller to a minimum of 95%. The prepared surface shall be moist and no application of the polymer will be made if there is a probability of precipitation within 48 hours of its proposed use. Material Safety Data Sheets will be provided to all applicators working with the material.

Barriers – Woven geo-textiles can be placed on the driving surface to effectively reduce dust throw and particle migration on haul roads. Stone can also be used for construction roads for effective dust control.

Windbreak – A silt fence or similar barrier can control air currents at intervals equal to ten times the barrier height. Preserve existing wind barrier vegetation as much as practical.

Maintenance

Maintain dust control measures through dry weather periods until all disturbed areas are stabilized.

STANDARD AND SPECIFICATIONS FOR GRASSED WATERWAY

Definition & Scope

A natural or **permanent** man-made channel of parabolic or trapezoidal cross-section that is below adjacent ground level and is stabilized by suitable vegetation. The flow channel is normally wide and shallow and conveys the runoff down the slope without causing damage by erosion.

Conditions Where Practice Applies

Grass waterways are used where added vegetative protection is needed to control erosion resulting from concentrated runoff.

Design Criteria

Capacity

The minimum capacity shall be that required to confine the peak rate of runoff expected from a 10-year 24 hour frequency rainfall event or a higher frequency corresponding to the hazard involved. This requirement for confinement may be waived on slopes of less than one (1) percent where out-of-bank flow will not cause erosion or property damage.

Peak rates of runoff values used in determining the capacity requirements shall be computed by appropriate methods. Where there is base flow, it shall be handled by a stone center, subsurface drain, or other suitable means since sustained wetness usually prevents adequate vegetative cover. The cross-sectional area of the stone center or subsurface drain size to be provided shall be determined by using a flow rate of 0.1 cfs/acre or by actual measurement of the maximum base flow.

Velocity

Please see Table 3.1, Diversion Maximum Permissible Design Velocities on page 3.10, for seed, soil, and velocity variables.

Cross Section

The design water surface elevation of a grassed waterway receiving water from diversions or other tributary channels shall be equal to or less than the design water surface elevation in the diversion or other tributary channels.

The top width of parabolic waterways shall not exceed 30 feet and the bottom width of trapezoidal waterways shall not exceed 15 feet unless multiple or divided waterways, stone center, or other means are provided to control meandering of low flows.

Structural Measures

In cases where grade or erosion problems exist, special control measures may be needed such as lined waterways (see page 3.27), or grade stabilization measures (see page 3.21). Where needed, these measures will be supported by adequate design computations. For typical cross sections of waterways with riprap sections or stone centers, refer to Figure 3.8 on page 3.24.

The design procedures for parabolic and trapezoidal channels are available in the NRCS Engineering Field Handbook. Figure 3.9 on page 3.25 also provides a design chart for parabolic waterway.

Outlets

Each waterway shall have a stable outlet. The outlet may be another waterway, a stabilized open channel, grade stabilization structure, etc. In all cases, the outlet must discharge in such a manner as not to cause erosion. Outlets shall be constructed and stabilized prior to the operation of the waterway.

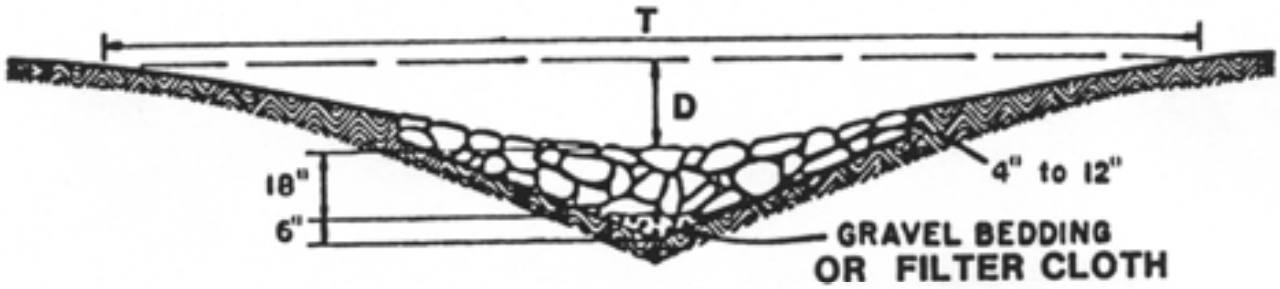
Stabilization

Waterways shall be stabilized in accordance with the appropriate vegetative stabilization standard and specifications, and will be dependent on such factors as slope, soil class, etc. See standard for Vegetating Waterways on Page 4.78.

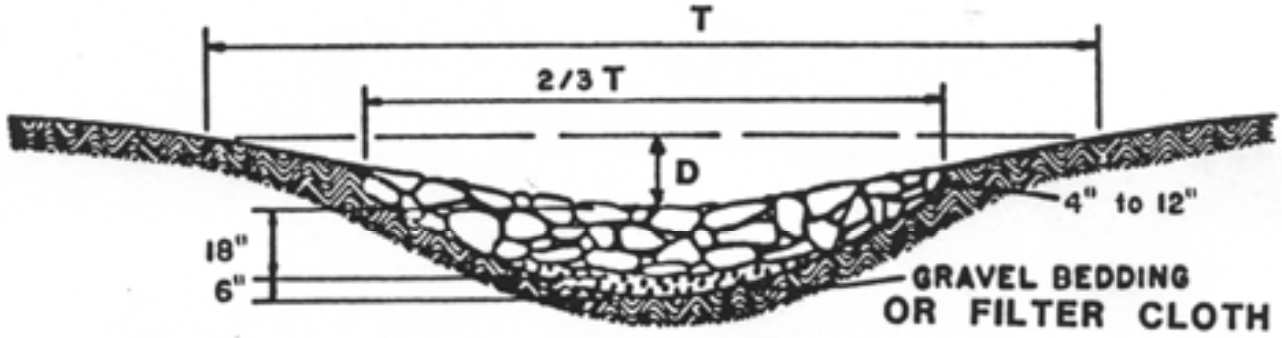
Construction Specifications

See Figure 3.10 on page 3.26 for details.

Figure 3.8
Typical Waterway Cross Sections Details



Waterway with stone center drain. "V" section shaped by motor grader.



Waterway with stone center drain. Rounded section shaped by bulldozer.

Figure 3.9
Parabolic Waterway Design Chart (USDA - NRCS)

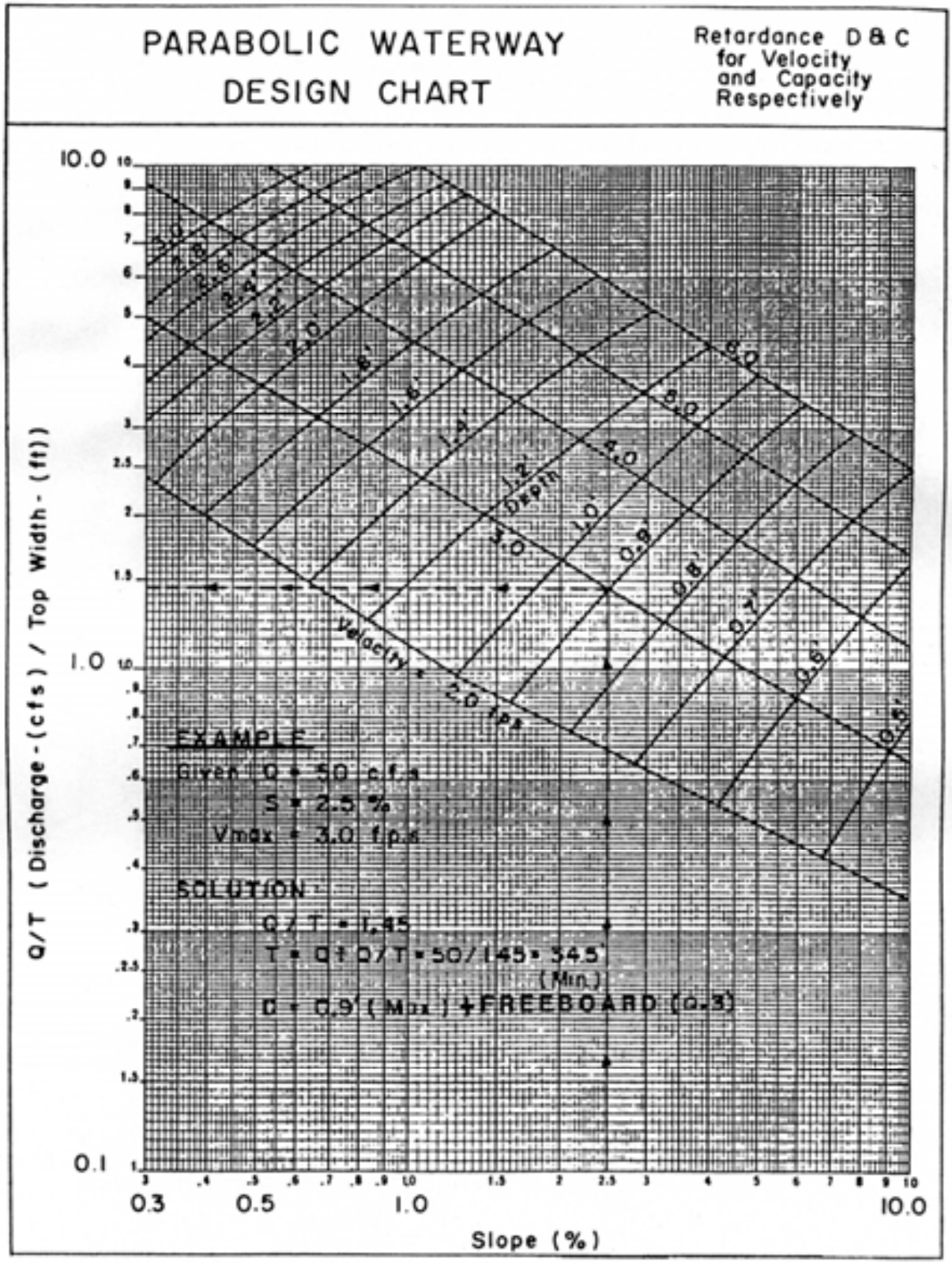
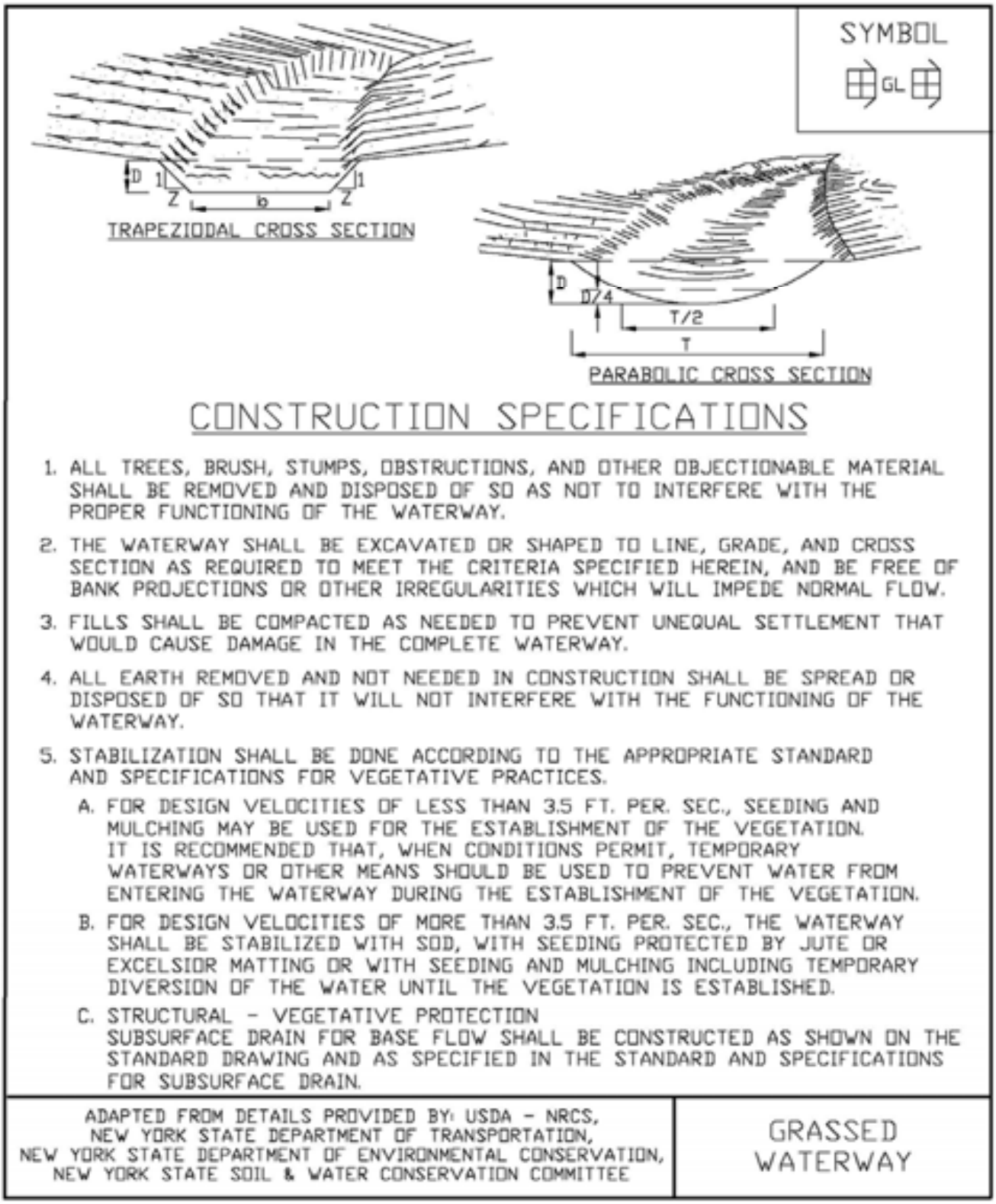


Figure 3.10
Grassed Waterway Detail



STANDARD AND SPECIFICATIONS FOR LANDGRADING

Definition & Scope

Permanent reshaping of the existing land surface by grading in accordance with an engineering topographic plan and specification to provide for erosion control and vegetative establishment on disturbed, reshaped areas.

Design Criteria

The grading plan should be based upon the incorporation of building designs and street layouts that fit and utilize existing topography and desirable natural surrounding to avoid extreme grade modifications. Information submitted must provide sufficient topographic surveys and soil investigations to determine limitations that must be imposed on the grading operation related to slope stability, effect on adjacent properties and drainage patterns, measures for drainage and water removal, and vegetative treatment, etc.

Many municipalities and counties have regulations and design procedures already established for land grading and cut and fill slopes. Where these requirements exist, they shall be followed.

The plan must show existing and proposed contours of the area(s) to be graded. The plan shall also include practices for erosion control, slope stabilization, safe disposal of runoff water and drainage, such as waterways, lined ditches, reverse slope benches (include grade and cross section), grade stabilization structures, retaining walls, and surface and subsurface drains. The plan shall also include phasing of these practices. The following shall be incorporated into the plan:

1. Provisions shall be made to safely convey surface runoff to storm drains, protected outlets, or to stable water courses to ensure that surface runoff will not damage slopes or other graded areas; see standards and specifications for Grassed Waterway, Diversion, or Grade Stabilization Structure.

2. Cut and fill slopes that are to be stabilized with grasses shall not be steeper than 2:1. When slopes exceed 2:1, special design and stabilization consideration are required and shall be adequately shown on the plans. (Note: Where the slope is to be mowed, the slope should be no steeper than 3:1, although 4:1 is preferred because of safety factors related to mowing steep slopes.)

3. Reverse slope benches or diversion shall be provided whenever the vertical interval (height) of any 2:1 slope exceeds 20 feet; for 3:1 slope it shall be increased to 30 feet and for 4:1 to 40 feet. Benches shall be located to divide the slope face as equally as possible and shall convey the water to a stable outlet. Soils, seeps, rock outcrops, etc., shall also be taken into consideration when designing benches.

   A. Benches shall be a minimum of six feet wide to provide for ease of maintenance.

   B. Benches shall be designed with a reverse slope of 6:1 or flatter to the toe of the upper slope and with a minimum of one foot in depth. Bench gradient to the outlet shall be between 2 percent and 3 percent, unless accompanied by appropriate design and computations.

   C. The flow length within a bench shall not exceed 800 feet unless accompanied by appropriate design and computations; see Standard and Specifications for Diversion on page 3.9

4. Surface water shall be diverted from the face of all cut and/or fill slopes by the use of diversions, ditches and swales or conveyed downslope by the use of a designed structure, except where:

   A. The face of the slope is or shall be stabilized and the face of all graded slopes shall be protected from surface runoff until they are stabilized.

   B. The face of the slope shall not be subject to any concentrated flows of surface water such as from natural drainage ways, graded ditches, downspouts, etc.

   C. The face of the slope will be protected by anchored stabilization matting, sod, gravel, riprap, or other stabilization method.

5. Cut slopes occurring in ripable rock shall be serrated as shown in Figure 4.9 on page 4.26. The serrations shall be made with conventional equipment as the excavation is made. Each step or serration shall be constructed on the contour and will have steps cut at nominal two-foot intervals with nominal three-foot horizontal shelves. These steps will vary depending on the slope ratio or the cut slope. The nominal slope line is 1 ½: 1. These steps will weather and act to hold moisture, lime, fertilizer, and seed thus producing a much quicker and longer-lived vegetative cover and better slope stabilization. Overland flow shall be diverted from the top of all serrated cut slopes and carried to a suitable outlet.

6. Subsurface drainage shall be provided where necessary to intercept seepage that would otherwise adversely affect slope stability or create excessively wet site conditions.

7. Slopes shall not be created so close to property lines as to endanger adjoining properties without adequately protecting such properties against sedimentation, erosion, slippage, settlement, subsidence, or other related damages.

8. Fill material shall be free of brush, rubbish, rocks, logs, stumps, building debris, and other objectionable material. It should be free of stones over two (2) inches in diameter where compacted by hand or mechanical tampers or over eight (8) inches in diameter where compacted by rollers or other equipment. Frozen material shall not be placed in the fill nor shall the fill material be placed on a frozen foundation.

9. Stockpiles, borrow areas, and spoil shall be shown on the plans and shall be subject to the provisions of this Standard and Specifications.

10. All disturbed areas shall be stabilized structurally or vegetatively in compliance with the Permanent Construction Area Planting Standard on page 4.42.

Construction Specifications

See Figures 4.9 and 4.10 for details.

1. All graded or disturbed areas, including slopes, shall be protected during clearing and construction in accordance with the erosion and sediment control plan until they are adequately stabilized.

2. All erosion and sediment control practices and measures shall be constructed, applied and maintained in accordance with the erosion and sediment control plan and these standards.

3. Topsoil required for the establishment of vegetation shall be stockpiled in amount necessary to complete finished grading of all exposed areas.

4. Areas to be filled shall be cleared, grubbed, and stripped of topsoil to remove trees, vegetation, roots, or other objectionable material.

5. Areas that are to be topsoiled shall be scarified to a minimum depth of four inches prior to placement of topsoil.

6. All fills shall be compacted as required to reduce erosion, slippage, settlement, subsidence, or other related problems. Fill intended to support buildings, structures, and conduits, etc., shall be compacted in accordance with local requirements or codes.

7. All fill shall be placed and compacted in layers not to exceed 9 inches in thickness.

8. Except for approved landfills or nonstructural fills, fill material shall be free of frozen particles, brush, roots, sod, or other foreign objectionable materials that would interfere with, or prevent, construction of satisfactory fills.

9. Frozen material or soft, mucky or highly compressible materials shall not be incorporated into fill slopes or structural fills.

10. Fill shall not be placed on saturated or frozen surfaces.

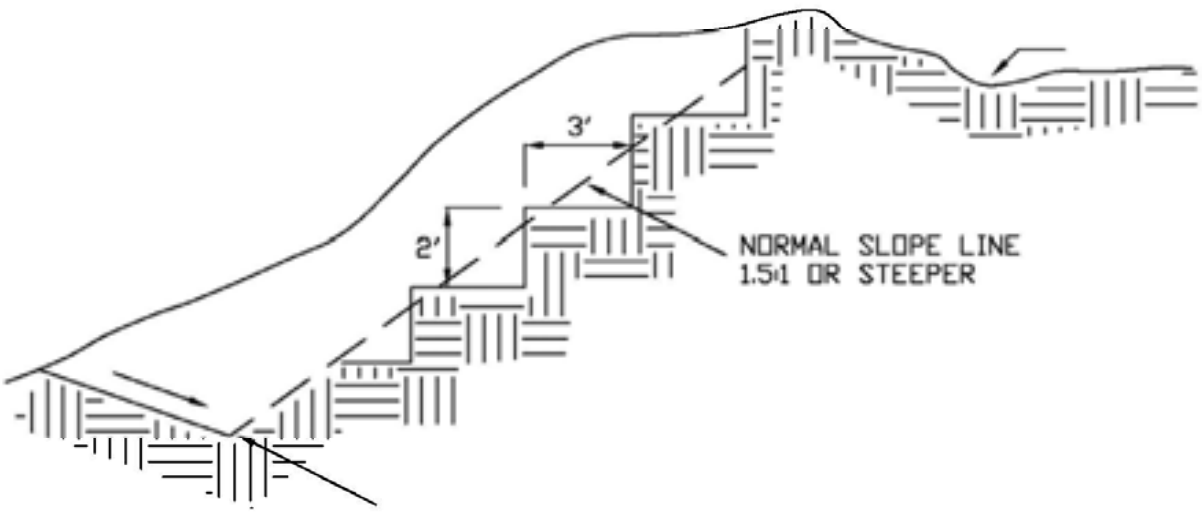
11. All benches shall be kept free of sediment during all phases of development.

12. Seeps or springs encountered during construction shall be handled in accordance with the Standard and Specification for Subsurface Drain on page 3.48 or other approved methods.

13. All graded areas shall be permanently stabilized immediately following finished grading.

14. Stockpiles, borrow areas, and spoil areas shall be shown on the plans and shall be subject to the provisions of this Standard and Specifications.

Figure 4.9
Typical Section of Serrated Cut Slope



ADAPTED FROM DETAILS PROVIDED BY: USDA - NRCS, NEW YORK STATE DEPARTMENT OF TRANSPORTATION, NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION, NEW YORK STATE SOIL & WATER CONSERVATION COMMITTEE	TYPICAL SECTION OF SERRATED CUT SLOPE

Figure 4.10
Landgrading

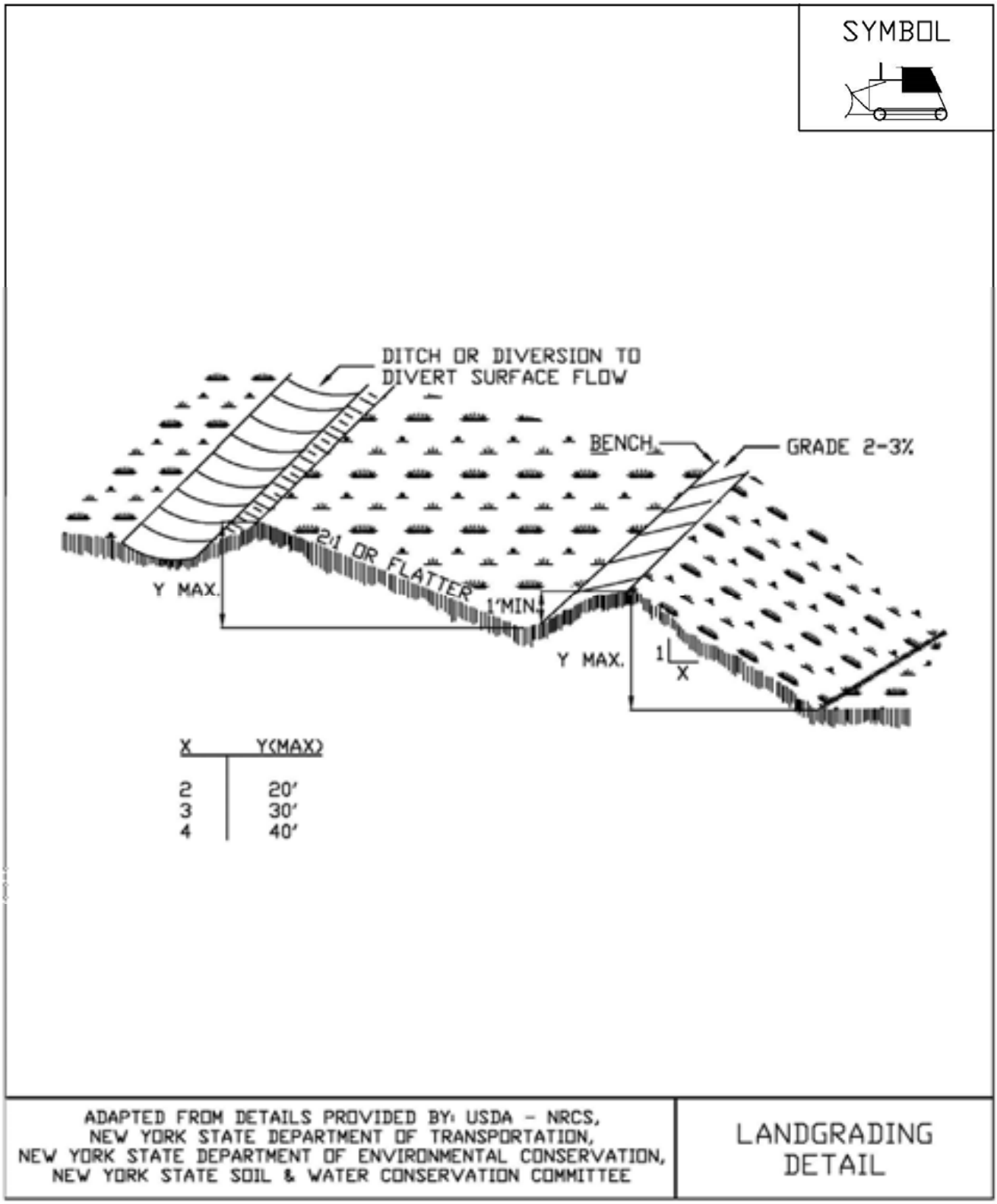


Figure 4.11
Landgrading - Construction Specifications

CONSTRUCTION SPECIFICATIONS

1. ALL GRADED OR DISTURBED AREAS INCLUDING SLOPES SHALL BE PROTECTED DURING CLEARING AND CONSTRUCTION IN ACCORDANCE WITH THE APPROVED EROSION AND SEDIMENT CONTROL PLAN UNTIL THEY ARE PERMANENTLY STABILIZED.
2. ALL SEDIMENT CONTROL PRACTICES AND MEASURES SHALL BE CONSTRUCTED, APPLIED AND MAINTAINED IN ACCORDANCE WITH THE APPROVED EROSION AND SEDIMENT CONTROL PLAN.
3. TOPSOIL REQUIRED FOR THE ESTABLISHMENT OF VEGETATION SHALL BE STOCKPILED IN AMOUNT NECESSARY TO COMPLETE FINISHED GRADING OF ALL EXPOSED AREAS.
4. AREAS TO BE FILLED SHALL BE CLEARED, GRUBBED, AND STRIPPED OF TOPSOIL TO REMOVE TREES, VEGETATION, ROOTS OR OTHER OBJECTIONABLE MATERIAL.
5. AREAS WHICH ARE TO BE TOPSOILED SHALL BE SCARIFIED TO A MINIMUM DEPTH OF FOUR INCHES PRIOR TO PLACEMENT OF TOPSOIL.
6. ALL FILLS SHALL BE COMPACTED AS REQUIRED TO REDUCE EROSION, SLIPPAGE, SETTLEMENT, SUBSIDENCE OR OTHER RELATED PROBLEMS. FILL INTENDED TO SUPPORT BUILDINGS, STRUCTURES AND CONDUITS, ETC. SHALL BE COMPACTED IN ACCORDANCE WITH LOCAL REQUIREMENTS OR CODES.
7. ALL FILL SHALL BE PLACED AND COMPACTED IN LAYERS NOT TO EXCEED 9 INCHES IN THICKNESS.
8. EXCEPT FOR APPROVED LANDFILLS, FILL MATERIAL SHALL BE FREE OF FROZEN PARTICLES, BRUSH, ROOTS, SOD, OR OTHER FOREIGN OR OTHER OBJECTIONABLE MATERIALS THAT WOULD INTERFERE WITH OR PREVENT CONSTRUCTION OF SATISFACTORY FILLS.
9. FROZEN MATERIALS OR SOFT, MUCKY OR HIGHLY COMPRESSIBLE MATERIALS SHALL NOT BE INCORPORATED IN FILLS.
10. FILL SHALL NOT BE PLACED ON SATURATED OR FROZEN SURFACES.
11. ALL BENCHES SHALL BE KEPT FREE OF SEDIMENT DURING ALL PHASES OF DEVELOPMENT.
12. SEEPS OR SPRINGS ENCOUNTERED DURING CONSTRUCTION SHALL BE HANDLED IN ACCORDANCE WITH THE STANDARD AND SPECIFICATION FOR SUBSURFACE DRAIN OR OTHER APPROVED METHOD.
13. ALL GRADED AREAS SHALL BE PERMANENTLY STABILIZED IMMEDIATELY FOLLOWING FINISHED GRADING.
14. STOCKPILES, BORROW AREAS AND SPOIL AREAS SHALL BE SHOWN ON THE PLANS AND SHALL BE SUBJECT TO THE PROVISIONS OF THIS STANDARD AND SPECIFICATION.

ADAPTED FROM DETAILS PROVIDED BY: USDA - NRCS, NEW YORK STATE DEPARTMENT OF TRANSPORTATION, NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION, NEW YORK STATE SOIL & WATER CONSERVATION COMMITTEE	LANDGRADING SPECIFICATIONS

STANDARD AND SPECIFICATIONS FOR LINED WATERWAY

Definition & Scope

A **permanent** waterway or outlet with a lining of concrete, stone, or other durable, hardened material. The lined section extends up the side slopes to the designed depth. The earth above the permanent lining may be vegetated or otherwise protected.

The lined waterway is constructed to provide for the disposal of concentrated runoff without damage from erosion or flooding, where grassed waterways would be inadequate due to high velocities.

Conditions Where Practice Applies

This standard applies to waterways or outlets with linings of cast-in-place concrete, flagstone mortared in place, rock riprap, gabions, or similar permanent linings. It does not apply to irrigation ditch or canal linings, grassed waterways with stone centers or small lined sections that carry prolonged low flows, or to reinforced concrete channels. Lined waterways should not be used if they are directly discharging to C(T) or higher streams unless thermal impacts are mitigated by biotechnical practices (Section 4). The maximum capacity of the waterway flowing at design depth shall not exceed 100 cubic feet per second.

This practice applies where the following or similar conditions exist:

1. Concentrated runoff is such that a lining is required to control erosion.
2. Steep grades, wetness, prolonged base flow, seepage, or piping that would cause erosion.
3. The location is such that damage from use by people or animals precludes use of vegetated waterways or outlets.
4. Soils are highly erosive or other soil and climate conditions preclude using vegetation.
5. High value property or adjacent facilities warrant the extra cost to contain design runoff in a limited space.

Design Criteria

Capacity

1. The minimum capacity shall be adequate to carry the peak rate of runoff from a 10-year, 24-hour storm. Velocity shall be computed using Manning's equation with a coefficient of roughness "n" as follows:

Lined Material	"n"
Concrete (Type):	
Trowel Finish	0.015
Float Finish	0.019
Gunite	0.019
Flagstone	0.022
Riprap	Determine from Figure 3.11 on page 3.30
Gabion	0.030

2. Riprap gradation and filter (bedding) are generally designed in accordance with criteria set forth in the National Cooperative Highway Research Program Report 108, available from the University Microfilm International, 300 N. Zeeb Road, Ann Arbor, Michigan 48106, Publication No. PB-00839; or the Hydraulic Engineering Circular No. 11, prepared by the U.S. Bureau of Public Roads, available from Federal Highway Administration, 400 7th Street, S.W., Washington, D.C. 20590, HNG-31, or the procedure in the USDA-NRCS's Engineering Field Manual, Chapter 16.

Velocity

1. Maximum design velocity shall be as shown below. Except for short transition sections, flow with a channel gradient within the range of 0.7 to 1.3 of this flow's critical slope must be avoided unless the channel is straight. Velocities exceeding critical will be restricted to straight reaches.

Design Flow Depth (ft.)	Maximum Velocity (ft./sec.)
0.0 - 0.5	25
0.5 - 1.0	15
Greater than 1.0	10

2. Waterways or outlets with velocities exceeding critical shall discharge into an energy dissipater to reduce velocity to less than critical, or to a velocity the downstream soil and vegetative conditions will allow.

Cross Section

The cross section shall be triangular, parabolic, or trapezoidal. Monolithic concrete or gabions may be rectangular.

Freeboard

The minimum freeboard for lined waterways or outlets shall be 0.25 feet above design high water in areas where erosion resistant vegetation cannot be grown adjacent to the paved side slopes. No freeboard is required where good vegetation can be grown and is maintained.

Side Slope

Steepest permissible side slopes, horizontal to vertical will be as follows:

1. Non-Reinforced Concrete
   Hand-placed, formed concrete
   Height of lining, 1.5 ft or less ..... Vertical
   Hand placed screened concrete or mortared
   In-place flagstone
   Height of lining, less than 2 ft ..... 1 to 1
   Height of lining, more than 2 ft ..... 2 to 1
2. Slip form concrete:
   Height of lining, less than 3 ft ..... 1 to 1
3. Rock Riprap ..... 2 to 1
4. Gabions ..... Vertical
5. Pre-cast Concrete Sections ..... Vertical

Lining Thickness

Minimum lining thickness shall be as follows:

1. Concrete ..... 4 in. (In most problem areas, shall be 5 in. with welded wire fabric reinforcing)

2. Rock Riprap ..... 1.5 x maximum stone size plus thickness of filter or bedding.

3. Flagstone ..... 4 in. including mortar bed.

Related Structures

Side inlets, drop structures, and energy dissipaters shall meet the hydraulic and structural requirements of the site.

Filters or Bedding

Filters or bedding to prevent piping, reduce uplift pressure, and collect water will be used as required and will be designed in accordance with sound engineering principles. Weep holes and drains should be provided as needed.

Concrete

Concrete used for lining shall be so proportioned that it is plastic enough for thorough consolidation and stiff enough to stay in place on side slopes. A dense product will be required. A mix that can be certified as suitable to produce a minimum strength of at least 3,000 pounds per square inch will be required. Cement used shall be Portland Cement, Type I, II, IV, or V. Aggregate used shall have a maximum diameter of 1 ½ inches.

Weep holes should be provided in concrete footings and retaining walls to allow free drainage of water. Pipe used for weep holes shall be non-corrosive.

Mortar

Mortar used for mortared in-place flagstone shall consist of a mix of cement, sand, and water. Follow directions on the bag of mortar for proper mixing of mortar and water.

Contraction Joints

Contraction joints in concrete linings, where required, shall be formed transversely to a depth of about one third the thickness of the lining at a uniform spacing in the range of 10 to 15 feet.

Rock Riprap or Flagstone

Stone used for riprap or gabions shall be dense and hard enough to withstand exposure to air, water, freezing, and thawing. Flagstone shall be flat for ease of placement and have the strength to resist exposure and breaking. Rock riprap maximum size shall be as follows:

Velocity (f.p.s.)	d_{max} (in.)
5.0	6
8.5	12
10	18
12	24
15	36

A complete listing riprap gradations is provided in Table 4.1, page 4.9.

Cutoff Walls

Cutoff walls shall be used at the beginning and ending of concrete lining. For rock riprap lining, cutoff walls shall be keyed into the channel bottom and at both ends of the lining.

Construction Specifications

1. The foundation area shall be cleared of trees, stumps, roots, sod, loose rock, or other objectionable material.

2. The cross-section shall be excavated to the neat lines and grades as shown on the plans. Over-excavated areas shall be backfilled with moist soil compacted to the density of the surrounding material.

3. No abrupt deviations from design grade or horizontal alignment shall be permitted.

4. Concrete linings shall be placed to the thickness shown on the plans and trowel finished. Adequate precautions shall be taken to protect freshly placed concrete from extreme (hot or cold) temperatures, to ensure proper curing.

5. Filter bedding and rock riprap shall be placed to line and grade in the manner specified.

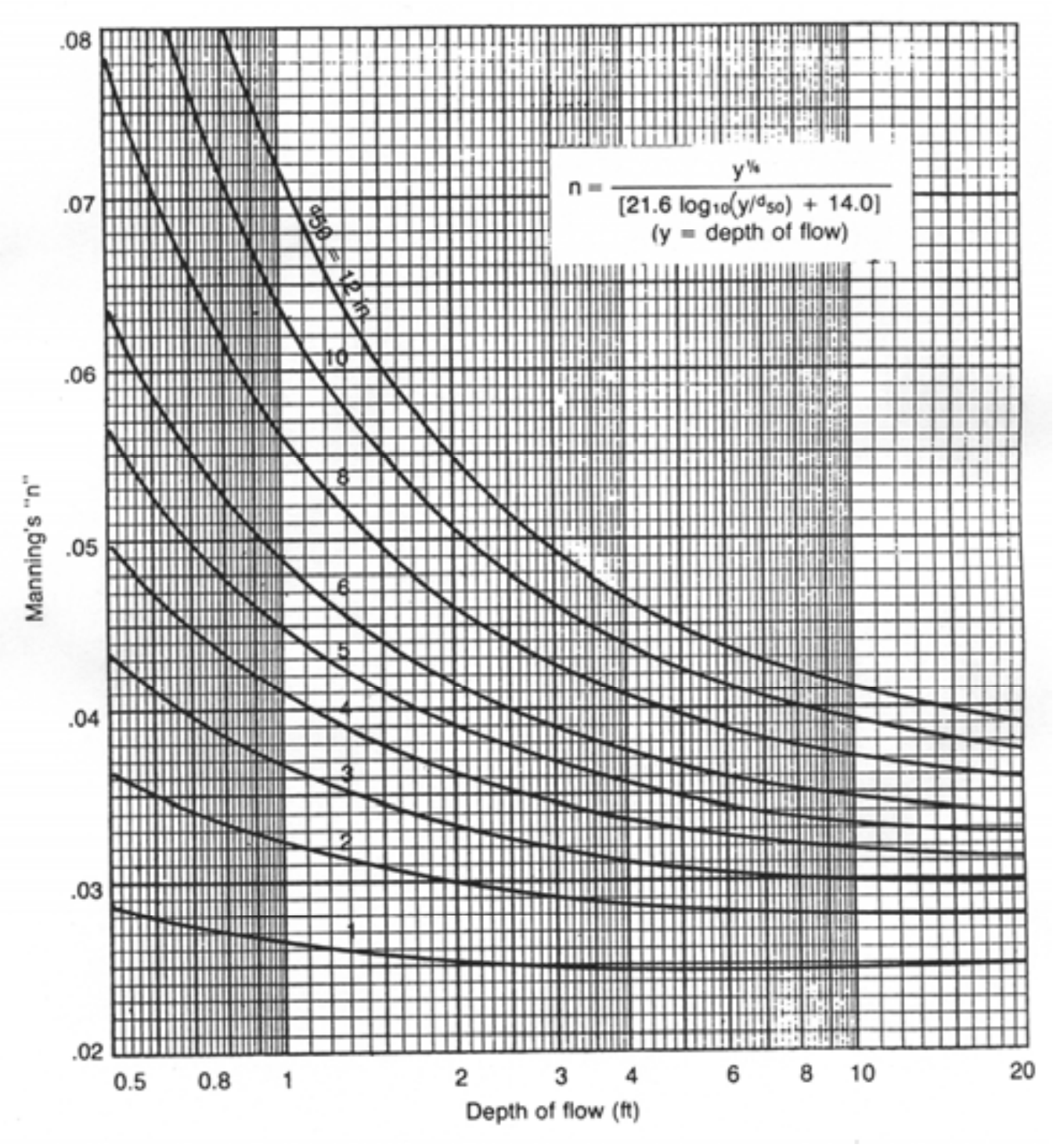
6. Construction operation shall be done in such a manner that erosion, air pollution, and water pollution will be minimized and held within legal limits. The completed job shall meet all design requirements for the appropriate finish. All disturbed areas shall be vegetated or otherwise protected against soil erosion.

Maintenance

Pavement or lining should be maintained as built to prevent undermining and deterioration. Existing trees next to pavements should be removed, as roots can cause uplift damage.

Vegetation next to pavement should be maintained in good condition to prevent scouring if the pavement is overtopped. See Standard and Specifications for Permanent Construction Area Planting on page 4.42.

Figure 3.11
Determining "n" for Riprap Lined Channel using Depth of Flow Chart
(USDA - NRCS)



Helen Caster

From: Vincent Ryan <vr@Keplingerfreeman.com>
Sent: Sunday, June 7, 2020 1:22 PM
To: 'Helen Caster (hcaster@rzengineering.com)'
Subject: FW: Compost requirements for subdivision development in Town of Manlius

Below is email from DEC regarding soil restoration

From: Kazmierski, Matthew J (DEC) <matthew.kazmierski@dec.ny.gov>
Sent: Wednesday, March 11, 2020 8:36 AM
To: Vincent Ryan <vr@Keplingerfreeman.com>
Cc: Gasper, David J (DEC) <david.gasper@dec.ny.gov>; Scott Freeman <sf@Keplingerfreeman.com>; 'Rudy Zona (rzona@rzengineering.com)' <rzona@rzengineering.com>
Subject: RE: Compost requirements for subdivision development in Town of Manlius

Hi Vincent,

Yes per table 4.6, cut and fill areas in type C soils only require deep ripping and de-compaction. Compost only needs to be added in areas where impervious cover is being turned into green space or in high traffic areas. The way the standard is written is confusing, the description of full restoration on page 4.52 seems to indicate that compost is needed. However, the footnote in table 4.6 is meant to clarify that compost is not needed for cut and fill areas.

Let me know if you have any questions.

Matt

From: Vincent Ryan <vr@Keplingerfreeman.com<mailto:vr@Keplingerfreeman.com>>
Sent: Tuesday, March 10, 2020 1:44 PM
To: Kazmierski, Matthew J (DEC) <matthew.kazmierski@dec.ny.gov<mailto:matthew.kazmierski@dec.ny.gov>>
Cc: Gasper, David J (DEC) <david.gasper@dec.ny.gov<mailto:david.gasper@dec.ny.gov>>; Scott Freeman <sf@Keplingerfreeman.com<mailto:sf@Keplingerfreeman.com>>; 'Rudy Zona (rzona@rzengineering.com<mailto:rzona@rzengineering.com>)' <rzona@rzengineering.com<mailto:rzona@rzengineering.com>>
Subject: Compost requirements for subdivision development in Town of Manlius

ATTENTION: This email came from an external source. Do not open attachments or click on links from unknown senders or unexpected emails.
Dear Matt,

Thank you for taking the time to answer our questions regarding the compost requirements as per the soil restoration standards and specifications. I have attached a grading plan of the proposed project for your review. Per our conversation it is safe to assume, based on our Geotech investigation that found a majority of soils to be HSG C, that we would follow Table 4.6 of the Soil Restoration requirements stating

we apply full restoration per "deep Ripping and De-compaction, DEC 2008" and not be required to provide compost enhancements as described in the specification for full soil restoration on page 4.52. Please let us know if you have any other comments or questions regarding this project.

Thank you.

Vincent E. Ryan
Landscape Designer
Keplinger Freeman Asssociates
vr@keplingerfreeman.com<mailto:vr@keplingerfreeman.com>
(p) 315 -445-7980 x 110

[cid:image001.jpg@01D5F77A.46A6B960]

STANDARD AND SPECIFICATIONS FOR MULCHING

Definition and Scope

Applying coarse plant residue or chips, or other suitable materials, to cover the soil surface to provide initial erosion control while a seeding or shrub planting is establishing. Mulch will conserve moisture and modify the surface soil temperature and reduce fluctuation of both. Mulch will prevent soil surface crusting and aid in weed control. Mulch can also be used alone for temporary stabilization in non-growing months. Use of stone as a mulch could be more permanent and should not be limited to non-growing months.

Conditions Where Practice Applies

On soils subject to erosion and on new seedings and shrub plantings. Mulch is useful on soils with low infiltration rates by retarding runoff.

Criteria

Site preparation prior to mulching requires the installation of necessary erosion control or water management practices and drainage systems.

Slope, grade and smooth the site to fit needs of selected mulch products.

Remove all undesirable stones and other debris to meet the needs of the anticipated land use and maintenance required.

Apply mulch after soil amendments and planting is accomplished or simultaneously if hydroseeding is used.

Select appropriate mulch material and application rate or material needs. Hay mulch shall not be used in wetlands or in areas of permanent seeding. Clean straw mulch is preferred alternative in wetland application. Determine local availability.

Select appropriate mulch anchoring material.

NOTE: The best combination for grass/legume establishment is straw (cereal grain) mulch applied at 2 ton/ acre (90 lbs./1000sq.ft.) and anchored with wood fiber mulch (hydromulch) at 500 – 750 lbs./acre (11 – 17 lbs./1000 sq. ft.). The wood fiber mulch must be applied through a hydroseeder immediately after mulching.

Table 4.2
Guide to Mulch Materials, Rates, and Uses

Mulch Material	Quality Standards	per 1000 Sq. Ft.	per Acre	Depth of Application	Remarks
Wood chips or shavings	Air-dried. Free of objectionable coarse material	500-900 lbs.	10-20 tons	2-7”	Used primarily around shrub and tree plantings and recreation trails to inhibit weed competition. Resistant to wind blowing. Decomposes slowly.
Wood fiber cellulose (partly digested wood fibers)	Made from natural wood usually with green dye and dispersing agent	50 lbs.	2,000 lbs.	—	Apply with hydromulcher. No tie down required. Less erosion control provided than 2 tons of hay or straw.
Gravel, Crushed Stone or Slag	Washed; Size 2B or 3A—1 1/2”	9 cu. yds.	405 cu. yds.	3”	Excellent mulch for short slopes and around plants and ornamentals. Use 2B where subject to traffic. (Approximately 2,000 lbs./cu. yd.). Frequently used over filter fabric for better weed control.
Hay or Straw	Air-dried; free of undesirable seeds & coarse materials	90-100 lbs. 2-3 bales	2 tons (100-120 bales)	cover about 90% surface	Use small grain straw where mulch is maintained for more than three months. Subject to wind blowing unless anchored. Most commonly used mulching material. Provides the best micro-environment for germinating seeds.
Jute twisted yarn	Undyed, unbleached plain weave. Warp 78 ends/yd., Weft 41 ends/ yd. 60-90 lbs./roll	48” x 50 yds. or 48” x 75 yds.	—	—	Use without additional mulch. Tie down as per manufacturers specifications. Good for center line of concentrated water flow.
Excelsior wood fiber mats	Interlocking web of excelsior fibers with photodegradable plastic netting	4’ x 112.5’ or 8’ x 112.5’.	—	—	Use without additional mulch. Excellent for seeding establishment. Anchor as per manufacturers specifications. Approximately 72 lbs./roll for excelsior with plastic on both sides. Use two sided plastic for centerline of waterways.
Straw or coconut fiber, or combination	Photodegradable plastic net on one or two sides	Most are 6.5 ft. x 3.5 ft.	81 rolls	—	Designed to tolerate higher velocity water flow, centerlines of waterways, 60 sq. yds. per roll.

Table 4.3
Mulch Anchoring Guide

Anchoring Method or Material	Kind of Mulch to be Anchored	How to Apply
1. Peg and Twine	Hay or straw	After mulching, divide areas into blocks approximately 1 sq. yd. in size. Drive 4-6 pegs per block to within 2" to 3" of soil surface. Secure mulch to surface by stretching twine between pegs in criss-cross pattern on each block. Secure twine around each peg with 2 or more tight turns. Drive pegs flush with soil. Driving stakes into ground tightens the twine.
2. Mulch netting	Hay or straw	Staple the light-weight paper, jute, wood fiber, or plastic nettings to soil surface according to manufacturer's recommendations. Should be biodegradable. Most products are not suitable for foot traffic.
3. Wood cellulose fiber	Hay or straw	Apply with hydroseeder immediately after mulching. Use 500 lbs. wood fiber per acre. Some products contain an adhesive material ("tackifier"), possibly advantageous.
4. Mulch anchoring tool	Hay or straw	Apply mulch and pull a mulch anchoring tool (blunt, straight discs) over mulch as near to the contour as possible. Mulch material should be "tucked" into soil surface about 3".
5. Tackifier	Hay or straw	Mix and apply polymeric and gum tackifiers according to manufacturer's instructions. Avoid application during rain. A 24-hour curing period and a soil temperature higher than 45^0 Fahrenheit are required.

STANDARD AND SPECIFICATIONS FOR ROCK OUTLET PROTECTION

Definition & Scope

A **permanent** section of rock protection placed at the outlet end of the culverts, conduits, or channels to reduce the depth, velocity, and energy of water, such that the flow will not erode the receiving downstream reach.

Conditions Where Practice Applies

This practice applies where discharge velocities and energies at the outlets of culverts, conduits, or channels are sufficient to erode the next downstream reach. This applies to:

1. Culvert outlets of all types.
2. Pipe conduits from all sediment basins, dry storm water ponds, and permanent type ponds.
3. New channels constructed as outlets for culverts and conduits.

Design Criteria

The design of rock outlet protection depends entirely on the location. Pipe outlet at the top of cuts or on slopes steeper than 10 percent, cannot be protected by rock aprons or riprap sections due to re-concentration of flows and high velocities encountered after the flow leaves the apron.

Many counties and state agencies have regulations and design procedures already established for dimensions, type and size of materials, and locations where outlet protection is required. Where these requirements exist, they shall be followed.

Tailwater Depth

The depth of tailwater immediately below the pipe outlet must be determined for the design capacity of the pipe. If the tailwater depth is less than half the diameter of the outlet pipe, and the receiving stream is wide enough to accept divergence of the flow, it shall be classified as a Minimum Tailwater Condition; see Figure 3.16 on page 3.42 as an example. If the tailwater depth is greater than half the pipe diameter and the receiving stream will continue to confine the flow, it shall be classified as a Maximum Tailwater Condition; see Figure 3.17 on page 3.43 as an example. Pipes which outlet onto flat areas with no defined channel may be assumed to have a Minimum Tailwater Condition; see Figure 3.16 on page 3.42 as an example.

Apron Size

The apron length and width shall be determined from the curves according to the tailwater conditions:

Minimum Tailwater – Use Figure 3.16 on page 3.42
Maximum Tailwater – Use Figure 3.17 on page 3.43

If the pipe discharges directly into a well defined channel, the apron shall extend across the channel bottom and up the channel banks to an elevation one foot above the maximum tailwater depth or to the top of the bank, whichever is less.

The upstream end of the apron, adjacent to the pipe, shall have a width two (2) times the diameter of the outlet pipe, or conform to pipe end section if used.

Bottom Grade

The outlet protection apron shall be constructed with no slope along its length. There shall be no overfall at the end of the apron. The elevation of the downstream end of the apron shall be equal to the elevation of the receiving channel or adjacent ground.

Alignment

The outlet protection apron shall be located so that there are no bends in the horizontal alignment.

Materials

The outlet protection may be done using rock riprap, grouted riprap, or gabions. Outlets constructed on the bank of a stream or wetland shall not use grouted rip-rap, gabions or concrete.

Riprap shall be composed of a well-graded mixture of rock size so that 50 percent of the pieces, by weight, shall be larger than the d_{50} size determined by using the charts. A

well-graded mixture, as used herein, is defined as a mixture composed primarily of larger rock sizes, but with a sufficient mixture of other sizes to fill the smaller voids between the rocks. The diameter of the largest rock size in such a mixture shall be 1.5 times the d_{50} size.

Thickness

The minimum thickness of the riprap layer shall be 1.5 times the maximum rock diameter for d_{50} of 15 inches or less; and 1.2 times the maximum rock size for d_{50} greater than 15 inches. The following chart lists some examples:

D_{50} (inches)	d_{max} (inches)	Minimum Blanket Thickness (inches)
4	6	9
6	9	14
9	14	20
12	18	27
15	22	32
18	27	32
21	32	38
24	36	43

Rock Quality

Rock for riprap shall consist of field rock or rough unhewn quarry rock. The rock shall be hard and angular and of a quality that will not disintegrate on exposure to water or weathering. The specific gravity of the individual rocks shall be at least 2.5.

Filter

A filter is a layer of material placed between the riprap and the underlying soil surface to prevent soil movement into and through the riprap. Riprap shall have a filter placed under it in all cases.

A filter can be of two general forms: a gravel layer or a plastic filter cloth. The plastic filter cloth can be woven or non-woven monofilament yarns, and shall meet these base requirements: thickness 20-60 mils, grab strength 90-120 lbs; and shall conform to ASTM D-1777 and ASTM D-1682.

Gravel filter blanket, when used, shall be designed by comparing particle sizes of the overlying material and the base material. Design criteria are available in Standard and Specification for Anchored Slope and Channel Stabilization on page 4.7.

Gabions

Gabions shall be made of hexagonal triple twist mesh with heavily galvanized steel wire. The maximum linear dimension of the mesh opening shall not exceed 4 ½ inches and the area of the mesh opening shall not exceed 10 square inches.

Gabions shall be fabricated in such a manner that the sides, ends, and lid can be assembled at the construction site into a rectangular basket of the specified sizes. Gabions shall be of single unit construction and shall be installed according to manufacturer's recommendations.

The area on which the gabion is to be installed shall be graded as shown on the drawings. Foundation conditions shall be the same as for placing rock riprap, and filter cloth shall be placed under all gabions. Where necessary, key, or tie, the structure into the bank to prevent undermining of the main gabion structure.

Maintenance

Once a riprap outlet has been installed, the maintenance needs are very low. It should be inspected after high flows for evidence of scour beneath the riprap or for dislodged rocks. Repairs should be made immediately.

Design Procedure

1. Investigate the downstream channel to assure that nonerosive velocities can be maintained.

2. Determine the tailwater condition at the outlet to establish which curve to use.

3. Use the appropriate chart with the design discharge to determine the riprap size and apron length required. It is noted that references to pipe diameters in the charts are based on full flow. For other than full pipe flow, the parameters of depth of flow and velocity must be used to adjust the design discharges.

4. Calculate apron width at the downstream end if a flare section is to be employed.

Design Examples are demonstrated in Appendix B.

Construction Specifications

1. The subgrade for the filter, riprap, or gabion shall be prepared to the required lines and grades. Any fill required in the subgrade shall be compacted to a density of approximately that of the surrounding undisturbed material.

2. The rock or gravel shall conform to the specified grad-

ing limits when installed respectively in the riprap or filter.

3. Filter cloth shall be protected from punching, cutting, or tearing. Any damage other than an occasional small hole shall be repaired by placing another piece of cloth over the damaged part or by completely replacing the cloth. All overlaps, whether for repairs or for joining two pieces of cloth shall be a minimum of one foot.

4. Rock for the riprap or gabion outlets may be placed by equipment. Both shall each be constructed to the full course thickness in one operation and in such a manner as to avoid displacement of underlying materials. The rock for riprap or gabion outlets shall be delivered and placed in a manner that will ensure that it is reasonably homogenous with the smaller rocks and spalls filling the voids between the larger rocks. Riprap shall be placed in a manner to prevent damage to the filter blanket or filter cloth. Hand placement will be required to the extent necessary to prevent damage to the permanent works.

Figure 3.16
Outlet Protection Design—Minimum Tailwater Condition Chart (Design of Outlet Protection from a Round Pipe Flowing Full, Minimum Tailwater Condition: $T_w < 0.5D_o$) (USDA - NRCS)

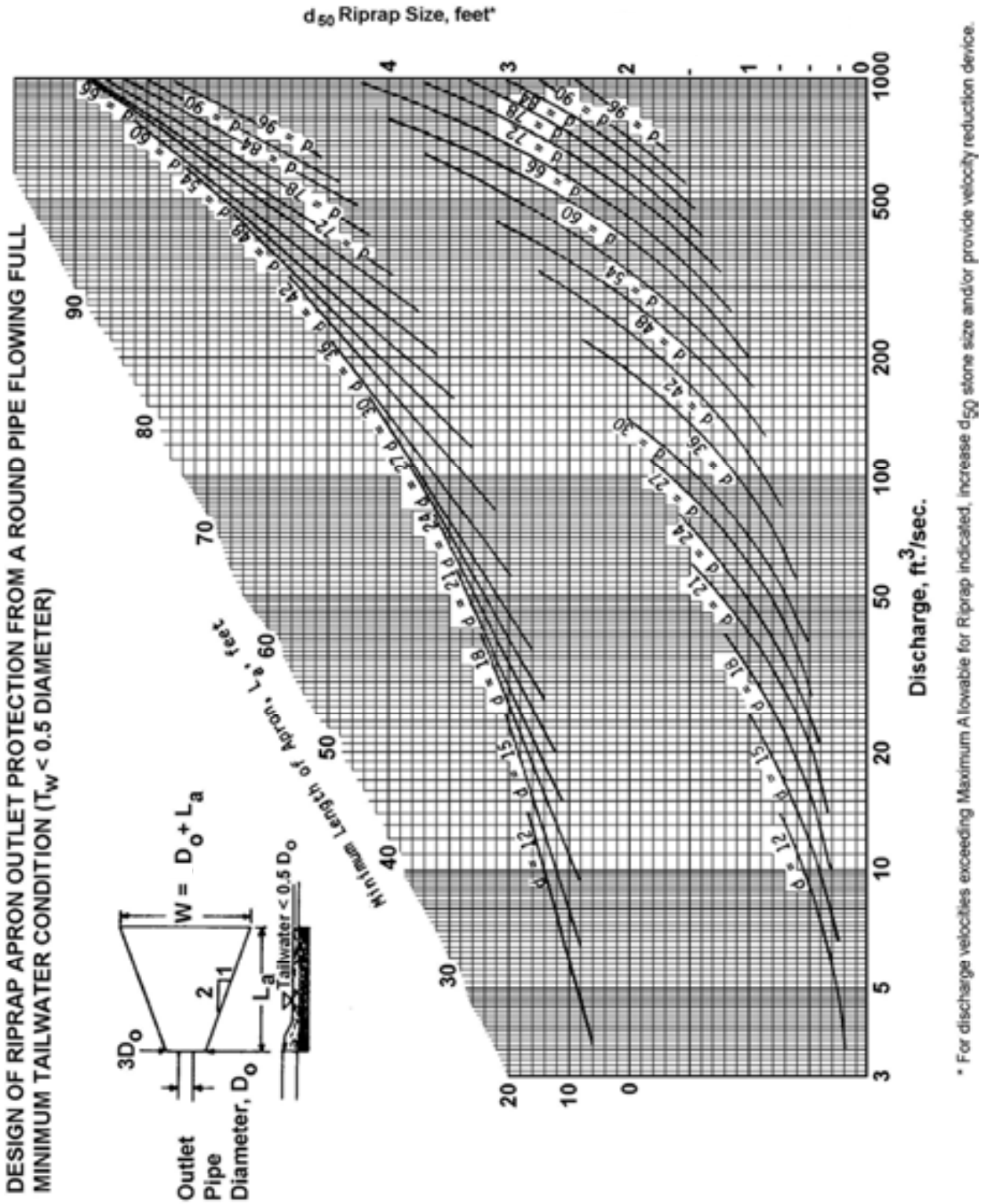


Figure 3.17
Outlet Protection Design—Maximum Tailwater Condition Chart (Design of Outlet Protection from a Round Pipe Flowing Full, Maximum Tailwater Condition: $T_w \geq 0.5D_o$) (USDA - NRCS)

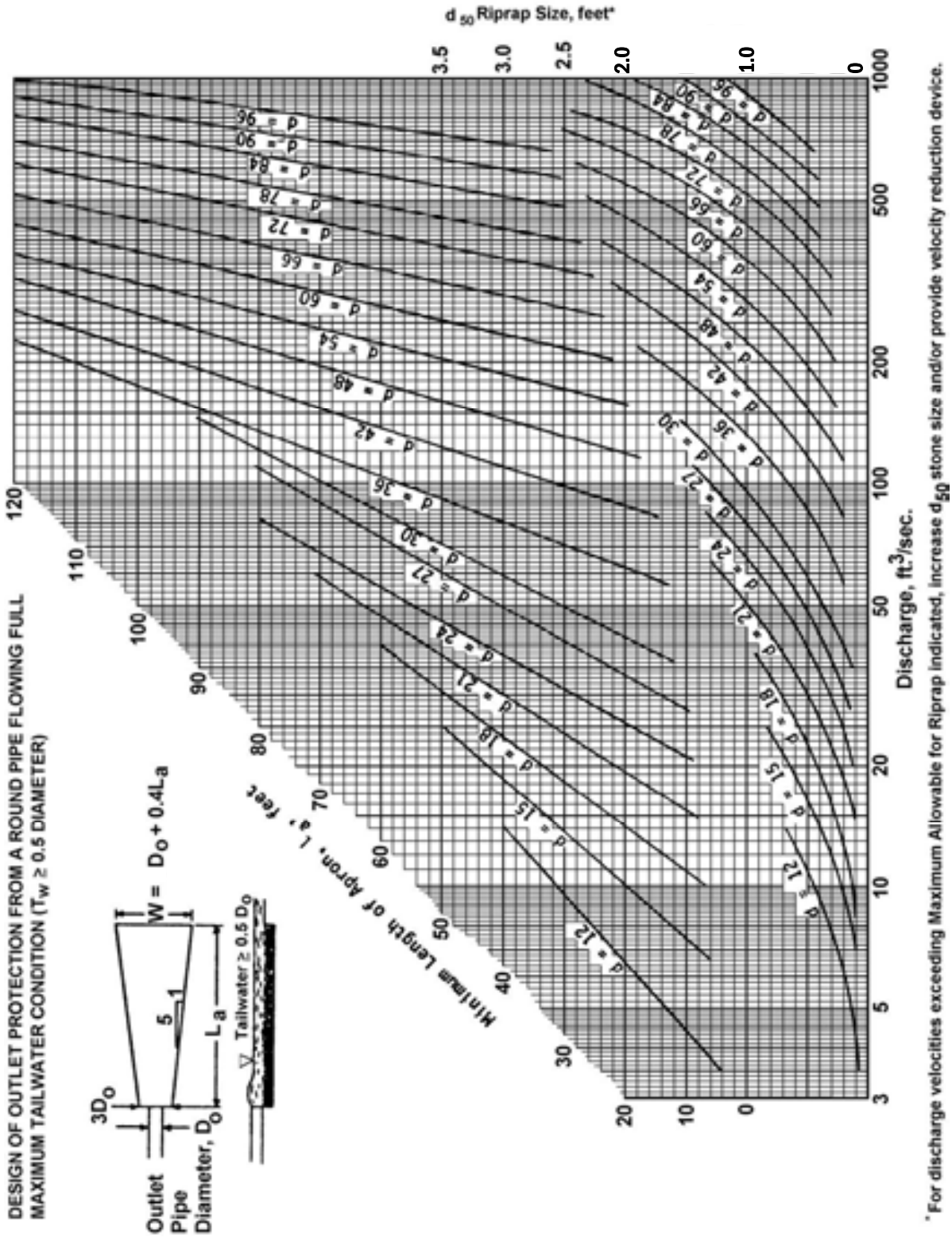


Figure 3.18
Riprap Outlet Protection Detail (1)

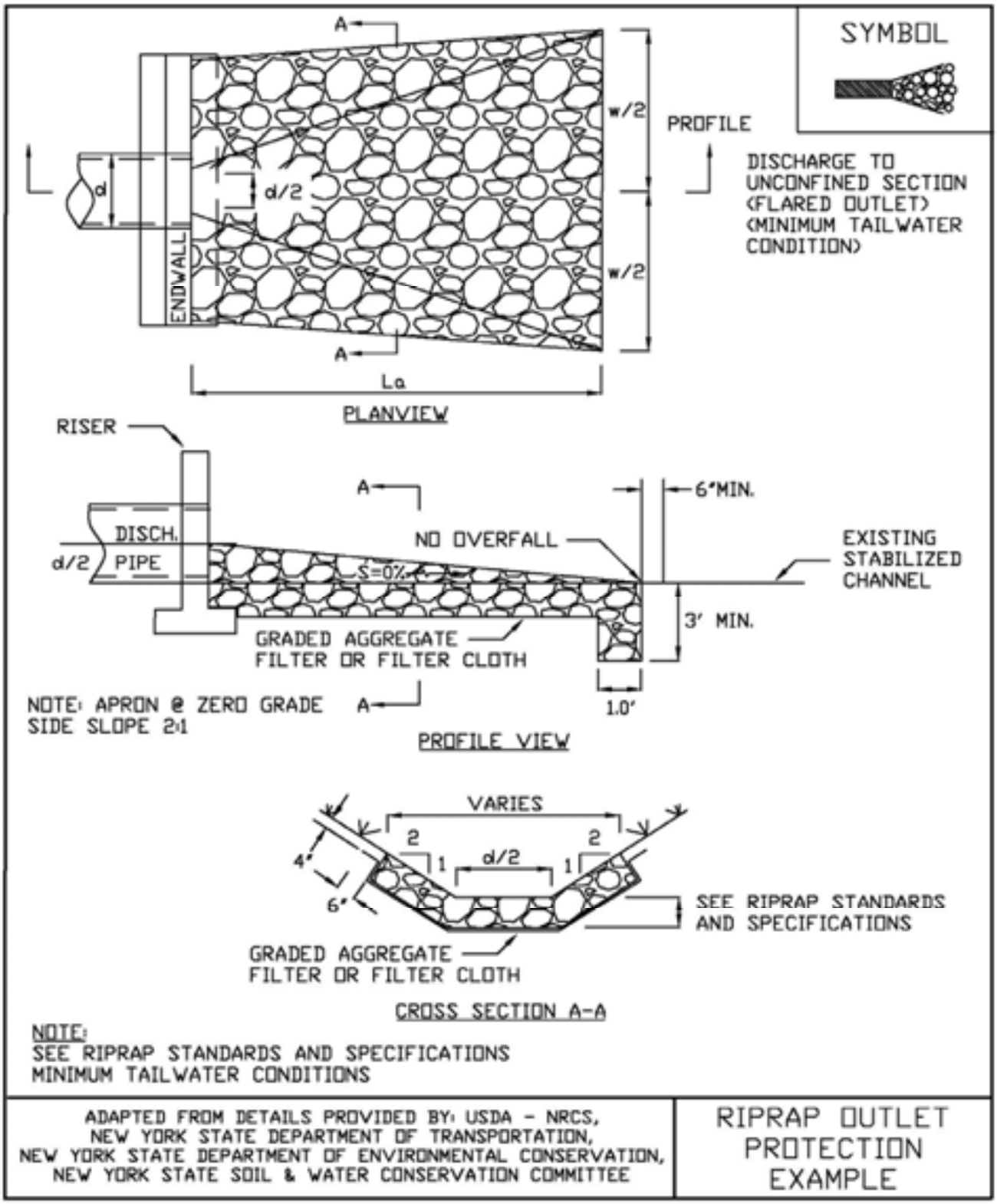


Figure 3.19
Riprap Outlet Protection Detail (2)

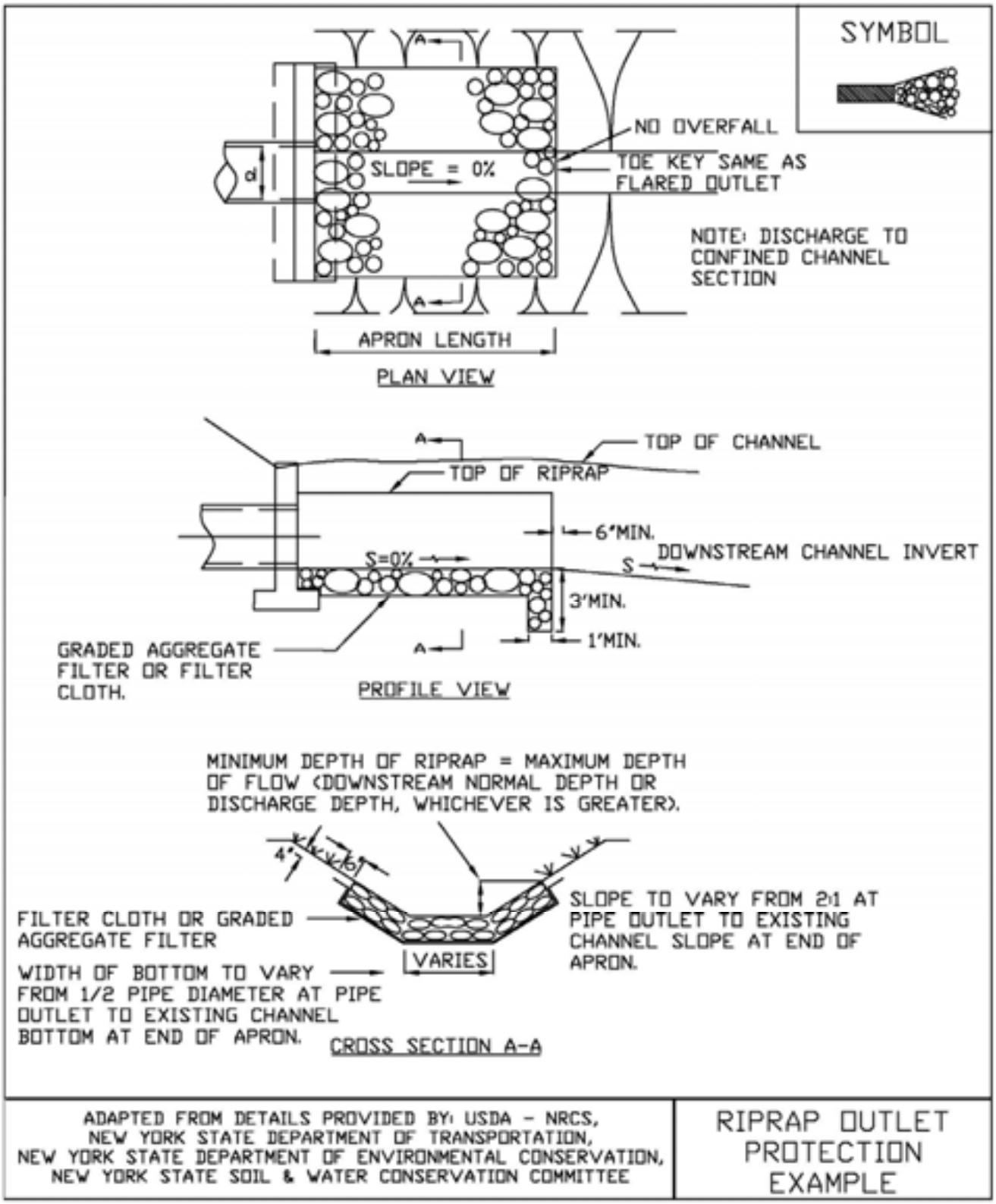
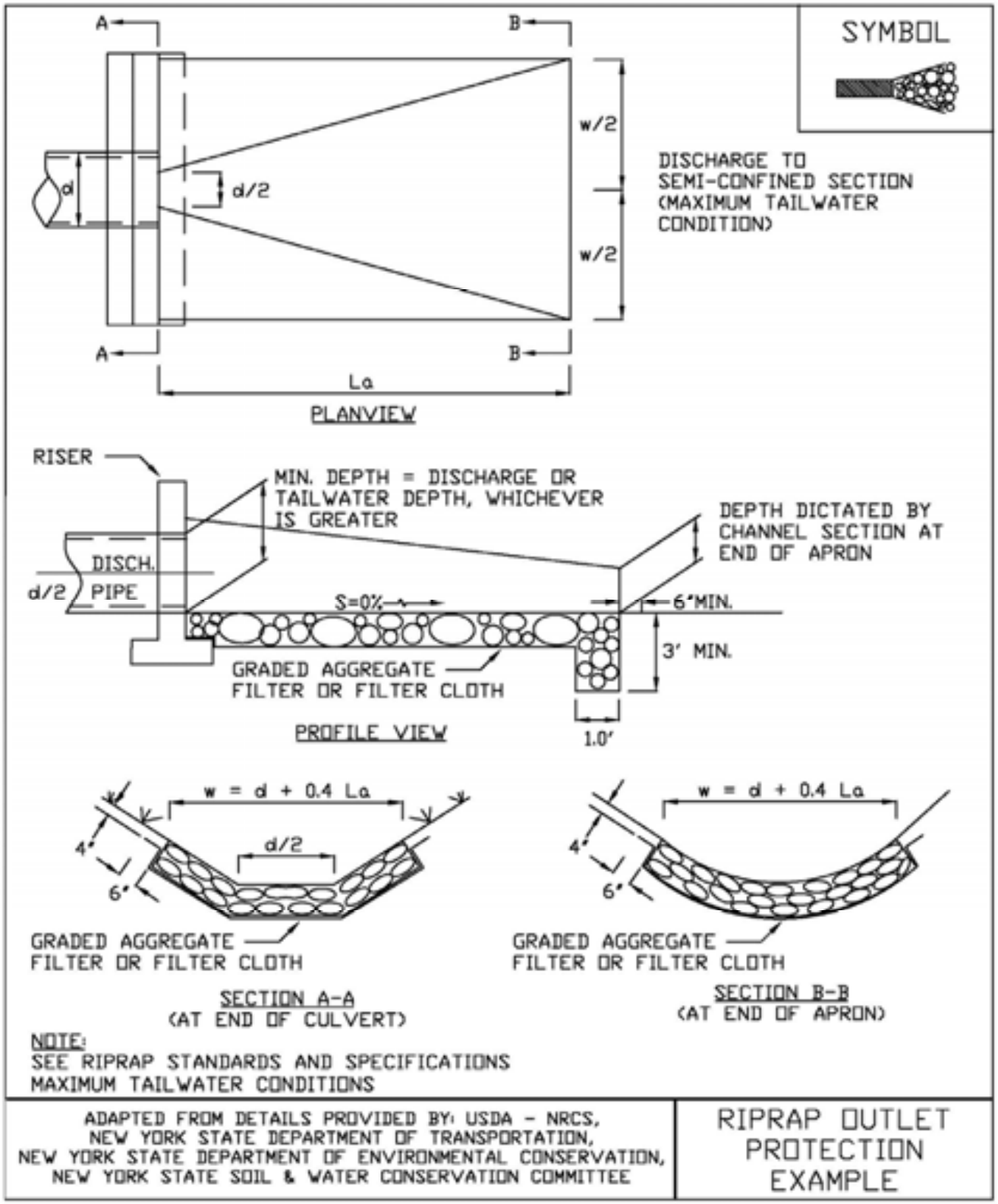


Figure 3.20
Riprap Outlet Protection Detail (3)



STANDARD AND SPECIFICATIONS FOR STABILIZATION WITH SOD

Definition & Scope

Stabilizing restored, exposed soil surfaces by establishing long term stands of grass with sod to reduce damage from sediment and runoff to downstream areas and enhance natural beauty.

Conditions Where Practice Applies

On exposed soils that have a potential for causing off site environmental damage where a quick vegetative cover is desired. Moisture, either applied or natural, is essential to success.

Design Criteria

1. Sod shall be bluegrass or a bluegrass/red fescue mixture or a perennial ryegrass for average sites. (CAUTION: Perennial ryegrass has limited cold tolerance and may winter kill.) Use turf type cultivars of tall fescue for shady, droughty, or otherwise more critical areas. For variety selection, contact Cornell Cooperative Extension Turf Specialist.

2. Sod shall be machine cut at a uniform soil thickness of 3/4 inch, plus or minus 1/4 inch. Measurement for thickness shall exclude top growth and thatch.

3. Standard size sections of sod shall be strong enough to support their own weight and retain their size and shape when suspended vertically from a firm grasp on the upper 10 percent of the section.

4. Sod shall be free of weeds and undesirable coarse weedy grasses. Wild native or pasture grass sod shall not be used unless specified.

5. Sod shall not be harvested or transplanted when moisture content (excessively dry or wet) may adversely affect its survival.

6. Sod shall be harvested, delivered, and installed within a period of 36 hours. Sod not transplanted within this period shall be inspected and approved by the contracting officer or his designated representative prior to its installation.

Site Preparation

Fertilizer and lime application rates shall be determined by soil tests. Under unusual circumstances where there is insufficient time for a complete soil test and the contracting officer agrees, fertilizer and lime materials may be applied in amounts shown in subsection 2 below. Slope land such as to provide good surface water drainage. Avoid depressions or pockets.

1. Prior to sodding, the surface shall be smoothed and cleared of all trash, debris, and of all roots, brush, wire, grade stakes and other objects that would interfere with planting, fertilizing or maintenance operations.

2. **The soil should be tested to determine the amounts of amendments needed.** Where the soil is acid or composed of heavy clays, ground limestone shall be spread to raise the pH to 6.5. If the soil must be fertilized before results of a soil test can be obtained to determine fertilizer needs, apply commercial fertilizer at 20 lbs. of 5-5-10 (or equivalent) and mix into the top 3 inches of soil with the required lime for every 1,000 square feet. Soil should be moist prior to sodding. Arrange for temporary storage of sod to keep it shaded and cool.

Sod Installation

1. For the operation of laying, tamping, and irrigating for any areas, sod shall be completed within eight hours. During periods of excessively high temperature, the soil shall be lightly moistened immediately prior to laying the sod.

2. The first row of sod shall be laid in a straight line with subsequent rows placed parallel to, and tightly wedged against, each other. Lateral joints shall be staggered to promote more uniform growth and strength. Ensure that sod is not stretched or overlapped and that all joints are butted tight in order to prevent voids which would cause air drying of the roots. On sloping areas where erosion may be a problem, sod shall be laid with the long edges parallel to the contour and with

staggered joints.

3. Secure the sod by tamping and pegging, or other approved methods. As sodding is completed in any one section, the entire area shall be rolled or tamped to ensure solid contact of roots with the soil surface.

4. Sod shall be watered immediately after rolling or tamping until the underside of the new sod pad and soil surface below the sod are thoroughly wet. Keep sod moist for at least two weeks.

Sod Maintenance

1. In the absence of adequate rainfall, watering shall be performed daily, or as often as deemed necessary by the inspector, during the first week and in sufficient quantities to maintain moist soil to a depth of 4 inches. Watering should be done in the morning. Avoid excessive watering during applications.

2. After the first week, sod shall be watered as necessary to maintain adequate moisture and ensure establishment.

3. The first mowing should not be attempted until sod is firmly rooted. No more than 1/3 of the grass leaf shall be removed by the initial cutting or subsequent cuttings. Grass height shall be maintained between 2 and 3 inches unless otherwise specified. Avoid heavy mowing equipment for several weeks to prevent rutting.

4. If the soil must be fertilized before results of a soil test can be obtained to determine fertilizer needs, apply fertilizer three to four weeks after sodding, at a rate of 1 pound nitrogen/1,000 sq.ft. Use a complete fertilizer with a 2-1-1 ratio.

5. Weed Control: Target herbicides for weeds present. Consult current Cornell Pest Control Recommendations for Commercial Turfgrass Management or consult the local office of Cornell Cooperative Extension.

6. Disease Control: Consult the local office of the Cornell Cooperative Extension.

Additional References

1. Home Lawns, Establishment and Maintenance, CCE Information Bulletin 185, Revised November 1994. Cornell University, Ithaca, NY.

2. Installing a Sod Lawn. CCE Suffolk County, NY. Thomas Kowalsick February 1994, Revised January 1999. www.cce.cornell.edu/counties/suffolk/grownet

STANDARD AND SPECIFICATIONS FOR SOIL RESTORATION

Definition & Scope

The decompaction of areas of a development site or construction project where soils have been disturbed to recover the original properties and porosity of the soil; thus providing a sustainable growth medium for vegetation, reduction of runoff and filtering of pollutants from stormwater runoff.

Conditions Where Practice Applies

Soil restoration is to be applied to areas whose heavy construction traffic is done and final stabilization is to begin. This is generally applied in the cleanup, site restoration, and landscaping phase of construction followed by the permanent establishment of an appropriate ground cover to maintain the soil structure. Soil restoration measures should be applied over and adjacent to any runoff reduction practices to achieve design performance.

Design Criteria

1. Soil restoration areas will be designated on the plan views of areas to be disturbed.
2. Soil restoration will be completed in accordance with Table 4.6 on page 4.53.

Specification for Full Soil Restoration

During periods of relatively low to moderate subsoil moisture, the disturbed subsoils are returned to rough grade and the following Soil Restoration steps applied:

1. Apply 3 inches of compost over subsoil. The compost 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 in Table 5.2 - Compost Standards Table, except for "Particle Size" 100% will pass the 1/2" sieve. **Note: All biosolids compost produced in New York State (or approved for importation) must meet NYS DEC's 6 NYCRR Part 360 (Solid 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.**

2. Till compost into subsoil to a depth of at least 12 inches using a cat-mounted ripper, tractor mounted disc, or tiller, to mix and circulate air and compost into the subsoil.
3. Rock-pick until uplifted stone/rock materials of four inches and larger size are cleaned off the site.
4. Apply topsoil to a depth of 6 inches.
5. Vegetate as required by the seeding plan. Use appropriate ground cover with deep roots to maintain the soil structure.
6. Topsoil may be manufactured as a mixture or a mineral component and organic material such as compost.

At the end of the project an inspector should be able to push a 3/8” metal bar 12 inches into the soil just with body weight. This should not be performed within the drip line of any existing trees or over utility installations that are within 24 inches of the surface.

Maintenance

Keep the site free of vehicular and foot traffic or other weight loads. Consider pedestrian footpaths.

Table 4.6
Soil Restoration Requirements

Type of Soil Disturbance	Soil Restoration Requirement		Comments/Examples
No soil disturbance	Restoration not permitted		Preservation of Natural Features
Minimal soil disturbance	Restoration not required		Clearing and grubbing
Areas where topsoil is stripped only - no change in grade	HSG A&B	HSG C&D	Protect area from any ongoing construction activities.
	Apply 6 inches of topsoil	Aerate* and apply 6 inches of topsoil	
Areas of cut or fill	HSG A&B	HSG C&D	
	Aerate* and apply 6 inches of topsoil	Apply full Soil Restoration**	
Heavy traffic areas on site (especially in a zone 5-25 feet around buildings but not within a 5 foot perimeter around foundation walls)	Apply full Soil Restoration (decompaction and compost enhancement)		
Areas where Runoff Reduction and/or Infiltration practices are applied	Restoration not required, but may be applied to enhance the reduction specified for appropriate practices.		Keep construction equipment from crossing these areas. To protect newly installed practice from any ongoing construction activities construct a single phase operation fence area
Redevelopment projects	Soil Restoration is required on redevelopment projects in areas where existing impervious area will be converted to pervious area.		

* Aeration includes the use of machines such as tractor-drawn implements with coulters making a narrow slit in the soil, a roller with many spikes making indentations in the soil, or prongs which function like a mini-subsoiler.
** Per “Deep Ripping and De-compaction, DEC 2008”.

Erosion and Sedimentation Control Measures Maintenance Schedule

1. Temporary Construction Entrance: During construction inspect periodically. Maintain entrance in a manner that will prevent tracking of sediment into public right-of-ways. Remove built up sediment deposits; and clean, repair, or replace temporary construction entrance as required.

2. Temporary Sediment Trap: During construction inspect weekly. Clean and restore traps to their original size when sediment has accumulated to one-half of the basin depth. Remove temporary sediment traps and stabilize areas when their contributory drainage area is stabilized.

3. Temporary Silt Fence: During construction inspect weekly. Remove built up sediment deposits; and clean, repair, or replace silt fence as required. Remove temporary silt fence when contributory drainage areas are stabilized.

4. Grass-Lined Drainage Channels: During construction inspect weekly to insure their stability and to locate points of scour, rodent-holes, breaches, and deposition of sediment or other obstructions. Clean, repair, and re-seed drainage channels as required. After construction inspect semi-annually and after every heavy rainfall.

5. Culvert: During construction inspect weekly to insure structural integrity, detect vandalism and damage, and for cleaning. Clean, repair, or replace culvert as required. After construction inspect semi-annually and after every heavy rainfall.

6. Stone Erosion Protection Aprons: During construction inspect weekly to insure structural integrity and to verify that stone is not by-passed, or developing excessive scour at the stone base or sediment build-up. Remove sediment accumulated within the riprap stone aprons at inlets and outlets of culverts and grassed waterways, or replace stone, as required, to allow the stormwater to drain through the stone to reduce erosive velocities and prevent large flows from carrying sediment over their tops. After construction inspect semi-annually and after every heavy rainfall.

7. Disturbed Soil Areas: Seed and mulch upon final grading of topsoil. During construction inspect weekly and repair and re-seed areas, as required. After construction inspect and maintain on regular basis permanent lawns and grassed areas consistent with favorable plant growth, soil, and climatic conditions to insure soil protection and structural integrity of the site's plant cover. Maintenance involves regular seasonal work for mowing, fertilizing, liming, watering, pruning, fire controls, weed and pest control, re-seeding, and timely repairs, as required. Maintenance of vegetative areas shall also include removal of debris and protection from unintended uses or traffic.

STANDARD AND SPECIFICATIONS FOR CONCRETE TRUCK WASHOUT

Definition & Scope

A temporary excavated or above ground lined constructed pit where concrete truck mixers and equipment can be washed after their loads have been discharged, to prevent highly alkaline runoff from entering storm drainage systems or leaching into soil.

Conditions Where Practice Applies

Washout facilities shall be provided for every project where concrete will be poured or otherwise formed on the site. This facility will receive highly alkaline wash water from the cleaning of chutes, mixers, hoppers, vibrators, placing equipment, trowels, and screeds. Under no circumstances will wash water from these operations be allowed to infiltrate into the soil or enter surface waters.

Design Criteria

Capacity: The washout facility should be sized to contain solids, wash water, and rainfall and sized to allow for the evaporation of the wash water and rainfall. Wash water shall be estimated at 7 gallons per chute and 50 gallons per hopper of the concrete pump truck and/or discharging drum. The minimum size shall be 8 feet by 8 feet at the bottom and 2 feet deep. If excavated, the side slopes shall be 2 horizontal to 1 vertical.

Location: Locate the facility a minimum of 100 feet from drainage swales, storm drain inlets, wetlands, streams and other surface waters. Prevent surface water from entering the structure except for the access road. Provide appropriate access with a gravel access road sloped down to the structure. Signs shall be placed to direct drivers to the facility after their load is discharged.

Liner: All washout facilities will be lined to prevent leaching of liquids into the ground. The liner shall be plastic sheeting with a minimum thickness of 10 mils with no holes or tears, and anchored beyond the top of the pit with an earthen berm, sand bags, stone, or other structural appurtenance except at the access point.

If pre-fabricated washouts are used they must ensure the capture and containment of the concrete wash and be sized based on the expected frequency of concrete pours. They shall be sited as noted in the location criteria.

Maintenance

- All concrete washout facilities shall be inspected daily. Damaged or leaking facilities shall be deactivated and repaired or replaced immediately. Excess rainwater that has accumulated over hardened concrete should be pumped to a stabilized area, such as a grass filter strip.
- Accumulated hardened material shall be removed when 75% of the storage capacity of the structure is filled. Any excess wash water shall be pumped into a containment vessel and properly disposed of off site.
- Dispose of the hardened material off-site in a construction/demolition landfill. On-site disposal may be allowed if this has been approved and accepted as part of the projects SWPPP. In that case, the material should be recycled as specified, or buried and covered with a minimum of 2 feet of clean compacted earthfill that is permanently stabilized to prevent erosion.
- The plastic liner shall be replaced with each cleaning of the washout facility.
- Inspect the project site frequently to ensure that no concrete discharges are taking place in non-designated areas.

APPENDIX J

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SPDES GENERAL PERMIT
FOR STORMWATER DISCHARGES

From

CONSTRUCTION ACTIVITY

Permit No. GP- 0-20-001

Issued Pursuant to Article 17, Titles 7, 8 and Article 70

of the Environmental Conservation Law

Effective Date: January 29, 2020 | Expiration Date: January 28, 2025

John J. Ferguson

Chief Permit Administrator

1-23-20

Authorized Signature | Date

Address: NYS DEC
Division of Environmental Permits
625 Broadway, 4th Floor
Albany, N.Y. 12233-1750

PREFACE

Pursuant to Section 402 of the Clean Water Act ("CWA"), stormwater *discharges* from certain *construction activities* are unlawful unless they are authorized by a *National Pollutant Discharge Elimination System ("NPDES")* permit or by a state permit program. New York administers the approved State Pollutant Discharge Elimination System (SPDES) program with permits issued in accordance with the New York State Environmental Conservation Law (ECL) Article 17, Titles 7, 8 and Article 70.

An *owner or operator* of a *construction activity* that is eligible for coverage under this permit must obtain coverage prior to the *commencement of construction activity*. Activities that fit the definition of "*construction activity*", as defined under 40 CFR 122.26(b)(14)(x), (15)(i), and (15)(ii), constitute construction of a *point source* and therefore, pursuant to ECL section 17-0505 and 17-0701, the *owner or operator* must have coverage under a SPDES permit prior to *commencing construction activity*. The *owner or operator* cannot wait until there is an actual *discharge* from the *construction site* to obtain permit coverage.

***Note: The italicized words/phrases within this permit are defined in Appendix A.**

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
SPDES GENERAL PERMIT FOR STORMWATER DISCHARGES FROM CONSTRUCTION ACTIVITIES

Table of Contents

Part 1. PERMIT COVERAGE AND LIMITATIONS 1
A. Permit Application 1
B. Effluent Limitations Applicable to Discharges from Construction Activities 1
C. Post-construction Stormwater Management Practice Requirements 4
D. Maintaining Water Quality 8
E. Eligibility Under This General Permit 9
F. Activities Which Are Ineligible for Coverage Under This General Permit 9
Part II. PERMIT COVERAGE 12
A. How to Obtain Coverage 12
B. Notice of Intent (NOI) Submittal 13
C. Permit Authorization 13
D. General Requirements For Owners or Operators With Permit Coverage 15
E. Permit Coverage for Discharges Authorized Under GP-0-15-002 17
F. Change of Owner or Operator 17
Part III. STORMWATER POLLUTION PREVENTION PLAN (SWPPP) 18
A. General SWPPP Requirements 18
B. Required SWPPP Contents 20
C. Required SWPPP Components by Project Type 24
Part IV. INSPECTION AND MAINTENANCE REQUIREMENTS 24
A. General Construction Site Inspection and Maintenance Requirements 24
B. Contractor Maintenance Inspection Requirements 24
C. Qualified Inspector Inspection Requirements 25
Part V. TERMINATION OF PERMIT COVERAGE 29
A. Termination of Permit Coverage 29
Part VI. REPORTING AND RETENTION RECORDS 31
A. Record Retention 31
B. Addresses 31
Part VII. STANDARD PERMIT CONDITIONS 31
A. Duty to Comply 31
B. Continuation of the Expired General Permit 32
C. Enforcement 32
D. Need to Halt or Reduce Activity Not a Defense 32
E. Duty to Mitigate 33
F. Duty to Provide Information 33
G. Other Information 33
H. Signatory Requirements 33
I. Property Rights 35
J. Severability 35

K. Requirement to Obtain Coverage Under an Alternative Permit 35
L. Proper Operation and Maintenance 36
M. Inspection and Entry 36
N. Permit Actions 37
O. Definitions 37
P. Re-Opener Clause 37
Q. Penalties for Falsification of Forms and Reports 37
R. Other Permits 38
APPENDIX A – Acronyms and Definitions 39
Acronyms 39
Definitions 40
APPENDIX B – Required SWPPP Components by Project Type 48
Table 1 48
Table 2 50
APPENDIX C – Watersheds Requiring Enhanced Phosphorus Removal 52
APPENDIX D – Watersheds with Lower Disturbance Threshold 58
APPENDIX E – 303(d) Segments Impaired by Construction Related Pollutant(s) 59
APPENDIX F – List of NYS DEC Regional Offices 65

Part 1. PERMIT COVERAGE AND LIMITATIONS

A. Permit Application

This permit authorizes stormwater *discharges* to *surface waters of the State* from the following *construction activities* identified within 40 CFR Parts 122.26(b)(14)(x), 122.26(b)(15)(i) and 122.26(b)(15)(ii), provided all of the eligibility provisions of this permit are met:

1. *Construction activities* involving soil disturbances of one (1) or more acres; including disturbances of less than one acre that are part of a *larger common plan of development or sale* that will ultimately disturb one or more acres of land; excluding *routine maintenance activity* that is performed to maintain the original line and grade, hydraulic capacity or original purpose of a facility;

2. *Construction activities* involving soil disturbances of less than one (1) acre where the Department has determined that a *SPDES* permit is required for stormwater *discharges* based on the potential for contribution to a violation of a *water quality standard* or for significant contribution of *pollutants* to *surface waters of the State.*

3. *Construction activities* located in the watershed(s) identified in Appendix D that involve soil disturbances between five thousand (5,000) square feet and one (1) acre of land.

B. Effluent Limitations Applicable to Discharges from Construction Activities

*Discharge*s authorized by this permit must achieve, at a minimum, the effluent limitations in Part I.B.1. (a) – (f) of this permit. These limitations represent the degree of effluent reduction attainable by the application of best practicable technology currently available.

1. Erosion and Sediment Control Requirements - The *owner or operator* must select, design, install, implement and maintain control measures to *minimize* the *discharge* of *pollutants* and prevent a violation of the *water quality standards*. The selection, design, installation, implementation, and maintenance of these control measures must meet the non-numeric effluent limitations in Part I.B.1.(a) – (f) of this permit and be in accordance with the New York State Standards and Specifications for Erosion and Sediment Control, dated November 2016, using sound engineering judgment. Where control measures are not designed in conformance with the design criteria included in the technical standard, the *owner or operator* must include in the *Stormwater Pollution Prevention Plan* (“SWPPP”) the reason(s) for the

deviation or alternative design and provide information which demonstrates that the deviation or alternative design is *equivalent* to the technical standard.

a. **Erosion and Sediment Controls.** Design, install and maintain effective erosion and sediment controls to *minimize* the *discharge* of *pollutants* and prevent a violation of the *water quality standards*. At a minimum, such controls must be designed, installed and maintained to:

   (i) *Minimize* soil erosion through application of runoff control and soil stabilization control measure to *minimize pollutant discharge*s;

   (ii) Control stormwater *discharge*s, including both peak flowrates and total stormwater volume, to *minimize* channel and *streambank* erosion and scour in the immediate vicinity of the *discharge* points;

   (iii) *Minimize* the amount of soil exposed during *construction activity*;

   (iv) *Minimize* the disturbance of *steep slopes*;

   (v) *Minimize* sediment *discharge*s from the site;

   (vi) Provide and maintain *natural buffer*s around surface waters, direct stormwater to vegetated areas and maximize stormwater infiltration to reduce *pollutant discharge*s, unless *infeasible*;

   (vii) *Minimize* soil compaction. Minimizing soil compaction is not required where the intended function of a specific area of the site dictates that it be compacted;

   (viii) Unless *infeasible*, preserve a sufficient amount of topsoil to complete soil restoration and establish a uniform, dense vegetative cover; and

   (ix) *Minimize* dust. On areas of exposed soil, *minimize* dust through the appropriate application of water or other dust suppression techniques to control the generation of pollutants that could be discharged from the site.

b. **Soil Stabilization**. In areas where soil disturbance activity has temporarily or permanently ceased, the application of soil stabilization measures must be initiated by the end of the next business day and completed within fourteen (14) days from the date the current soil disturbance activity ceased. For construction sites that *directly discharge* to one of the 303(d) segments

listed in Appendix E or is located in one of the watersheds listed in Appendix C, the application of soil stabilization measures must be initiated by the end of the next business day and completed within seven (7) days from the date the current soil disturbance activity ceased. See Appendix A for definition of *Temporarily Ceased*.

c. **Dewatering**. *Discharge*s from *dewatering* activities, including *discharge*s from *dewatering* of trenches and excavations, must be managed by appropriate control measures.

d. **Pollution Prevention Measures**. Design, install, implement, and maintain effective pollution prevention measures to *minimize* the *discharge* of *pollutants* and prevent a violation of the *water quality standards*. At a minimum, such measures must be designed, installed, implemented and maintained to:

   (i) *Minimize* the *discharge* of *pollutants* from equipment and vehicle washing, wheel wash water, and other wash waters. This applies to washing operations that use clean water only. Soaps, detergents and solvents cannot be used;

   (ii) *Minimize* the exposure of building materials, building products, construction wastes, trash, landscape materials, fertilizers, pesticides, herbicides, detergents, sanitary waste, hazardous and toxic waste, and other materials present on the site to precipitation and to stormwater. Minimization of exposure is not required in cases where the exposure to precipitation and to stormwater will not result in a *discharge* of *pollutants*, or where exposure of a specific material or product poses little risk of stormwater contamination (such as final products and materials intended for outdoor use) ; and

   (iii) Prevent the *discharge* of *pollutants* from spills and leaks and implement chemical spill and leak prevention and response procedures.

e. **Prohibited *Discharges*.** The following *discharge*s are prohibited:

   (i) Wastewater from washout of concrete;

   (ii) Wastewater from washout and cleanout of stucco, paint, form release oils, curing compounds and other construction materials;

(iii) Fuels, oils, or other *pollutants* used in vehicle and equipment operation and maintenance;

(iv) Soaps or solvents used in vehicle and equipment washing; and

(v) Toxic or hazardous substances from a spill or other release.

f. Surface Outlets. When discharging from basins and impoundments, the outlets shall be designed, constructed and maintained in such a manner that sediment does not leave the basin or impoundment and that erosion at or below the outlet does not occur.

C. Post-construction Stormwater Management Practice Requirements

1. The *owner or operator* of a *construction activity* that requires post-construction stormwater management practices pursuant to Part III.C. of this permit must select, design, install, and maintain the practices to meet the *performance criteria* in the New York State Stormwater Management Design Manual ("Design Manual"), dated January 2015, using sound engineering judgment. Where post-construction stormwater management practices ("SMPs") are not designed in conformance with the *performance criteria* in the Design Manual, the *owner or operator* must include in the SWPPP the reason(s) for the deviation or alternative design and provide information which demonstrates that the deviation or alternative design is *equivalent* to the technical standard.

2. The *owner or operator* of a *construction activity* that requires post-construction stormwater management practices pursuant to Part III.C. of this permit must design the practices to meet the applicable *sizing criteria* in Part I.C.2.a., b., c. or d. of this permit.

a. Sizing Criteria for New Development

(i) Runoff Reduction Volume ("RRv"): Reduce the total Water Quality Volume ("WQv") by application of RR techniques and standard SMPs with RRv capacity. The total WQv shall be calculated in accordance with the criteria in Section 4.2 of the Design Manual.

(ii) Minimum RRv and Treatment of Remaining Total WQv: Construction activities that cannot meet the criteria in Part I.C.2.a.(i) of this permit due to site limitations shall direct runoff from all newly constructed impervious areas to a RR technique or standard SMP with RRv capacity unless infeasible. The specific site limitations that prevent the reduction of 100% of the WQv shall be documented in the SWPPP.

For each impervious area that is not directed to a RR technique or standard SMP with RRv capacity, the SWPPP must include documentation which demonstrates that all options were considered and for each option explains why it is considered infeasible.

In no case shall the runoff reduction achieved from the newly constructed impervious areas be less than the Minimum RRv as calculated using the criteria in Section 4.3 of the Design Manual. The remaining portion of the total WQv that cannot be reduced shall be treated by application of standard SMPs.

(iii) Channel Protection Volume ("Cpv"): Provide 24 hour extended detention of the post-developed 1-year, 24-hour storm event; remaining after runoff reduction. The Cpv requirement does not apply when:
(1) Reduction of the entire Cpv is achieved by application of runoff reduction techniques or infiltration systems, or
(2) The site discharges directly to tidal waters, or fifth order or larger streams.

(iv) *Overbank* Flood Control Criteria ("Qp"): Requires storage to attenuate the post-development 10-year, 24-hour peak discharge rate (Qp) to predevelopment rates. The Qp requirement does not apply when:
(1) the site discharges directly to tidal waters or fifth order or larger streams, or
(2) A downstream analysis reveals that *overbank* control is not required.

(v) Extreme Flood Control Criteria ("Qf"): Requires storage to attenuate the post-development 100-year, 24-hour peak discharge rate (Qf) to predevelopment rates. The Qf requirement does not apply when:
(1) the site discharges directly to tidal waters or fifth order or larger streams, or
(2) A downstream analysis reveals that *overbank* control is not required.

b. *Sizing Criteria* for *New Development* in Enhanced Phosphorus Removal Watershed

(i) Runoff Reduction Volume (RRv): Reduce the total Water Quality Volume (WQv) by application of RR techniques and standard SMPs with RRv capacity. The total WQv is the runoff volume from the 1-year, 24 hour design storm over the post-developed watershed and shall be

calculated in accordance with the criteria in Section 10.3 of the Design Manual.

(ii) Minimum RRv and Treatment of Remaining Total WQv: *Construction activities* that cannot meet the criteria in Part I.C.2.b.(i) of this permit due to *site limitations* shall direct runoff from all newly constructed *impervious areas* to a RR technique or standard SMP with RRv capacity unless *infeasible*. The specific *site limitations* that prevent the reduction of 100% of the WQv shall be documented in the SWPPP. For each *impervious area* that is not directed to a RR technique or standard SMP with RRv capacity, the SWPPP must include documentation which demonstrates that all options were considered and for each option explains why it is considered *infeasible.*

In no case shall the runoff reduction achieved from the newly constructed *impervious areas* be less than the Minimum RRv as calculated using the criteria in Section 10.3 of the Design Manual. The remaining portion of the total WQv that cannot be reduced shall be treated by application of standard SMPs.

(iii) Channel Protection Volume (Cpv): Provide 24 hour extended detention of the post-developed 1-year, 24-hour storm event; remaining after runoff reduction. The Cpv requirement does not apply when:
(1) Reduction of the entire Cpv is achieved by application of runoff reduction techniques or infiltration systems, or
(2) The site *discharge*s directly to tidal waters, or fifth order or larger streams.

(iv) *Overbank* Flood Control Criteria (Qp): Requires storage to attenuate the post-development 10-year, 24-hour peak *discharge* rate (Qp) to predevelopment rates. The Qp requirement does not apply when:
(1) the site *discharge*s directly to tidal waters or fifth order or larger streams, or
(2) A downstream analysis reveals that *overbank* control is not required.

(v) Extreme Flood Control Criteria (Qf): Requires storage to attenuate the post-development 100-year, 24-hour peak *discharge* rate (Qf) to predevelopment rates. The Qf requirement does not apply when:
(1) the site *discharge*s directly to tidal waters or fifth order or larger streams, or
(2) A downstream analysis reveals that *overbank* control is not required.

c. Sizing Criteria for Redevelopment Activity

(i) Water Quality Volume (WQv): The WQv treatment objective for *redevelopment activity* shall be addressed by one of the following options. *Redevelopment activities* located in an Enhanced Phosphorus Removal Watershed (see Part III.B.3. and Appendix C of this permit) shall calculate the WQv in accordance with Section 10.3 of the Design Manual. All other *redevelopment activities* shall calculate the WQv in accordance with Section 4.2 of the Design Manual.

(1) Reduce the existing *impervious cover* by a minimum of 25% of the total disturbed, *impervious area*. The Soil Restoration criteria in Section 5.1.6 of the Design Manual must be applied to all newly created pervious areas, or

(2) Capture and treat a minimum of 25% of the WQv from the disturbed, *impervious area* by the application of standard SMPs; or reduce 25% of the WQv from the disturbed, *impervious area* by the application of RR techniques or standard SMPs with RRv capacity., or

(3) Capture and treat a minimum of 75% of the WQv from the disturbed, *impervious area* as well as any additional runoff from tributary areas by application of the alternative practices discussed in Sections 9.3 and 9.4 of the Design Manual., or

(4) Application of a combination of 1, 2 and 3 above that provide a weighted average of at least two of the above methods. Application of this method shall be in accordance with the criteria in Section 9.2.1(B) (IV) of the Design Manual.

If there is an existing post-construction stormwater management practice located on the site that captures and treats runoff from the *impervious area* that is being disturbed, the WQv treatment option selected must, at a minimum, provide treatment equal to the treatment that was being provided by the existing practice(s) if that treatment is greater than the treatment required by options 1 – 4 above.

(ii) Channel Protection Volume (Cpv): Not required if there are no changes to hydrology that increase the *discharge* rate from the project site.

(iii) *Overbank* Flood Control Criteria (Qp): Not required if there are no changes to hydrology that increase the *discharge* rate from the project site.

(iv) Extreme Flood Control Criteria (Qf): Not required if there are no changes to hydrology that increase the *discharge* rate from the project site

d. Sizing Criteria for Combination of Redevelopment Activity and New Development

Construction projects that include both New Development and Redevelopment Activity shall provide post-construction stormwater management controls that meet the sizing criteria calculated as an aggregate of the Sizing Criteria in Part I.C.2.a. or b. of this permit for the New Development portion of the project and Part I.C.2.c of this permit for Redevelopment Activity portion of the project.

D. Maintaining Water Quality

The Department expects that compliance with the conditions of this permit will control *discharge*s necessary to meet applicable *water quality standards*. It shall be a violation of the *ECL* for any discharge to either cause or contribute to a violation of *water quality standards* as contained in Parts 700 through 705 of Title 6 of the Official Compilation of Codes, Rules and Regulations of the State of New York, such as:

1. There shall be no increase in turbidity that will cause a substantial visible contrast to natural conditions;

2. There shall be no increase in suspended, colloidal or settleable solids that will cause deposition or impair the waters for their best usages; and

3. There shall be no residue from oil and floating substances, nor visible oil film, nor globules of grease.

If there is evidence indicating that the stormwater *discharge*s authorized by this permit are causing, have the reasonable potential to cause, or are contributing to a violation of the *water quality standards*; the *owner or operator* must take appropriate corrective action in accordance with Part IV.C.5. of this general permit and document in accordance with Part IV.C.4. of this general permit. To address the *water quality standard* violation the *owner or operator* may need to provide additional information, include and implement appropriate controls in the SWPPP to correct the problem, or obtain an individual SPDES permit.

If there is evidence indicating that despite compliance with the terms and conditions of this general permit it is demonstrated that the stormwater *discharge*s authorized by this permit are causing or contributing to a violation of *water quality standards*, or if the Department determines that a modification of the permit is necessary to prevent a violation of *water quality standards*, the authorized *discharge*s will no longer be eligible for coverage under this permit. The Department may require the *owner or operator* to obtain an individual SPDES permit to continue discharging.

E. Eligibility Under This General Permit

1. This permit may authorize all *discharges* of stormwater from *construction activity* to *surface waters of the State* and *groundwaters* except for ineligible *discharges* identified under subparagraph F. of this Part.

2. Except for non-stormwater *discharges* explicitly listed in the next paragraph, this permit only authorizes stormwater *discharge*s; including stormwater runoff, snowmelt runoff, and surface runoff and drainage, from *construction activities*.

3. Notwithstanding paragraphs E.1 and E.2 above, the following non-stormwater discharges are authorized by this permit: those listed in 6 NYCRR 750-1.2(a)(29)(vi), with the following exception: "Discharges from firefighting activities are authorized only when the firefighting activities are emergencies/unplanned"; waters to which other components have not been added that are used to control dust in accordance with the SWPPP; and uncontaminated *discharge*s from *construction site* de-watering operations. All non-stormwater discharges must be identified in the SWPPP. Under all circumstances, the *owner or operator* must still comply with *water quality standards* in Part I.D of this permit.

4. The *owner or operator* must maintain permit eligibility to *discharge* under this permit. Any *discharges* that are not compliant with the eligibility conditions of this permit are not authorized by the permit and the *owner or operator* must either apply for a separate permit to cover those ineligible *discharges* or take steps necessary to make the *discharge* eligible for coverage.

F. Activities Which Are Ineligible for Coverage Under This General Permit

All of the following are **<u>not</u>** authorized by this permit:

1. *Discharge*s after *construction activities* have been completed and the site has undergone *final stabilization*;

2. *Discharge*s that are mixed with sources of non-stormwater other than those expressly authorized under subsection E.3. of this Part and identified in the SWPPP required by this permit;

3. *Discharges* that are required to obtain an individual SPDES permit or another SPDES general permit pursuant to Part VII.K. of this permit;

4. *Construction activities* or *discharges* from *construction activities* that may adversely affect an *endangered or threatened species* unless the *owner or*

operator has obtained a permit issued pursuant to 6 NYCRR Part 182 for the project or the Department has issued a letter of non-jurisdiction for the project. All documentation necessary to demonstrate eligibility shall be maintained on site in accordance with Part II.D.2 of this permit;

5. *Discharges* which either cause or contribute to a violation of *water quality standards* adopted pursuant to the *ECL* and its accompanying regulations;

6. *Construction activities* for residential, commercial and institutional projects:

   a. Where the *discharge*s from the *construction activities* are tributary to waters of the state classified as AA or AA-s; and

   b. Which are undertaken on land with no existing *impervious cover*; and

   c. Which disturb one (1) or more acres of land designated on the current United States Department of Agriculture ("USDA") Soil Survey as Soil Slope Phase "D", (provided the map unit name is inclusive of slopes greater than 25%), or Soil Slope Phase "E" or "F" (regardless of the map unit name), or a combination of the three designations.

7. *Construction activities* for linear transportation projects and linear utility projects:

   a. Where the *discharge*s from the *construction activities* are tributary to waters of the state classified as AA or AA-s; and

   b. Which are undertaken on land with no existing *impervious cover*; and

   c. Which disturb two (2) or more acres of land designated on the current USDA Soil Survey as Soil Slope Phase "D" (provided the map unit name is inclusive of slopes greater than 25%), or Soil Slope Phase "E" or "F" (regardless of the map unit name), or a combination of the three designations.

8. *Construction activities* that have the potential to affect an *historic property*, unless there is documentation that such impacts have been resolved. The following documentation necessary to demonstrate eligibility with this requirement shall be maintained on site in accordance with Part II.D.2 of this permit and made available to the Department in accordance with Part VII.F of this permit:

   a. Documentation that the *construction activity* is not within an archeologically sensitive area indicated on the sensitivity map, and that the *construction activity* is not located on or immediately adjacent to a property listed or determined to be eligible for listing on the National or State Registers of Historic Places, and that there is no new permanent building on the *construction site* within the following distances from a building, structure, or object that is more than 50 years old, or if there is such a new permanent building on the *construction site* within those parameters that NYS Office of Parks, Recreation and Historic Preservation (OPRHP), a Historic Preservation Commission of a Certified Local Government, or a qualified preservation professional has determined that the building, structure, or object more than 50 years old is not historically/archeologically significant.

      - 1-5 acres of disturbance - 20 feet
      - 5-20 acres of disturbance - 50 feet
      - 20+ acres of disturbance - 100 feet, or

   b. DEC consultation form sent to OPRHP, and copied to the NYS DEC Agency Historic Preservation Officer (APO), and
      (i) the State Environmental Quality Review (SEQR) Environmental Assessment Form (EAF) with a negative declaration or the Findings Statement, with documentation of OPRHP's agreement with the resolution; or
      (ii) documentation from OPRHP that the *construction activity* will result in No Impact; or
      (iii) documentation from OPRHP providing a determination of No Adverse Impact; or
      (iv) a Letter of Resolution signed by the owner/operator, OPRHP and the DEC APO which allows for this *construction activity* to be eligible for coverage under the general permit in terms of the State Historic Preservation Act (SHPA); or

   c. Documentation of satisfactory compliance with Section 106 of the National Historic Preservation Act for a coterminous project area:

(i) No Affect
(ii) No Adverse Affect
(iii) Executed Memorandum of Agreement, or

d. Documentation that:

(i) SHPA Section 14.09 has been completed by NYS DEC or another state agency.

9. *Discharge*s from *construction activities* that are subject to an existing SPDES individual or general permit where a SPDES permit for *construction activity* has been terminated or denied; or where the *owner or operator* has failed to renew an expired individual permit.

Part II. PERMIT COVERAGE

A. How to Obtain Coverage

1. An *owner or operator* of a *construction activity* that is not subject to the requirements of a regulated, traditional land use control MS4 must first prepare a SWPPP in accordance with all applicable requirements of this permit and then submit a completed Notice of Intent (NOI) to the Department to be authorized to discharge under this permit.

2. An *owner or operator* of a *construction activity* that is subject to the requirements of a *regulated, traditional land use control MS4* must first prepare a SWPPP in accordance with all applicable requirements of this permit and then have the SWPPP reviewed and accepted by the *regulated, traditional land use control MS4* prior to submitting the NOI to the Department. The *owner or operator* shall have the “MS4 SWPPP Acceptance” form signed in accordance with Part VII.H., and then submit that form along with a completed NOI to the Department.

3. The requirement for an *owner or operator* to have its SWPPP reviewed and accepted by the *regulated, traditional land use control MS4* prior to submitting the NOI to the Department does not apply to an *owner or operator* that is obtaining permit coverage in accordance with the requirements in Part II.F. (Change of *Owner or Operator*) or where the *owner or operator* of the *construction activity* is the *regulated, traditional land use control MS4* . This exemption does not apply to *construction activities* subject to the New York City Administrative Code.

B. Notice of Intent (NOI) Submittal

1. Prior to December 21, 2020, an owner or operator shall use either the electronic (eNOI) or paper version of the NOI that the Department prepared. Both versions of the NOI are located on the Department's website (http://www.dec.ny.gov/). The paper version of the NOI shall be signed in accordance with Part VII.H. of this permit and submitted to the following address:

   NOTICE OF INTENT
   NYS DEC, Bureau of Water Permits
   625 Broadway, 4th Floor
   Albany, New York 12233-3505

2. Beginning December 21, 2020 and in accordance with EPA's 2015 NPDES Electronic Reporting Rule (40 CFR Part 127), the *owner or operator* must submit the NOI electronically using the *Department's* online NOI.

3. The *owner or operator* shall have the SWPPP preparer sign the "SWPPP Preparer Certification" statement on the NOI prior to submitting the form to the Department.

4. As of the date the NOI is submitted to the Department, the *owner or operator* shall make the NOI and SWPPP available for review and copying in accordance with the requirements in Part VII.F. of this permit.

C. Permit Authorization

1. An *owner or operator* shall not *commence construction activity* until their authorization to *discharge* under this permit goes into effect.

2. Authorization to *discharge* under this permit will be effective when the *owner or operator* has satisfied <u>all</u> of the following criteria:

   a. project review pursuant to the State Environmental Quality Review Act ("SEQRA") have been satisfied, when SEQRA is applicable. See the Department's website (http://www.dec.ny.gov/) for more information,

   b. where required, all necessary Department permits subject to the *Uniform Procedures Act ("UPA")* (see 6 NYCRR Part 621), or the equivalent from another New York State agency, have been obtained, unless otherwise notified by the Department pursuant to 6 NYCRR 621.3(a)(4). *Owners or operators* of *construction activities* that are required to obtain *UPA* permits

must submit a preliminary SWPPP to the appropriate DEC Permit Administrator at the Regional Office listed in Appendix F at the time all other necessary *UPA* permit applications are submitted. The preliminary SWPPP must include sufficient information to demonstrate that the *construction activity* qualifies for authorization under this permit,

c. the final SWPPP has been prepared, and

d. a complete NOI has been submitted to the Department in accordance with the requirements of this permit.

3. An *owner or operator* that has satisfied the requirements of Part II.C.2 above will be authorized to *discharge* stormwater from their *construction activity* in accordance with the following schedule:

   a. For *construction activities* that are <u>not</u> subject to the requirements of a *regulated, traditional land use control MS4*:

      (i) Five (5) business days from the date the Department receives a complete electronic version of the NOI (eNOI) for *construction activities* with a SWPPP that has been prepared in conformance with the design criteria in the technical standard referenced in Part III.B.1 and the *performance criteria* in the technical standard referenced in Parts III.B., 2 or 3, for *construction activities* that require post-construction stormwater management practices pursuant to Part III.C.; or

      (ii) Sixty (60) business days from the date the Department receives a complete NOI (electronic or paper version) for *construction activities* with a SWPPP that has <u>not</u> been prepared in conformance with the design criteria in technical standard referenced in Part III.B.1. or, for *construction activities* that require post-construction stormwater management practices pursuant to Part III.C., the *performance criteria* in the technical standard referenced in Parts III.B., 2 or 3, or;

      (iii) Ten (10) business days from the date the Department receives a complete paper version of the NOI for *construction activities* with a SWPPP that has been prepared in conformance with the design criteria in the technical standard referenced in Part III.B.1 and the *performance criteria* in the technical standard referenced in Parts III.B., 2 or 3, for *construction activities* that require post-construction stormwater management practices pursuant to Part III.C.

b. For *construction activities* that are subject to the requirements of a *regulated, traditional land use control MS4*:

(i) Five (5) business days from the date the Department receives both a complete electronic version of the NOI (eNOI) and signed "*MS4* SWPPP Acceptance" form, or

(ii) Ten (10) business days from the date the Department receives both a complete paper version of the NOI and signed "MS4 SWPPP Acceptance" form.

4. Coverage under this permit authorizes stormwater *discharges* from only those areas of disturbance that are identified in the NOI. If an *owner or operator* wishes to have stormwater *discharges* from future or additional areas of disturbance authorized, they must submit a new NOI that addresses that phase of the development, unless otherwise notified by the Department. The *owner or operator* shall not *commence construction activity* on the future or additional areas until their authorization to *discharge* under this permit goes into effect in accordance with Part II.C. of this permit.

D. General Requirements For Owners or Operators With Permit Coverage

1. The *owner or operator* shall ensure that the provisions of the SWPPP are implemented from the *commencement of construction activity* until all areas of disturbance have achieved *final stabilization* and the Notice of Termination ("NOT") has been submitted to the Department in accordance with Part V. of this permit. This includes any changes made to the SWPPP pursuant to Part III.A.4. of this permit.

2. The *owner or operator* shall maintain a copy of the General Permit (GP-0-20-001), NOI, *NOI Acknowledgment Letter*, SWPPP, MS4 SWPPP Acceptance form, inspection reports, responsible contractor's or subcontractor's certification statement (see Part III.A.6.), and all documentation necessary to demonstrate eligibility with this permit at the *construction site* until all disturbed areas have achieved *final stabilization* and the NOT has been submitted to the Department. The documents must be maintained in a secure location, such as a job trailer, on-site construction office, or mailbox with lock. The secure location must be accessible during normal business hours to an individual performing a compliance inspection.

3. The *owner or operator* of a *construction activity* shall not disturb greater than five (5) acres of soil at any one time without prior written authorization from the Department or, in areas under the jurisdiction of a *regulated, traditional land*

use control MS4, the *regulated, traditional land use control MS4* (provided the *regulated, traditional land use control MS4* is not the *owner or operator* of the *construction activity*). At a minimum, the *owner or operator* must comply with the following requirements in order to be authorized to disturb greater than five (5) acres of soil at any one time:

a. The *owner or operator* shall have a *qualified inspector* conduct **at least** two (2) site inspections in accordance with Part IV.C. of this permit every seven (7) calendar days, for as long as greater than five (5) acres of soil remain disturbed. The two (2) inspections shall be separated by a minimum of two (2) full calendar days.

b. In areas where soil disturbance activity has temporarily or permanently ceased, the application of soil stabilization measures must be initiated by the end of the next business day and completed within seven (7) days from the date the current soil disturbance activity ceased. The soil stabilization measures selected shall be in conformance with the technical standard, New York State Standards and Specifications for Erosion and Sediment Control, dated November 2016.

c. The *owner or operator* shall prepare a phasing plan that defines maximum disturbed area per phase and shows required cuts and fills.

d. The *owner or operator* shall install any additional site-specific practices needed to protect water quality.

e. The *owner or operator* shall include the requirements above in their SWPPP.

4. In accordance with statute, regulations, and the terms and conditions of this permit, the Department may suspend or revoke an *owner's or operator's* coverage under this permit at any time if the Department determines that the SWPPP does not meet the permit requirements or consistent with Part VII.K..

5. Upon a finding of significant non-compliance with the practices described in the SWPPP or violation of this permit, the Department may order an immediate stop to all activity at the site until the non-compliance is remedied. The stop work order shall be in writing, describe the non-compliance in detail, and be sent to the *owner or operator*.

6. For *construction activities* that are subject to the requirements of a *regulated, traditional land use control MS4*, the *owner or operator* shall notify the

regulated, traditional land use control MS4 in writing of any planned amendments or modifications to the post-construction stormwater management practice component of the SWPPP required by Part III.A. 4. and 5. of this permit. Unless otherwise notified by the *regulated, traditional land use control MS4*, the *owner or operator* shall have the SWPPP amendments or modifications reviewed and accepted by the *regulated, traditional land use control MS4* prior to commencing construction of the post-construction stormwater management practice.

E. Permit Coverage for Discharges Authorized Under GP-0-15-002

1. Upon renewal of SPDES General Permit for Stormwater Discharges from *Construction Activity* (Permit No. GP-0-15-002), an *owner or operator* of *a construction activity* with coverage under GP-0-15-002, as of the effective date of GP- 0-20-001, shall be authorized to *discharge* in accordance with GP- 0-20-001, unless otherwise notified by the Department.

   An *owner or operator* may continue to implement the technical/design components of the post-construction stormwater management controls provided that such design was done in conformance with the technical standards in place at the time of initial project authorization. However, they must comply with the other, non-design provisions of GP-0-20-001.

F. Change of Owner or Operator

1. When property ownership changes or when there is a change in operational control over the construction plans and specifications, the original *owner or operator* must notify the new *owner or operator*, <u>in writing,</u> of the requirement to obtain permit coverage by submitting a NOI with the Department. For *construction activities* subject to the requirements of a *regulated, traditional land use control MS4,* the original *owner or operator* must also notify the MS4, in writing, of the change in ownership at least 30 calendar days prior to the change in ownership.

2. Once the new *owner or operator* obtains permit coverage, the original *owner or operator* shall then submit a completed NOT with the name and permit identification number of the new *owner or operator* to the Department at the address in Part II.B.1. of this permit. If the original *owner or operator* maintains ownership of a portion of the *construction activity* and will disturb soil, they must maintain their coverage under the permit.

3. Permit coverage for the new *owner or operator* will be effective as of the date the Department receives a complete NOI, provided the original *owner or*

operator was not subject to a sixty (60) business day authorization period that has not expired as of the date the Department receives the NOI from the new *owner or operator*.

Part III. STORMWATER POLLUTION PREVENTION PLAN (SWPPP)

A. General SWPPP Requirements

1. A SWPPP shall be prepared and implemented by the *owner or operator* of each *construction activity* covered by this permit. The SWPPP must document the selection, design, installation, implementation and maintenance of the control measures and practices that will be used to meet the effluent limitations in Part I.B. of this permit and where applicable, the post-construction stormwater management practice requirements in Part I.C. of this permit. The SWPPP shall be prepared prior to the submittal of the NOI. The NOI shall be submitted to the Department prior to the *commencement of construction activity*. A copy of the completed, final NOI shall be included in the SWPPP.

2. The SWPPP shall describe the erosion and sediment control practices and where required, post-construction stormwater management practices that will be used and/or constructed to reduce the *pollutants* in stormwater *discharges* and to assure compliance with the terms and conditions of this permit. In addition, the SWPPP shall identify potential sources of pollution which may reasonably be expected to affect the quality of stormwater *discharges*.

3. All SWPPPs that require the post-construction stormwater management practice component shall be prepared by a *qualified professional* that is knowledgeable in the principles and practices of stormwater management and treatment.

4. The *owner or operator* must keep the SWPPP current so that it at all times accurately documents the erosion and sediment controls practices that are being used or will be used during construction, and all post-construction stormwater management practices that will be constructed on the site. At a minimum, the *owner or operator* shall amend the SWPPP, including construction drawings:

    a. whenever the current provisions prove to be ineffective in minimizing *pollutants* in stormwater *discharges* from the site;

b. whenever there is a change in design, construction, or operation at the *construction site* that has or could have an effect on the *discharge* of *pollutants*;

c. to address issues or deficiencies identified during an inspection by the *qualified inspector,* the Department or other regulatory authority; and

d. to document the final construction conditions.

5. The Department may notify the *owner or operator* at any time that the SWPPP does not meet one or more of the minimum requirements of this permit. The notification shall be in writing and identify the provisions of the SWPPP that require modification. Within fourteen (14) calendar days of such notification, or as otherwise indicated by the Department, the *owner or operator* shall make the required changes to the SWPPP and submit written notification to the Department that the changes have been made. If the *owner or operator* does not respond to the Department's comments in the specified time frame, the Department may suspend the *owner's or operator's* coverage under this permit or require the *owner or operator* to obtain coverage under an individual SPDES permit in accordance with Part II.D.4. of this permit.

6. Prior to the *commencement of construction activity*, the *owner or operator* must identify the contractor(s) and subcontractor(s) that will be responsible for installing, constructing, repairing, replacing, inspecting and maintaining the erosion and sediment control practices included in the SWPPP; and the contractor(s) and subcontractor(s) that will be responsible for constructing the post-construction stormwater management practices included in the SWPPP. The *owner or operator* shall have each of the contractors and subcontractors identify at least one person from their company that will be responsible for implementation of the SWPPP. This person shall be known as the *trained contractor.* The *owner or operator* shall ensure that at least one *trained contractor* is on site on a daily basis when soil disturbance activities are being performed.

   The *owner or operator* shall have each of the contractors and subcontractors identified above sign a copy of the following certification statement below before they commence any *construction activity*:

   "I hereby certify under penalty of law that I understand and agree to comply with the terms and conditions of the SWPPP and agree to implement any corrective actions identified by the *qualified inspector* during a site inspection. I also understand that the *owner or operator* must comply with

the terms and conditions of the most current version of the New York State Pollutant Discharge Elimination System ("SPDES") general permit for stormwater *discharge*s from *construction activities* and that it is unlawful for any person to cause or contribute to a violation of *water quality standards*. Furthermore, I am aware that there are significant penalties for submitting false information, that I do not believe to be true, including the possibility of fine and imprisonment for knowing violations"

In addition to providing the certification statement above, the certification page must also identify the specific elements of the SWPPP that each contractor and subcontractor will be responsible for and include the name and title of the person providing the signature; the name and title of the *trained contractor* responsible for SWPPP implementation; the name, address and telephone number of the contracting firm; the address (or other identifying description) of the site; and the date the certification statement is signed. The *owner or operator* shall attach the certification statement(s) to the copy of the SWPPP that is maintained at the *construction site*. If new or additional contractors are hired to implement measures identified in the SWPPP after construction has commenced, they must also sign the certification statement and provide the information listed above.

7. For projects where the Department requests a copy of the SWPPP or inspection reports, the *owner or operator* shall submit the documents in both electronic (PDF only) and paper format within five (5) business days, unless otherwise notified by the Department.

B. Required SWPPP Contents

1. Erosion and sediment control component - All SWPPPs prepared pursuant to this permit shall include erosion and sediment control practices designed in conformance with the technical standard, New York State Standards and Specifications for Erosion and Sediment Control, dated November 2016. Where erosion and sediment control practices are not designed in conformance with the design criteria included in the technical standard, the *owner or operator* must demonstrate *equivalence* to the technical standard. At a minimum, the erosion and sediment control component of the SWPPP shall include the following:

    a. Background information about the scope of the project, including the location, type and size of project

b. A site map/construction drawing(s) for the project, including a general location map. At a minimum, the site map shall show the total site area; all improvements; areas of disturbance; areas that will not be disturbed; existing vegetation; on-site and adjacent off-site surface water(s); floodplain/floodway boundaries; wetlands and drainage patterns that could be affected by the *construction activity*; existing and final contours ; locations of different soil types with boundaries; material, waste, borrow or equipment storage areas located on adjacent properties; and location(s) of the stormwater *discharge*(s);

c. A description of the soil(s) present at the site, including an identification of the Hydrologic Soil Group (HSG);

d. A construction phasing plan and sequence of operations describing the intended order of *construction activities*, including clearing and grubbing, excavation and grading, utility and infrastructure installation and any other activity at the site that results in soil disturbance;

e. A description of the minimum erosion and sediment control practices to be installed or implemented for each *construction activity* that will result in soil disturbance. Include a schedule that identifies the timing of initial placement or implementation of each erosion and sediment control practice and the minimum time frames that each practice should remain in place or be implemented;

f. A temporary and permanent soil stabilization plan that meets the requirements of this general permit and the technical standard, New York State Standards and Specifications for Erosion and Sediment Control, dated November 2016, for each stage of the project, including initial land clearing and grubbing to project completion and achievement of *final stabilization*;

g. A site map/construction drawing(s) showing the specific location(s), size(s), and length(s) of each erosion and sediment control practice;

h. The dimensions, material specifications, installation details, and operation and maintenance requirements for all erosion and sediment control practices. Include the location and sizing of any temporary sediment basins and structural practices that will be used to divert flows from exposed soils;

i. A maintenance inspection schedule for the contractor(s) identified in Part III.A.6. of this permit, to ensure continuous and effective operation of the erosion and sediment control practices. The maintenance inspection

schedule shall be in accordance with the requirements in the technical standard, New York State Standards and Specifications for Erosion and Sediment Control, dated November 2016;

j. A description of the pollution prevention measures that will be used to control litter, construction chemicals and construction debris from becoming a *pollutant* source in the stormwater *discharges*;

k. A description and location of any stormwater *discharges* associated with industrial activity other than construction at the site, including, but not limited to, stormwater *discharges* from asphalt plants and concrete plants located on the *construction site*; and

l. Identification of any elements of the design that are not in conformance with the design criteria in the technical standard, New York State Standards and Specifications for Erosion and Sediment Control, dated November 2016. Include the reason for the deviation or alternative design and provide information which demonstrates that the deviation or alternative design is *equivalent* to the technical standard.

2. Post-construction stormwater management practice component – The *owner or operator* of any construction project identified in Table 2 of Appendix B as needing post-construction stormwater management practices shall prepare a SWPPP that includes practices designed in conformance with the applicable *sizing criteria* in Part I.C.2.a., c. or d. of this permit and the *performance criteria* in the technical standard, New York State Stormwater Management Design Manual dated January 2015

   Where post-construction stormwater management practices are not designed in conformance with the *performance criteria* in the technical standard, the *owner or operator* must include in the SWPPP the reason(s) for the deviation or alternative design and provide information which demonstrates that the deviation or alternative design is *equivalent* to the technical standard.

   The post-construction stormwater management practice component of the SWPPP shall include the following:

   a. Identification of all post-construction stormwater management practices to be constructed as part of the project. Include the dimensions, material specifications and installation details for each post-construction stormwater management practice;

b. A site map/construction drawing(s) showing the specific location and size of each post-construction stormwater management practice;

c. A Stormwater Modeling and Analysis Report that includes:
   (i) Map(s) showing pre-development conditions, including watershed/subcatchments boundaries, flow paths/routing, and design points;

   (ii) Map(s) showing post-development conditions, including watershed/subcatchments boundaries, flow paths/routing, design points and post-construction stormwater management practices;

   (iii) Results of stormwater modeling (i.e. hydrology and hydraulic analysis) for the required storm events. Include supporting calculations (model runs), methodology, and a summary table that compares pre and post-development runoff rates and volumes for the different storm events;

   (iv) Summary table, with supporting calculations, which demonstrates that each post-construction stormwater management practice has been designed in conformance with the *sizing criteria* included in the Design Manual;

   (v) Identification of any *sizing criteria* that is not required based on the requirements included in Part I.C. of this permit; and

   (vi) Identification of any elements of the design that are not in conformance with the *performance criteria* in the Design Manual. Include the reason(s) for the deviation or alternative design and provide information which demonstrates that the deviation or alternative design is *equivalent* to the Design Manual;

d. Soil testing results and locations (test pits, borings);

e. Infiltration test results, when required; and

f. An operations and maintenance plan that includes inspection and maintenance schedules and actions to ensure continuous and effective operation of each post-construction stormwater management practice. The plan shall identify the entity that will be responsible for the long term operation and maintenance of each practice.

3. Enhanced Phosphorus Removal Standards - All construction projects identified in Table 2 of Appendix B that are located in the watersheds identified in Appendix C shall prepare a SWPPP that includes post-construction stormwater management practices designed in conformance with the applicable *sizing criteria* in Part I.C.2. b., c. or d. of this permit and the *performance criteria,* Enhanced Phosphorus Removal Standards included in the Design Manual. At a minimum, the post-construction stormwater management practice component of the SWPPP shall include items 2.a - 2.f. above.

C. Required SWPPP Components by Project Type

Unless otherwise notified by the Department, *owners or operators* of *construction activities* identified in Table 1 of Appendix B are required to prepare a SWPPP that only includes erosion and sediment control practices designed in conformance with Part III.B.1 of this permit. *Owners or operators* of the *construction activities* identified in Table 2 of Appendix B shall prepare a SWPPP that also includes post-construction stormwater management practices designed in conformance with Part III.B.2 or 3 of this permit.

Part IV. INSPECTION AND MAINTENANCE REQUIREMENTS

A. General Construction Site Inspection and Maintenance Requirements

1. The *owner or operator* must ensure that all erosion and sediment control practices (including pollution prevention measures) and all post-construction stormwater management practices identified in the SWPPP are inspected and maintained in accordance with Part IV.B. and C. of this permit.

2. The terms of this permit shall not be construed to prohibit the State of New York from exercising any authority pursuant to the ECL, common law or federal law, or prohibit New York State from taking any measures, whether civil or criminal, to prevent violations of the laws of the State of New York or protect the public health and safety and/or the environment.

B. Contractor Maintenance Inspection Requirements

1. The *owner or operator* of each *construction activity* identified in Tables 1 and 2 of Appendix B shall have a *trained contractor* inspect the erosion and sediment control practices and pollution prevention measures being implemented within the active work area daily to ensure that they are being maintained in effective operating condition at all times. If deficiencies are identified, the contractor shall

begin implementing corrective actions within one business day and shall complete the corrective actions in a reasonable time frame.

2. For construction sites where soil disturbance activities have been temporarily suspended (e.g. winter shutdown) and *temporary stabilization* measures have been applied to all disturbed areas, the *trained contractor* can stop conducting the maintenance inspections. The *trained contractor* shall begin conducting the maintenance inspections in accordance with Part IV.B.1. of this permit as soon as soil disturbance activities resume.

3. For construction sites where soil disturbance activities have been shut down with partial project completion, the *trained contractor* can stop conducting the maintenance inspections if all areas disturbed as of the project shutdown date have achieved *final stabilization* and all post-construction stormwater management practices required for the completed portion of the project have been constructed in conformance with the SWPPP and are operational.

C. Qualified Inspector Inspection Requirements

The *owner or operator* shall have a *qualified inspector* conduct site inspections in conformance with the following requirements:

[Note: The *trained contractor* identified in Part III.A.6. and IV.B. of this permit **cannot** conduct the *qualified inspector* site inspections unless they meet the *qualified inspector* qualifications included in Appendix A. In order to perform these inspections, the *trained contractor* would have to be a:

- licensed Professional Engineer,
- Certified Professional in Erosion and Sediment Control (CPESC),
- New York State Erosion and Sediment Control Certificate Program holder
- Registered Landscape Architect, or
- someone working under the direct supervision of, and at the same company as, the licensed Professional Engineer or Registered Landscape Architect, provided they have received four (4) hours of Department endorsed training in proper erosion and sediment control principles from a Soil and Water Conservation District, or other Department endorsed entity].

1. A *qualified inspector* shall conduct site inspections for all *construction activities* identified in Tables 1 and 2 of Appendix B, with the exception of:

   a. the construction of a single family residential subdivision with 25% or less *impervious cover* at total site build-out that involves a soil disturbance of one (1) or more acres of land but less than five (5) acres and is not located

in one of the watersheds listed in Appendix C and not directly discharging to one of the 303(d) segments listed in Appendix E;

b. the construction of a single family home that involves a soil disturbance of one (1) or more acres of land but less than five (5) acres and is not located in one of the watersheds listed in Appendix C and not directly discharging to one of the 303(d) segments listed in Appendix E;

c. construction on agricultural property that involves a soil disturbance of one (1) or more acres of land but less than five (5) acres; and

d. *construction activities* located in the watersheds identified in Appendix D that involve soil disturbances between five thousand (5,000) square feet and one (1) acre of land.

2. Unless otherwise notified by the Department, the *qualified inspector* shall conduct site inspections in accordance with the following timetable:

   a. For construction sites where soil disturbance activities are on-going, the *qualified inspector* shall conduct a site inspection at least once every seven (7) calendar days.

   b. For construction sites where soil disturbance activities are on-going and the *owner or operator* has received authorization in accordance with Part II.D.3 to disturb greater than five (5) acres of soil at any one time, the *qualified inspector* shall conduct at least two (2) site inspections every seven (7) calendar days. The two (2) inspections shall be separated by a minimum of two (2) full calendar days.

   c. For construction sites where soil disturbance activities have been temporarily suspended (e.g. winter shutdown) and *temporary stabilization* measures have been applied to all disturbed areas, the *qualified inspector* shall conduct a site inspection at least once every thirty (30) calendar days. The *owner or operator* shall notify the DOW Water (SPDES) Program contact at the Regional Office (see contact information in Appendix F) or, in areas under the jurisdiction of a *regulated, traditional land use control MS4,* the *regulated, traditional land use control MS4* (provided the *regulated, traditional land use control MS4* is not the *owner or operator* of the *construction activity*) in writing prior to reducing the frequency of inspections.

d. For construction sites where soil disturbance activities have been shut down with partial project completion, the *qualified inspector* can stop conducting inspections if all areas disturbed as of the project shutdown date have achieved *final stabilization* and all post-construction stormwater management practices required for the completed portion of the project have been constructed in conformance with the SWPPP and are operational. The *owner or operator* shall notify the DOW Water (SPDES) Program contact at the Regional Office (see contact information in Appendix F) or, in areas under the jurisdiction of a *regulated, traditional land use control MS4,* the *regulated, traditional land use control MS4* (provided the *regulated, traditional land use control MS4* is not the *owner or operator* of the *construction activity*) in writing prior to the shutdown. If soil disturbance activities are not resumed within 2 years from the date of shutdown, the *owner or operator* shall have the *qualified inspector* perform a final inspection and certify that all disturbed areas have achieved *final stabilization,* and all temporary, structural erosion and sediment control measures have been removed*;* and that all post-construction stormwater management practices have been constructed in conformance with the SWPPP by signing the "*Final Stabilization*" and "Post-Construction Stormwater Management Practice" certification statements on the NOT. The *owner or operator* shall then submit the completed NOT form to the address in Part II.B.1 of this permit.

e. For construction sites that directly *discharge* to one of the 303(d) segments listed in Appendix E or is located in one of the watersheds listed in Appendix C, the *qualified inspector* shall conduct at least two (2) site inspections every seven (7) calendar days. The two (2) inspections shall be separated by a minimum of two (2) full calendar days.

3. At a minimum, the *qualified inspector* shall inspect all erosion and sediment control practices and pollution prevention measures to ensure integrity and effectiveness, all post-construction stormwater management practices under construction to ensure that they are constructed in conformance with the SWPPP, all areas of disturbance that have not achieved *final stabilization,* all points of *discharge* to natural surface waterbodies located within, or immediately adjacent to, the property boundaries of the *construction site*, and all points of *discharge* from the *construction site*.

4. The *qualified inspector* shall prepare an inspection report subsequent to each and every inspection. At a minimum, the inspection report shall include and/or address the following:

a. Date and time of inspection;

b. Name and title of person(s) performing inspection;

c. A description of the weather and soil conditions (e.g. dry, wet, saturated) at the time of the inspection;

d. A description of the condition of the runoff at all points of *discharge* from the *construction site*. This shall include identification of any *discharges* of sediment from the *construction site*. Include *discharges* from conveyance systems (i.e. pipes, culverts, ditches, etc.) and overland flow;

e. A description of the condition of all natural surface waterbodies located within, or immediately adjacent to, the property boundaries of the *construction site* which receive runoff from disturbed areas. This shall include identification of any *discharges* of sediment to the surface waterbody;

f. Identification of all erosion and sediment control practices and pollution prevention measures that need repair or maintenance;

g. Identification of all erosion and sediment control practices and pollution prevention measures that were not installed properly or are not functioning as designed and need to be reinstalled or replaced;

h. Description and sketch of areas with active soil disturbance activity, areas that have been disturbed but are inactive at the time of the inspection, and areas that have been stabilized (temporary and/or final) since the last inspection;

i. Current phase of construction of all post-construction stormwater management practices and identification of all construction that is not in conformance with the SWPPP and technical standards;

j. Corrective action(s) that must be taken to install, repair, replace or maintain erosion and sediment control practices and pollution prevention measures; and to correct deficiencies identified with the construction of the post-construction stormwater management practice(s);

k. Identification and status of all corrective actions that were required by previous inspection; and

l. Digital photographs, with date stamp, that clearly show the condition of all practices that have been identified as needing corrective actions. The *qualified inspector* shall attach paper color copies of the digital photographs to the inspection report being maintained onsite within seven (7) calendar days of the date of the inspection. The *qualified inspector* shall also take digital photographs, with date stamp, that clearly show the condition of the practice(s) after the corrective action has been completed. The *qualified inspector* shall attach paper color copies of the digital photographs to the inspection report that documents the completion of the corrective action work within seven (7) calendar days of that inspection.

5. Within one business day of the completion of an inspection, the *qualified inspector* shall notify the *owner or operator* and appropriate contractor or subcontractor identified in Part III.A.6. of this permit of any corrective actions that need to be taken. The contractor or subcontractor shall begin implementing the corrective actions within one business day of this notification and shall complete the corrective actions in a reasonable time frame.

6. All inspection reports shall be signed by the *qualified inspector.* Pursuant to Part II.D.2. of this permit, the inspection reports shall be maintained on site with the SWPPP.

Part V. TERMINATION OF PERMIT COVERAGE

A. Termination of Permit Coverage

1. An *owner or operator* that is eligible to terminate coverage under this permit must submit a completed NOT form to the address in Part II.B.1 of this permit. The NOT form shall be one which is associated with this permit, signed in accordance with Part VII.H of this permit.

2. An *owner or operator* may terminate coverage when one or more the following conditions have been met:

   a. Total project completion - All *construction activity* identified in the SWPPP has been completed; <u>and</u> all areas of disturbance have achieved *final stabilization*; <u>and</u> all temporary, structural erosion and sediment control measures have been removed; <u>and</u> all post-construction stormwater management practices have been constructed in conformance with the SWPPP and are operational;

b. Planned shutdown with partial project completion - All soil disturbance activities have ceased; and all areas disturbed as of the project shutdown date have achieved *final stabilization*; and all temporary, structural erosion and sediment control measures have been removed; and all post-construction stormwater management practices required for the completed portion of the project have been constructed in conformance with the SWPPP and are operational;

c. A new *owner or operator* has obtained coverage under this permit in accordance with Part II.F. of this permit.

d. The *owner or operator* obtains coverage under an alternative SPDES general permit or an individual SPDES permit.

3. For *construction activities* meeting subdivision 2a. or 2b. of this Part, the *owner or operator* shall have the *qualified inspector* perform a final site inspection prior to submitting the NOT. The *qualified inspector* shall, by signing the "*Final Stabilization*" and "Post-Construction Stormwater Management Practice certification statements on the NOT, certify that all the requirements in Part V.A.2.a. or b. of this permit have been achieved.

4. For *construction activities* that are subject to the requirements of a *regulated, traditional land use control MS4* and meet subdivision 2a. or 2b. of this Part, the *owner or operator* shall have the *regulated, traditional land use control MS4* sign the "MS4 Acceptance" statement on the NOT in accordance with the requirements in Part VII.H. of this permit. The *regulated, traditional land use control MS4* official, by signing this statement, has determined that it is acceptable for the *owner or operator* to submit the NOT in accordance with the requirements of this Part. The *regulated, traditional land use control MS4* can make this determination by performing a final site inspection themselves or by accepting the *qualified inspector*'s final site inspection certification(s) required in Part V.A.3. of this permit.

5. For *construction activities* that require post-construction stormwater management practices and meet subdivision 2a. of this Part, the *owner or operator* must, prior to submitting the NOT, ensure one of the following:

   a. the post-construction stormwater management practice(s) and any right-of-way(s) needed to maintain such practice(s) have been deeded to the municipality in which the practice(s) is located,

b. an executed maintenance agreement is in place with the municipality that will maintain the post-construction stormwater management practice(s),

c. for post-construction stormwater management practices that are privately owned, the *owner or operator* has a mechanism in place that requires operation and maintenance of the practice(s) in accordance with the operation and maintenance plan, such as a deed covenant in the *owner or operator's* deed of record,

d. for post-construction stormwater management practices that are owned by a public or private institution (e.g. school, university, hospital), government agency or authority, or public utility; the *owner or operator* has policy and procedures in place that ensures operation and maintenance of the practices in accordance with the operation and maintenance plan.

Part VI. REPORTING AND RETENTION RECORDS

A. Record Retention

The *owner or operator* shall retain a copy of the NOI, NOI Acknowledgment Letter, SWPPP, MS4 SWPPP Acceptance form and any inspection reports that were prepared in conjunction with this permit for a period of at least five (5) years from the date that the Department receives a complete NOT submitted in accordance with Part V. of this general permit.

B. Addresses

With the exception of the NOI, NOT, and MS4 SWPPP Acceptance form (which must be submitted to the address referenced in Part II.B.1 of this permit), all written correspondence requested by the Department, including individual permit applications, shall be sent to the address of the appropriate DOW Water (SPDES) Program contact at the Regional Office listed in Appendix F.

Part VII. STANDARD PERMIT CONDITIONS

A. Duty to Comply

The *owner or operator* must comply with all conditions of this permit. All contractors and subcontractors associated with the project must comply with the terms of the SWPPP. Any non-compliance with this permit constitutes a violation of the Clean Water

Act (CWA) and the ECL and is grounds for an enforcement action against the *owner or operator* and/or the contractor/subcontractor; permit revocation, suspension or modification; or denial of a permit renewal application. Upon a finding of significant non-compliance with this permit or the applicable SWPPP, the Department may order an immediate stop to all *construction activity* at the site until the non-compliance is remedied. The stop work order shall be in writing, shall describe the non-compliance in detail, and shall be sent to the *owner or operator*.

If any human remains or archaeological remains are encountered during excavation, the *owner or operator* must immediately cease, or cause to cease, all *construction activity* in the area of the remains and notify the appropriate Regional Water Engineer (RWE). *Construction activity* shall not resume until written permission to do so has been received from the RWE.

B. Continuation of the Expired General Permit

This permit expires five (5) years from the effective date. If a new general permit is not issued prior to the expiration of this general permit, an *owner or operator* with coverage under this permit may continue to operate and *discharge* in accordance with the terms and conditions of this general permit, if it is extended pursuant to the State Administrative Procedure Act and 6 NYCRR Part 621, until a new general permit is issued.

C. Enforcement

Failure of the *owner or operator,* its contractors, subcontractors, agents and/or assigns to strictly adhere to any of the permit requirements contained herein shall constitute a violation of this permit. There are substantial criminal, civil, and administrative penalties associated with violating the provisions of this permit. Fines of up to $37,500 per day for each violation and imprisonment for up to fifteen (15) years may be assessed depending upon the nature and degree of the offense.

D. Need to Halt or Reduce Activity Not a Defense

It shall not be a defense for an *owner or operator* in an enforcement action that it would have been necessary to halt or reduce the *construction activity* in order to maintain compliance with the conditions of this permit.

E. Duty to Mitigate

The *owner or operator* and its contractors and subcontractors shall take all reasonable steps to *minimize* or prevent any *discharge* in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment.

F. Duty to Provide Information

The *owner or operator* shall furnish to the Department, within a reasonable specified time period of a written request, all documentation necessary to demonstrate eligibility and any information to determine compliance with this permit or to determine whether cause exists for modifying or revoking this permit, or suspending or denying coverage under this permit, in accordance with the terms and conditions of this permit. The NOI, SWPPP and inspection reports required by this permit are public documents that the *owner or operator* must make available for review and copying by any person within five (5) business days of the *owner or operator* receiving a written request by any such person to review these documents. Copying of documents will be done at the requester's expense.

G. Other Information

When the *owner or operator* becomes aware that they failed to submit any relevant facts, or submitted incorrect information in the NOI or in any of the documents required by this permit , or have made substantive revisions to the SWPPP (e.g. the scope of the project changes significantly, the type of post-construction stormwater management practice(s) changes, there is a reduction in the sizing of the post-construction stormwater management practice, or there is an increase in the disturbance area or *impervious area*), which were not reflected in the original NOI submitted to the Department, they shall promptly submit such facts or information to the Department using the contact information in Part II.A. of this permit. Failure of the *owner or operator* to correct or supplement any relevant facts within five (5) business days of becoming aware of the deficiency shall constitute a violation of this permit.

H. Signatory Requirements

1. All NOIs and NOTs shall be signed as follows:

    a. For a corporation these forms shall be signed by a responsible corporate officer. For the purpose of this section, a responsible corporate officer means:

(i) a president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation; or

(ii) the manager of one or more manufacturing, production or operating facilities, provided the manager is authorized to make management decisions which govern the operation of the regulated facility including having the explicit or implicit duty of making major capital investment recommendations, and initiating and directing other comprehensive measures to assure long term environmental compliance with environmental laws and regulations; the manager can ensure that the necessary systems are established or actions taken to gather complete and accurate information for permit application requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures;

b. For a partnership or sole proprietorship these forms shall be signed by a general partner or the proprietor, respectively; or

c. For a municipality, State, Federal, or other public agency these forms shall be signed by either a principal executive officer or ranking elected official. For purposes of this section, a principal executive officer of a Federal agency includes:

(i) the chief executive officer of the agency, or

(ii) a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., Regional Administrators of EPA).

2. The SWPPP and other information requested by the Department shall be signed by a person described in Part VII.H.1. of this permit or by a duly authorized representative of that person. A person is a duly authorized representative only if:

a. The authorization is made in writing by a person described in Part VII.H.1. of this permit;

b. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as the position of plant manager, operator of a well or a well field,

superintendent, position of *equivalent* responsibility, or an individual or position having overall responsibility for environmental matters for the company. (A duly authorized representative may thus be either a named individual or any individual occupying a named position) and,

c. The written authorization shall include the name, title and signature of the authorized representative and be attached to the SWPPP.

3. All inspection reports shall be signed by the *qualified inspector* that performs the inspection.

4. The MS4 SWPPP Acceptance form shall be signed by the principal executive officer or ranking elected official from the *regulated, traditional land use control MS4,* or by a duly authorized representative of that person.

   It shall constitute a permit violation if an incorrect and/or improper signatory authorizes any required forms, SWPPP and/or inspection reports.

I. Property Rights

The issuance of this permit does not convey any property rights of any sort, nor any exclusive privileges, nor does it authorize any injury to private property nor any invasion of personal rights, nor any infringement of Federal, State or local laws or regulations. *Owners or operators* must obtain any applicable conveyances, easements, licenses and/or access to real property prior to *commencing construction activity*.

J. Severability

The provisions of this permit are severable, and if any provision of this permit, or the application of any provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this permit shall not be affected thereby.

K. Requirement to Obtain Coverage Under an Alternative Permit

1. The Department may require any owner or operator authorized by this permit to apply for and/or obtain either an individual SPDES permit or another SPDES general permit. When the Department requires any discharger authorized by a general permit to apply for an individual SPDES permit, it shall notify the discharger in writing that a permit application is required. This notice shall

include a brief statement of the reasons for this decision, an application form, a statement setting a time frame for the owner or operator to file the application for an individual SPDES permit, and a deadline, not sooner than 180 days from owner or operator receipt of the notification letter, whereby the authorization to discharge under this general permit shall be terminated. Applications must be submitted to the appropriate Permit Administrator at the Regional Office. The Department may grant additional time upon demonstration, to the satisfaction of the Department, that additional time to apply for an alternative authorization is necessary or where the Department has not provided a permit determination in accordance with Part 621 of this Title.

2. When an individual SPDES permit is issued to a discharger authorized to *discharge* under a general SPDES permit for the same *discharge*(s), the general permit authorization for outfalls authorized under the individual SPDES permit is automatically terminated on the effective date of the individual permit unless termination is earlier in accordance with 6 NYCRR Part 750.

L. Proper Operation and Maintenance

The *owner or operator* shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the *owner or operator* to achieve compliance with the conditions of this permit and with the requirements of the SWPPP.

M. Inspection and Entry

The *owner or operator* shall allow an authorized representative of the Department, EPA, applicable county health department, or, in the case of a *construction site* which *discharges* through an *MS4*, an authorized representative of the *MS4* receiving the discharge, upon the presentation of credentials and other documents as may be required by law, to:

1. Enter upon the owner’s or operator's premises where a regulated facility or activity is located or conducted or where records must be kept under the conditions of this permit;

2. Have access to and copy at reasonable times, any records that must be kept under the conditions of this permit; and

3. Inspect at reasonable times any facilities or equipment (including monitoring and control equipment), practices or operations regulated or required by this permit.

4. Sample or monitor at reasonable times, for purposes of assuring permit compliance or as otherwise authorized by the Act or ECL, any substances or parameters at any location.

N. Permit Actions

This permit may, at any time, be modified, suspended, revoked, or renewed by the Department in accordance with 6 NYCRR Part 621. The filing of a request by the *owner or operator* for a permit modification, revocation and reissuance, termination, a notification of planned changes or anticipated noncompliance does not limit, diminish and/or stay compliance with any terms of this permit.

O. Definitions

Definitions of key terms are included in Appendix A of this permit.

P. Re-Opener Clause

1. If there is evidence indicating potential or realized impacts on water quality due to any stormwater discharge associated with construction activity covered by this permit, the owner or operator of such discharge may be required to obtain an individual permit or alternative general permit in accordance with Part VII.K. of this permit or the permit may be modified to include different limitations and/or requirements.

2. Any Department initiated permit modification, suspension or revocation will be conducted in accordance with 6 NYCRR Part 621, 6 NYCRR 750-1.18, and 6 NYCRR 750-1.20.

Q. Penalties for Falsification of Forms and Reports

In accordance with 6NYCRR Part 750-2.4 and 750-2.5, any person who knowingly makes any false material statement, representation, or certification in any application, record, report or other document filed or required to be maintained under this permit, including reports of compliance or noncompliance shall, upon conviction, be punished in accordance with ECL §71-1933 and or Articles 175 and 210 of the New York State Penal Law.

R. Other Permits

Nothing in this permit relieves the *owner or operator* from a requirement to obtain any other permits required by law.

APPENDIX A – Acronyms and Definitions

Acronyms

APO – Agency Preservation Officer
BMP – Best Management Practice
CPESC – Certified Professional in Erosion and Sediment Control
Cpv – Channel Protection Volume
CWA – Clean Water Act (or the Federal Water Pollution Control Act, 33 U.S.C. §1251 et seq)
DOW – Division of Water
EAF – Environmental Assessment Form
ECL - Environmental Conservation Law
EPA – U. S. Environmental Protection Agency
HSG – Hydrologic Soil Group
MS4 – Municipal Separate Storm Sewer System
NOI – Notice of Intent
NOT – Notice of Termination
NPDES – National Pollutant Discharge Elimination System
OPRHP – Office of Parks, Recreation and Historic Places
Qf – Extreme Flood
Qp – Overbank Flood
RRv – Runoff Reduction Volume
RWE – Regional Water Engineer
SEQR – State Environmental Quality Review
SEQRA - State Environmental Quality Review Act
SHPA – State Historic Preservation Act
SPDES – State Pollutant Discharge Elimination System
SWPPP – Stormwater Pollution Prevention Plan
TMDL – Total Maximum Daily Load
UPA – Uniform Procedures Act
USDA – United States Department of Agriculture
WQv – Water Quality Volume

Definitions

All definitions in this section are solely for the purposes of this permit.

Agricultural Building – a structure designed and constructed to house farm implements, hay, grain, poultry, livestock or other horticultural products; excluding any structure designed, constructed or used, in whole or in part, for human habitation, as a place of employment where agricultural products are processed, treated or packaged, or as a place used by the public.

Agricultural Property –means the land for construction of a barn, *agricultural building*, silo, stockyard, pen or other structural practices identified in Table II in the "Agricultural Management Practices Catalog for Nonpoint Source Pollution in New York State" prepared by the Department in cooperation with agencies of New York Nonpoint Source Coordinating Committee (dated June 2007).

Alter Hydrology from Pre to Post-Development Conditions - means the post-development peak flow rate(s) has increased by more than 5% of the pre-developed condition for the design storm of interest (e.g. 10 yr and 100 yr).

Combined Sewer - means a sewer that is designed to collect and convey both "sewage" and "stormwater".

Commence (Commencement of) Construction Activities - means the initial disturbance of soils associated with clearing, grading or excavation activities; or other construction related activities that disturb or expose soils such as demolition, stockpiling of fill material, and the initial installation of erosion and sediment control practices required in the SWPPP. See definition for "*Construction Activity(ies)*" also.

Construction Activity(ies) - means any clearing, grading, excavation, filling, demolition or stockpiling activities that result in soil disturbance. Clearing activities can include, but are not limited to, logging equipment operation, the cutting and skidding of trees, stump removal and/or brush root removal. Construction activity does not include routine maintenance that is performed to maintain the original line and grade, hydraulic capacity, or original purpose of a facility.

Construction Site – means the land area where *construction activity(ies)* will occur. See definition for "*Commence (Commencement of) Construction Activities"* and "*Larger Common Plan of Development or Sale" also.*

Dewatering – means the act of draining rainwater and/or groundwater from building foundations, vaults or excavations/trenches.

Direct Discharge (to a specific surface waterbody) - means that runoff flows from a *construction site* by overland flow and the first point of discharge is the specific surface waterbody, or runoff flows from a *construction site* to a separate storm sewer system

and the first point of discharge from the separate storm sewer system is the specific surface waterbody.

Discharge(s) - means any addition of any pollutant to waters of the State through an outlet or *point source*.

Embankment –means an earthen or rock slope that supports a road/highway.

Endangered or Threatened Species – see 6 NYCRR Part 182 of the Department's rules and regulations for definition of terms and requirements.

Environmental Conservation Law (ECL) - means chapter 43-B of the Consolidated Laws of the State of New York, entitled the Environmental Conservation Law.

Equivalent (Equivalence) – means that the practice or measure meets all the performance, longevity, maintenance, and safety objectives of the technical standard and will provide an equal or greater degree of water quality protection.

Final Stabilization - means that all soil disturbance activities have ceased and a uniform, perennial vegetative cover with a density of eighty (80) percent over the entire pervious surface has been established; or other equivalent stabilization measures, such as permanent landscape mulches, rock rip-rap or washed/crushed stone have been applied on all disturbed areas that are not covered by permanent structures, concrete or pavement.

General SPDES permit - means a SPDES permit issued pursuant to 6 NYCRR Part 750-1.21 and Section 70-0117 of the ECL authorizing a category of discharges.

Groundwater(s) - means waters in the saturated zone. The saturated zone is a subsurface zone in which all the interstices are filled with water under pressure greater than that of the atmosphere. Although the zone may contain gas-filled interstices or interstices filled with fluids other than water, it is still considered saturated.

Historic Property – means any building, structure, site, object or district that is listed on the State or National Registers of Historic Places or is determined to be eligible for listing on the State or National Registers of Historic Places.

Impervious Area (Cover) - means all impermeable surfaces that cannot effectively infiltrate rainfall. This includes paved, concrete and gravel surfaces (i.e. parking lots, driveways, roads, runways and sidewalks); building rooftops and miscellaneous impermeable structures such as patios, pools, and sheds.

Infeasible – means not technologically possible, or not economically practicable and achievable in light of best industry practices.

Larger Common Plan of Development or Sale - means a contiguous area where multiple separate and distinct *construction activities* are occurring, or will occur, under one plan. The term "plan" in "larger common plan of development or sale" is broadly defined as any announcement or piece of documentation (including a sign, public notice or hearing, marketing plan, advertisement, drawing, permit application, State Environmental Quality Review Act (SEQRA) environmental assessment form or other documents, zoning request, computer design, etc.) or physical demarcation (including boundary signs, lot stakes, surveyor markings, etc.) indicating that *construction activities* may occur on a specific plot.

For discrete construction projects that are located within a larger common plan of development or sale that are at least 1/4 mile apart, each project can be treated as a separate plan of development or sale provided any interconnecting road, pipeline or utility project that is part of the same "common plan" is not concurrently being disturbed.

Minimize – means reduce and/or eliminate to the extent achievable using control measures (including best management practices) that are technologically available and economically practicable and achievable in light of best industry practices.

Municipal Separate Storm Sewer (MS4) - a conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains):

(i) Owned or operated by a State, city, town, borough, county, parish, district, association, or other public body (created by or pursuant to State law) having jurisdiction over disposal of sewage, industrial wastes, stormwater, or other wastes, including special districts under State law such as a sewer district, flood control district or drainage district, or similar entity, or an Indian tribe or an authorized Indian tribal organization, or a designated and approved management agency under section 208 of the CWA that discharges to surface waters of the State*;*
(ii) Designed or used for collecting or conveying stormwater;
(iii) Which is not a *combined sewer*; and
(iv) Which is not part of a Publicly Owned Treatment Works (POTW) as defined at 40 CFR 122.2.

National Pollutant Discharge Elimination System (NPDES) - means the national system for the issuance of wastewater and stormwater permits under the Federal Water Pollution Control Act (Clean Water Act).

Natural Buffer –means an undisturbed area with natural cover running along a surface water (e.g. wetland, stream, river, lake, etc.).

New Development – means any land disturbance that does not meet the definition of Redevelopment Activity included in this appendix.

New York State Erosion and Sediment Control Certificate Program – a certificate program that establishes and maintains a process to identify and recognize individuals who are capable of developing, designing, inspecting and maintaining erosion and sediment control plans on projects that disturb soils in New York State. The certificate program is administered by the New York State Conservation District Employees Association.

NOI Acknowledgment Letter - means the letter that the Department sends to an owner or operator to acknowledge the Department's receipt and acceptance of a complete Notice of Intent. This letter documents the owner's or operator's authorization to discharge in accordance with the general permit for stormwater discharges from *construction activity*.

Nonpoint Source - means any source of water pollution or pollutants which is not a discrete conveyance or *point source* permitted pursuant to Title 7 or 8 of Article 17 of the Environmental Conservation Law (see ECL Section 17-1403).

Overbank –means flow events that exceed the capacity of the stream channel and spill out into the adjacent floodplain.

Owner or Operator - means the person, persons or legal entity which owns or leases the property on which the *construction activity* is occurring; an entity that has operational control over the construction plans and specifications, including the ability to make modifications to the plans and specifications; and/or an entity that has day-to-day operational control of those activities at a project that are necessary to ensure compliance with the permit conditions.

Performance Criteria – means the design criteria listed under the "Required Elements" sections in Chapters 5, 6 and 10 of the technical standard, New York State Stormwater Management Design Manual, dated January 2015. It does not include the Sizing Criteria (i.e. WQv, RRv, Cpv, Qp and Qf) in Part I.C.2. of the permit.

Point Source - means any discernible, confined and discrete conveyance, including but not limited to any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, vessel or other floating craft, or landfill leachate collection system from which *pollutants* are or may be discharged.

Pollutant - means dredged spoil, filter backwash, solid waste, incinerator residue, sewage, garbage, sewage sludge, munitions, chemical wastes, biological materials, radioactive materials, heat, wrecked or discarded equipment, rock, sand and industrial, municipal, agricultural waste and ballast discharged into water; which may cause or might reasonably be expected to cause pollution of the waters of the state in contravention of the standards or guidance values adopted as provided in 6 NYCRR Parts 700 et seq .

Qualified Inspector - means a person that is knowledgeable in the principles and practices of erosion and sediment control, such as a licensed Professional Engineer, Certified Professional in Erosion and Sediment Control (CPESC), Registered Landscape Architect, New York State Erosion and Sediment Control Certificate Program holder or other Department endorsed individual(s).

It can also mean someone working under the direct supervision of, and at the same company as, the licensed Professional Engineer or Registered Landscape Architect, provided that person has training in the principles and practices of erosion and sediment control. Training in the principles and practices of erosion and sediment control means that the individual working under the direct supervision of the licensed Professional Engineer or Registered Landscape Architect has received four (4) hours of Department endorsed training in proper erosion and sediment control principles from a Soil and Water Conservation District, or other Department endorsed entity. After receiving the initial training, the individual working under the direct supervision of the licensed Professional Engineer or Registered Landscape Architect shall receive four (4) hours of training every three (3) years.

It can also mean a person that meets the *Qualified Professional* qualifications in addition to the *Qualified Inspector* qualifications.

Note: Inspections of any post-construction stormwater management practices that include structural components, such as a dam for an impoundment, shall be performed by a licensed Professional Engineer.

Qualified Professional - means a person that is knowledgeable in the principles and practices of stormwater management and treatment, such as a licensed Professional Engineer, Registered Landscape Architect or other Department endorsed individual(s). Individuals preparing SWPPPs that require the post-construction stormwater management practice component must have an understanding of the principles of hydrology, water quality management practice design, water quantity control design, and, in many cases, the principles of hydraulics. All components of the SWPPP that involve the practice of engineering, as defined by the NYS Education Law (see Article 145), shall be prepared by, or under the direct supervision of, a professional engineer licensed to practice in the State of New York.

Redevelopment Activity(ies) – means the disturbance and reconstruction of existing impervious area, including impervious areas that were removed from a project site within five (5) years of preliminary project plan submission to the local government (i.e. site plan, subdivision, etc.).

Regulated, Traditional Land Use Control MS4 - means a city, town or village with land use control authority that is authorized to discharge under New York State DEC's

SPDES General Permit For Stormwater Discharges from Municipal Separate Stormwater Sewer Systems (MS4s) or the City of New York's Individual SPDES Permit for their Municipal Separate Storm Sewer Systems (NY-0287890).

Routine Maintenance Activity - means *construction activity* that is performed to maintain the original line and grade, hydraulic capacity, or original purpose of a facility, including, but not limited to:

- Re-grading of gravel roads or parking lots,
- Cleaning and shaping of existing roadside ditches and culverts that maintains the approximate original line and grade, and hydraulic capacity of the ditch,
- Cleaning and shaping of existing roadside ditches that does not maintain the approximate original grade, hydraulic capacity and purpose of the ditch if the changes to the line and grade, hydraulic capacity or purpose of the ditch are installed to improve water quality and quantity controls (e.g. installing grass lined ditch),
- Placement of aggregate shoulder backing that stabilizes the transition between the road shoulder and the ditch or *embankment*,
- Full depth milling and filling of existing asphalt pavements, replacement of concrete pavement slabs, and similar work that does not expose soil or disturb the bottom six (6) inches of subbase material,
- Long-term use of equipment storage areas at or near highway maintenance facilities,
- Removal of sediment from the edge of the highway to restore a previously existing sheet-flow drainage connection from the highway surface to the highway ditch or *embankment*,
- Existing use of Canal Corp owned upland disposal sites for the canal, and
- Replacement of curbs, gutters, sidewalks and guide rail posts.

Site limitations – means site conditions that prevent the use of an infiltration technique and or infiltration of the total WQv. Typical site limitations include: seasonal high groundwater, shallow depth to bedrock, and soils with an infiltration rate less than 0.5 inches/hour. The existence of site limitations shall be confirmed and documented using actual field testing (i.e. test pits, soil borings, and infiltration test) or using information from the most current United States Department of Agriculture (USDA) Soil Survey for the County where the project is located.

Sizing Criteria – means the criteria included in Part I.C.2 of the permit that are used to size post-construction stormwater management control practices. The criteria include; Water Quality Volume (WQv), Runoff Reduction Volume (RRv), Channel Protection Volume (Cpv), *Overbank* Flood (Qp), and Extreme Flood (Qf).

State Pollutant Discharge Elimination System (SPDES) - means the system established pursuant to Article 17 of the ECL and 6 NYCRR Part 750 for issuance of permits authorizing discharges to the waters of the state.

Steep Slope – means land area designated on the current United States Department of Agriculture ("USDA") Soil Survey as Soil Slope Phase "D", (provided the map unit name is inclusive of slopes greater than 25%) , or Soil Slope Phase E or F, (regardless of the map unit name), or a combination of the three designations.

Streambank – as used in this permit, means the terrain alongside the bed of a creek or stream. The bank consists of the sides of the channel, between which the flow is confined.

Stormwater Pollution Prevention Plan (SWPPP) – means a project specific report, including construction drawings, that among other things: describes the construction activity(ies), identifies the potential sources of pollution at the *construction site*; describes and shows the stormwater controls that will be used to control the pollutants (i.e. erosion and sediment controls; for many projects, includes post-construction stormwater management controls); and identifies procedures the *owner or operator* will implement to comply with the terms and conditions of the permit. See Part III of the permit for a complete description of the information that must be included in the SWPPP.

Surface Waters of the State - shall be construed to include lakes, bays, sounds, ponds, impounding reservoirs, springs, rivers, streams, creeks, estuaries, marshes, inlets, canals, the Atlantic ocean within the territorial seas of the state of New York and all other bodies of surface water, natural or artificial, inland or coastal, fresh or salt, public or private (except those private waters that do not combine or effect a junction with natural surface waters), which are wholly or partially within or bordering the state or within its jurisdiction. Waters of the state are further defined in 6 NYCRR Parts 800 to 941.

Temporarily Ceased – means that an existing disturbed area will not be disturbed again within 14 calendar days of the previous soil disturbance.

Temporary Stabilization - means that exposed soil has been covered with material(s) as set forth in the technical standard, New York Standards and Specifications for Erosion and Sediment Control, to prevent the exposed soil from eroding. The materials can include, but are not limited to, mulch, seed and mulch, and erosion control mats (e.g. jute twisted yarn, excelsior wood fiber mats).

Total Maximum Daily Loads (TMDLs) - A TMDL is the sum of the allowable loads of a single pollutant from all contributing point and *nonpoint source*s. It is a calculation of the maximum amount of a pollutant that a waterbody can receive on a daily basis and still meet *water quality standards*, and an allocation of that amount to the pollutant's sources. A TMDL stipulates wasteload allocations (WLAs) for *point source* discharges, load allocations (LAs) for *nonpoint source*s, and a margin of safety (MOS).

Trained Contractor - means an employee from the contracting (construction) company, identified in Part III.A.6., that has received four (4) hours of Department endorsed

training in proper erosion and sediment control principles from a Soil and Water Conservation District, or other Department endorsed entity. After receiving the initial training, the *trained contractor* shall receive four (4) hours of training every three (3) years.

It can also mean an employee from the contracting (construction) company, identified in Part III.A.6., that meets the *qualified inspector* qualifications (e.g. licensed Professional Engineer, Certified Professional in Erosion and Sediment Control (CPESC), Registered Landscape Architect, New York State Erosion and Sediment Control Certificate Program holder, or someone working under the direct supervision of, and at the same company as, the licensed Professional Engineer or Registered Landscape Architect, provided they have received four (4) hours of Department endorsed training in proper erosion and sediment control principles from a Soil and Water Conservation District, or other Department endorsed entity).

The *trained contractor* is responsible for the day to day implementation of the SWPPP.

Uniform Procedures Act (UPA) Permit - means a permit required under 6 NYCRR Part 621 of the Environmental Conservation Law (ECL), Article 70.

Water Quality Standard - means such measures of purity or quality for any waters in relation to their reasonable and necessary use as promulgated in 6 NYCRR Part 700 et seq.

APPENDIX B – Required SWPPP Components by Project Type

Table 1
Construction Activities that Require the Preparation of a SWPPP That Only Includes Erosion and Sediment Controls

The following construction activities that involve soil disturbances of one (1) or more acres of land, but less than five (5) acres:

- Single family home not located in one of the watersheds listed in Appendix C or not *directly discharging* to one of the 303(d) segments listed in Appendix E
- Single family residential subdivisions with 25% or less impervious cover at total site build-out and not located in one of the watersheds listed in Appendix C and not directly discharging to one of the 303(d) segments listed in Appendix E
- Construction of a barn or other *agricultural building*, silo, stock yard or pen.

The following construction activities that involve soil disturbances between five thousand (5000) square feet and one (1) acre of land:

All construction activities located in the watersheds identified in Appendix D that involve soil disturbances between five thousand (5,000) square feet and one (1) acre of land.

The following construction activities that involve soil disturbances of one (1) or more acres of land:

- Installation of underground, linear utilities; such as gas lines, fiber-optic cable, cable TV, electric, telephone, sewer mains, and water mains
- Environmental enhancement projects, such as wetland mitigation projects, stormwater retrofits and stream restoration projects
- Pond construction
- Linear bike paths running through areas with vegetative cover, including bike paths surfaced with an impervious cover
- Cross-country ski trails and walking/hiking trails
- Sidewalk, bike path or walking path projects, surfaced with an impervious cover, that are not part of residential, commercial or institutional development;
- Sidewalk, bike path or walking path projects, surfaced with an impervious cover, that include incidental shoulder or curb work along an existing highway to support construction of the sidewalk, bike path or walking path.
- Slope stabilization projects
- Slope flattening that changes the grade of the site, but does not significantly change the runoff characteristics

Table 1 (Continued) CONSTRUCTION ACTIVITIES THAT REQUIRE THE PREPARATION OF A SWPPP THAT ONLY INCLUDES EROSION AND SEDIMENT CONTROLS

The following construction activities that involve soil disturbances of one (1) or more acres of land:

- Spoil areas that will be covered with vegetation
- Vegetated open space projects (i.e. recreational parks, lawns, meadows, fields, downhill ski trails) excluding projects that *alter hydrology from pre to post development* conditions,
- Athletic fields (natural grass) that do not include the construction or reconstruction of *impervious area* and do not *alter hydrology from pre to post development* conditions
- Demolition project where vegetation will be established, and no redevelopment is planned
- Overhead electric transmission line project that does not include the construction of permanent access roads or parking areas surfaced with *impervious cover*
- Structural practices as identified in Table II in the "Agricultural Management Practices Catalog for Nonpoint Source Pollution in New York State", excluding projects that involve soil disturbances of greater than five acres and construction activities that include the construction or reconstruction of impervious area
- Temporary access roads, median crossovers, detour roads, lanes, or other temporary impervious areas that will be restored to pre-construction conditions once the construction activity is complete

Table 2
CONSTRUCTION ACTIVITIES THAT REQUIRE THE PREPARATION OF A SWPPP THAT INCLUDES POST-CONSTRUCTION STORMWATER MANAGEMENT PRACTICES

The following construction activities that involve soil disturbances of one (1) or more acres of land:

- Single family home located in one of the watersheds listed in Appendix C or *directly discharging* to one of the 303(d) segments listed in Appendix E
- Single family home that disturbs five (5) or more acres of land
- Single family residential subdivisions located in one of the watersheds listed in Appendix C or *directly discharging* to one of the 303(d) segments listed in Appendix E
- Single family residential subdivisions that involve soil disturbances of between one (1) and five (5) acres of land with greater than 25% impervious cover at total site build-out
- Single family residential subdivisions that involve soil disturbances of five (5) or more acres of land, and single family residential subdivisions that involve soil disturbances of less than five (5) acres that are part of a larger common plan of development or sale that will ultimately disturb five or more acres of land
- Multi-family residential developments; includes duplexes, townhomes, condominiums, senior housing complexes, apartment complexes, and mobile home parks
- Airports
- Amusement parks
- Breweries, cideries, and wineries, including establishments constructed on agricultural land
- Campgrounds
- Cemeteries that include the construction or reconstruction of impervious area (>5% of disturbed area) or *alter the hydrology from pre to post development* conditions
- Commercial developments
- Churches and other places of worship
- Construction of a barn or other *agricultural building* (e.g. silo) and structural practices as identified in Table II in the “Agricultural Management Practices Catalog for Nonpoint Source Pollution in New York State” that include the construction or reconstruction of *impervious area*, excluding projects that involve soil disturbances of less than five acres.
- Golf courses
- Institutional development; includes hospitals, prisons, schools and colleges
- Industrial facilities; includes industrial parks
- Landfills
- Municipal facilities; includes highway garages, transfer stations, office buildings, POTW’s, water treatment plants, and water storage tanks
- Office complexes
- Playgrounds that include the construction or reconstruction of impervious area
- Sports complexes
- Racetracks; includes racetracks with earthen (dirt) surface
- Road construction or reconstruction, including roads constructed as part of the construction activities listed in Table 1

Table 2 (Continued)

CONSTRUCTION ACTIVITIES THAT REQUIRE THE PREPARATION OF A SWPPP THAT INCLUDES POST-CONSTRUCTION STORMWATER MANAGEMENT PRACTICES

The following construction activities that involve soil disturbances of one (1) or more acres of land:

- Parking lot construction or reconstruction, including parking lots constructed as part of the construction activities listed in Table 1
- Athletic fields (natural grass) that include the construction or reconstruction of impervious area (>5% of disturbed area) or *alter the hydrology from pre to post development* conditions
- Athletic fields with artificial turf
- Permanent access roads, parking areas, substations, compressor stations and well drilling pads, surfaced with *impervious cover,* and constructed as part of an over-head electric transmission line project, wind-power project, cell tower project, oil or gas well drilling project, sewer or water main project or other linear utility project
- Sidewalk, bike path or walking path projects, surfaced with an impervious cover, that are part of a residential, commercial or institutional development
- Sidewalk, bike path or walking path projects, surfaced with an impervious cover, that are part of a highway construction or reconstruction project
- All other construction activities that include the construction or reconstruction of *impervious area* <u>or</u> *alter the hydrology from pre to post development* conditions, <u>and</u> are not listed in Table 1

APPENDIX C – Watersheds Requiring Enhanced Phosphorus Removal

Watersheds where *owners or operators* of construction activities identified in Table 2 of Appendix B must prepare a SWPPP that includes post-construction stormwater management practices designed in conformance with the Enhanced Phosphorus Removal Standards included in the technical standard, New York State Stormwater Management Design Manual ("Design Manual").

- Entire New York City Watershed located east of the Hudson River **-** Figure 1
- Onondaga Lake Watershed **-** Figure 2
- Greenwood Lake Watershed **-**Figure 3
- Oscawana Lake Watershed – Figure 4
- Kinderhook Lake Watershed – Figure 5

Figure 1 - New York City Watershed East of the Hudson

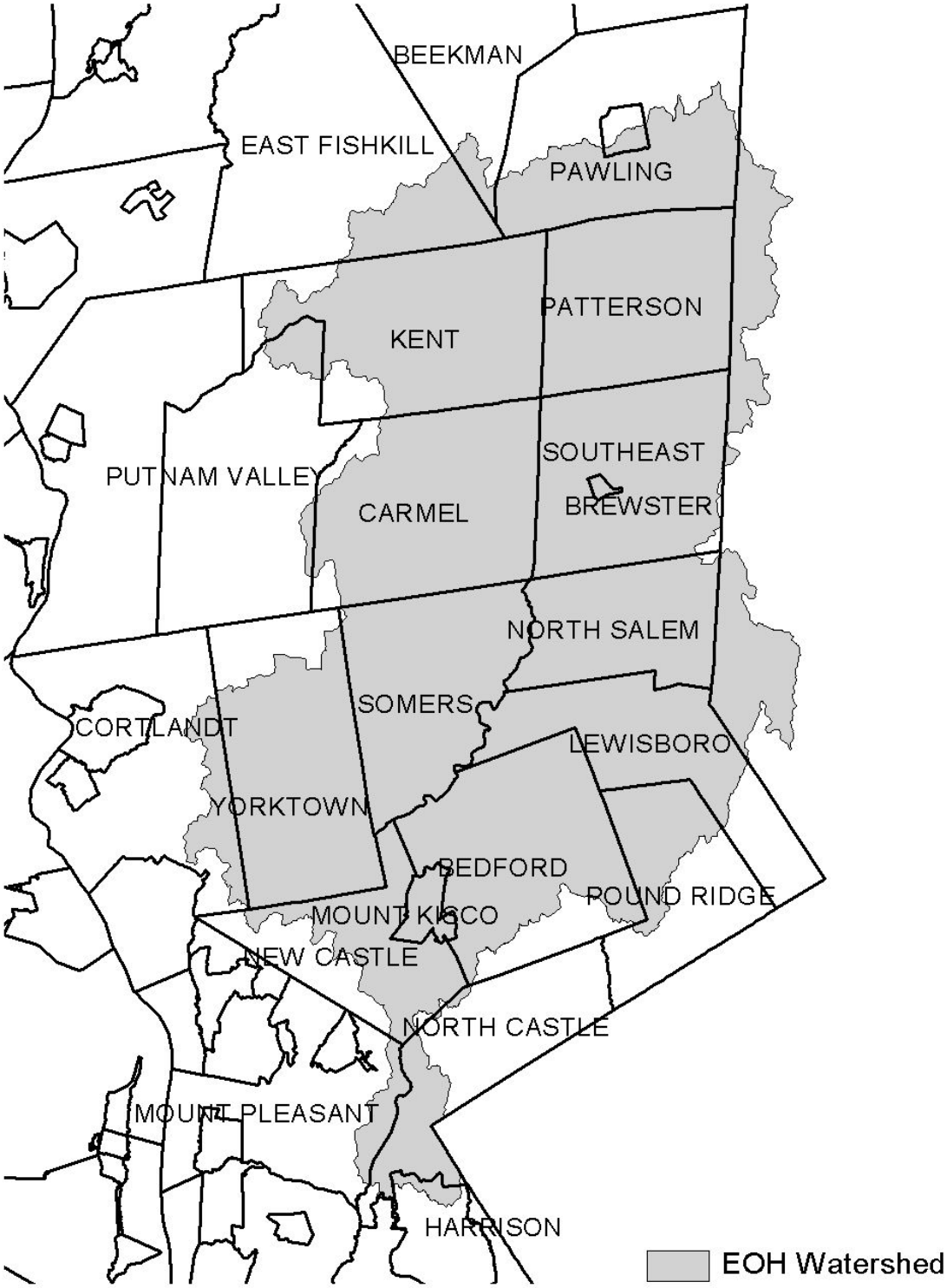


Figure 2 - Onondaga Lake Watershed

Figure 3 - Greenwood Lake Watershed

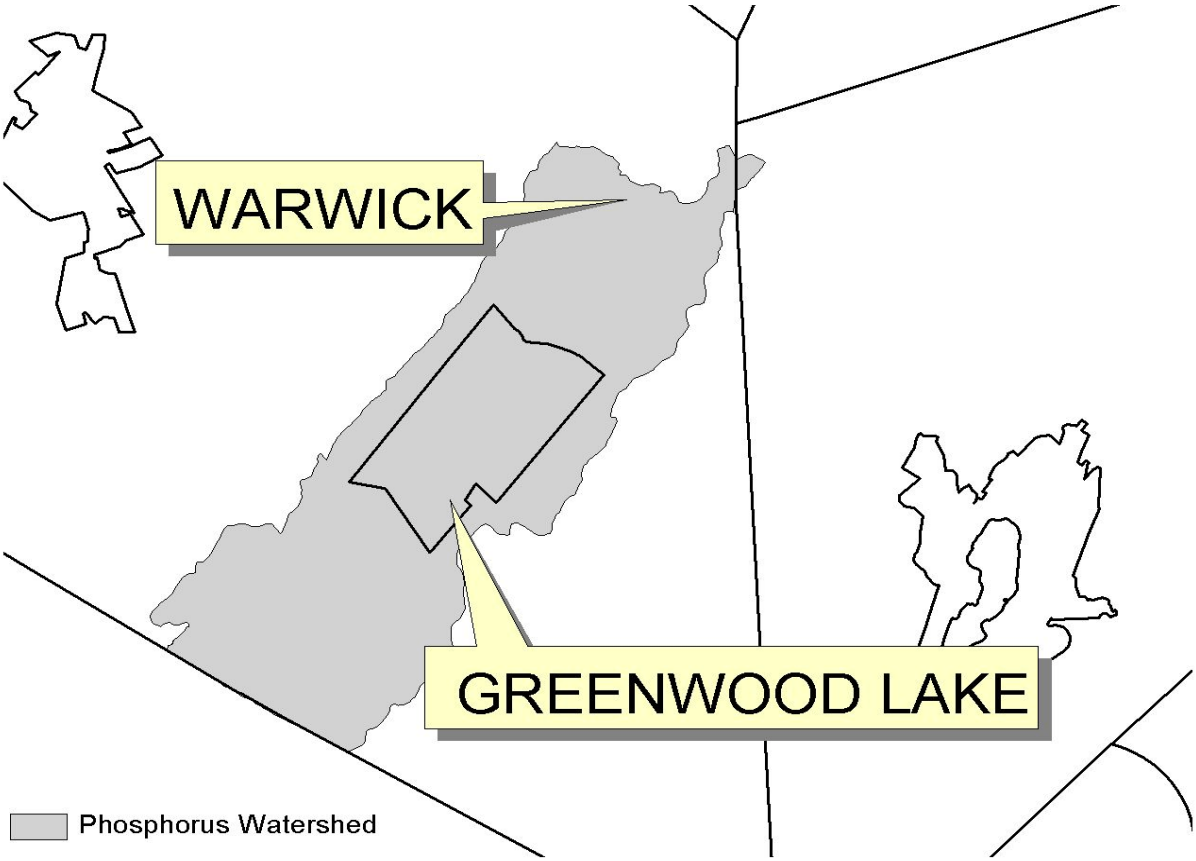


Figure 4 - Oscawana Lake Watershed

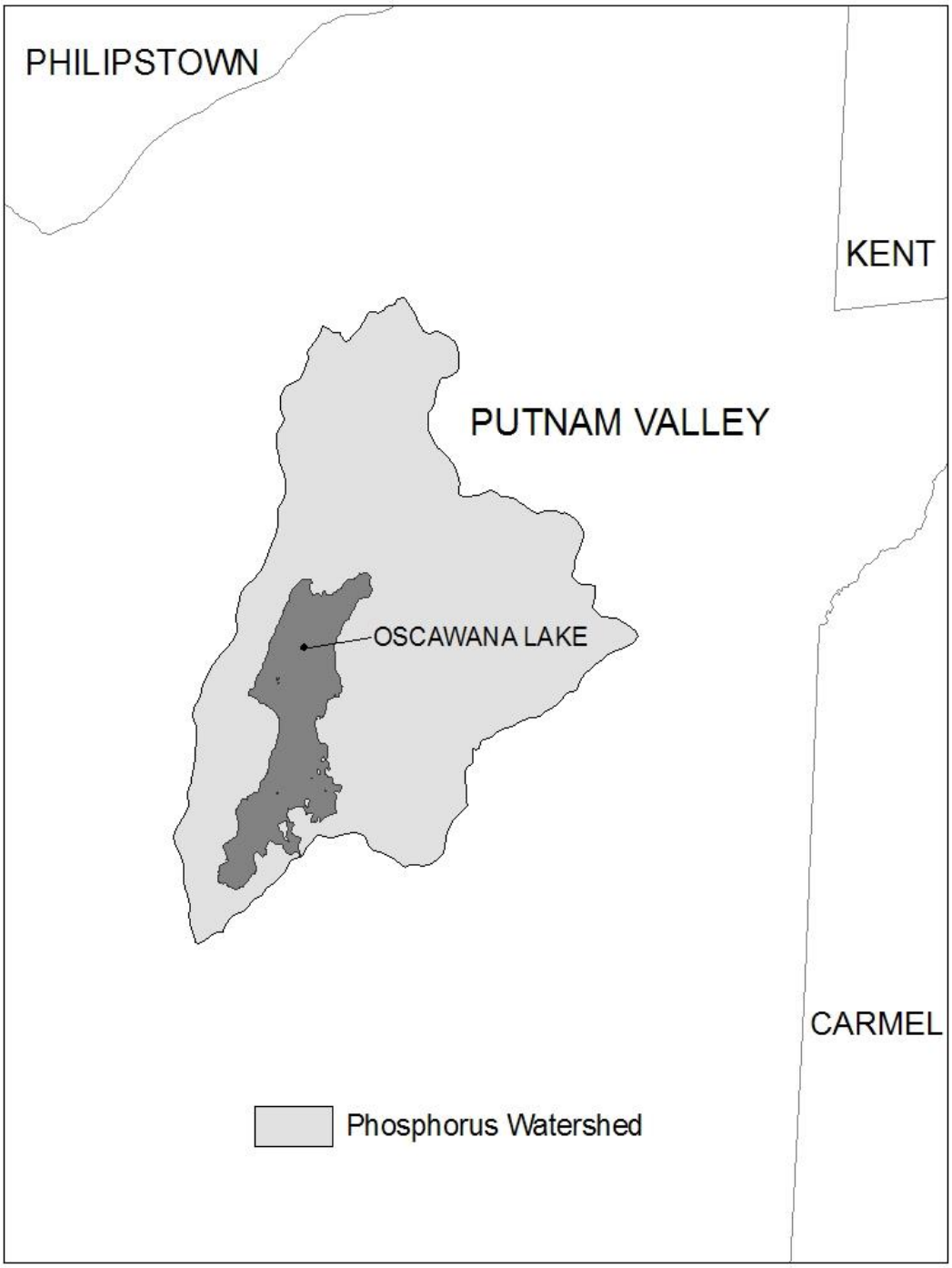
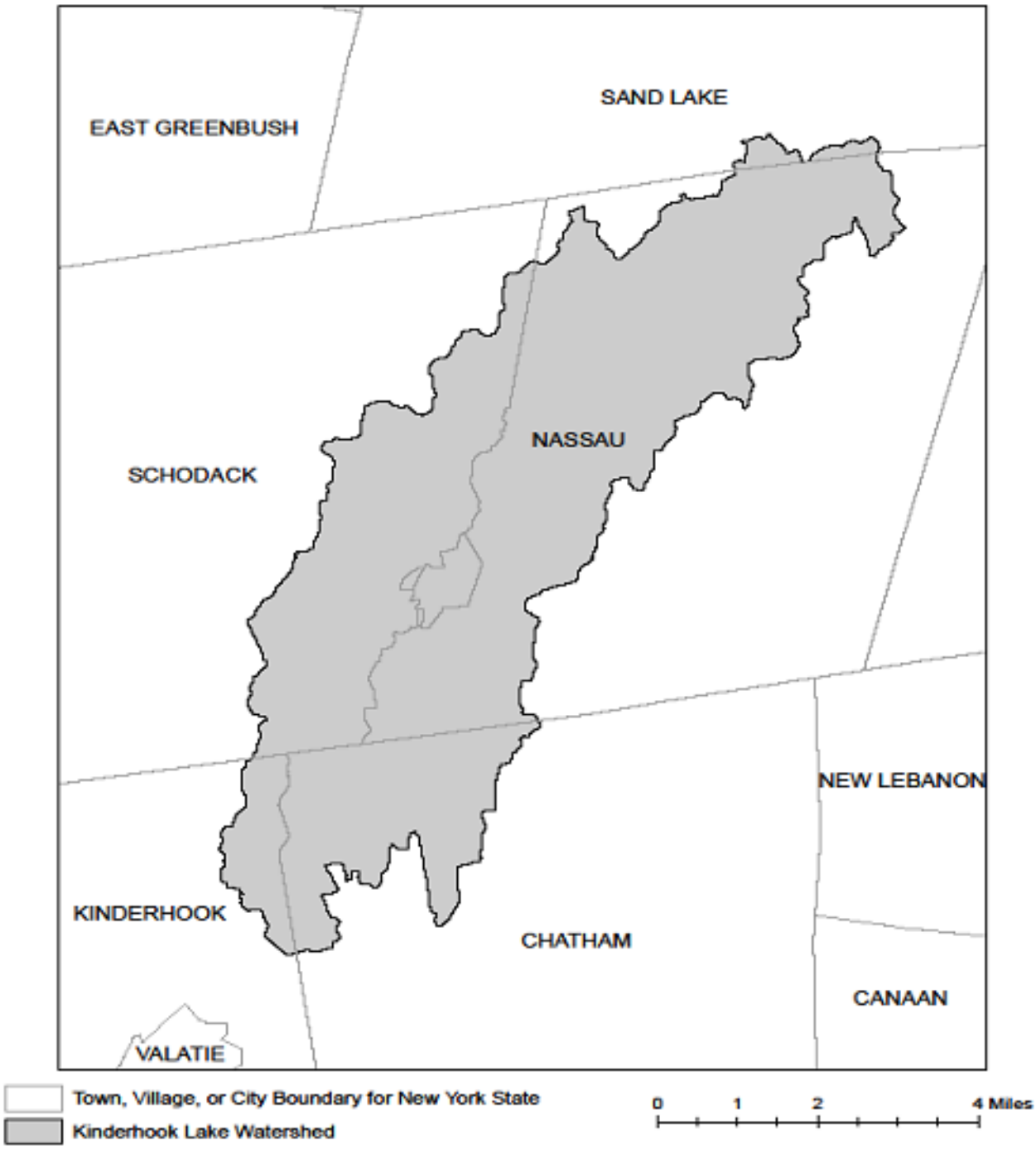


Figure 5 - Kinderhook Lake Watershed



APPENDIX D – Watersheds with Lower Disturbance Threshold

Watersheds where *owners or operators* of construction activities that involve soil disturbances between five thousand (5000) square feet and one (1) acre of land must obtain coverage under this permit.

Entire New York City Watershed that is located east of the Hudson River **-** See Figure 1 in Appendix C

APPENDIX E – 303(d) Segments Impaired by Construction Related Pollutant(s)

List of 303(d) segments impaired by pollutants related to *construction activity* (e.g. silt, sediment or nutrients). The list was developed using ”The Final New York State 2016 Section 303(d) List of Impaired Waters Requiring a TMDL/Other Strategy” dated November 2016. *Owners or operators* of single family home and single family residential subdivisions with 25% or less total impervious cover at total site build-out that involve soil disturbances of one or more acres of land, but less than 5 acres, and *directly discharge* to one of the listed segments below shall prepare a SWPPP that includes post-construction stormwater management practices designed in conformance with the New York State Stormwater Management Design Manual (“Design Manual”), dated January 2015.

COUNTY	WATERBODY	POLLUTANT
Albany	Ann Lee (Shakers) Pond, Stump Pond	Nutrients
Albany	Basic Creek Reservoir	Nutrients
Allegany	Amity Lake, Saunders Pond	Nutrients
Bronx	Long Island Sound, Bronx	Nutrients
Bronx	Van Cortlandt Lake	Nutrients
Broome	Fly Pond, Deer Lake, Sky Lake	Nutrients
Broome	Minor Tribs to Lower Susquehanna (north)	Nutrients
Broome	Whitney Point Lake/Reservoir	Nutrients
Cattaraugus	Allegheny River/Reservoir	Nutrients
Cattaraugus	Beaver (Alma) Lake	Nutrients
Cattaraugus	Case Lake	Nutrients
Cattaraugus	Linlyco/Club Pond	Nutrients
Cayuga	Duck Lake	Nutrients
Cayuga	Little Sodus Bay	Nutrients
Chautauqua	Bear Lake	Nutrients
Chautauqua	Chadakoin River and tribs	Nutrients
Chautauqua	Chautauqua Lake, North	Nutrients
Chautauqua	Chautauqua Lake, South	Nutrients
Chautauqua	Findley Lake	Nutrients
Chautauqua	Hulburt/Clymer Pond	Nutrients
Clinton	Great Chazy River, Lower, Main Stem	Silt/Sediment
Clinton	Lake Champlain, Main Lake, Middle	Nutrients
Clinton	Lake Champlain, Main Lake, North	Nutrients
Columbia	Kinderhook Lake	Nutrients
Columbia	Robinson Pond	Nutrients
Cortland	Dean Pond	Nutrients

303(d) Segments Impaired by Construction Related Pollutant(s)

Dutchess	Fall Kill and tribs	Nutrients
Dutchess	Hillside Lake	Nutrients
Dutchess	Wappingers Lake	Nutrients
Dutchess	Wappingers Lake	Silt/Sediment
Erie	Beeman Creek and tribs	Nutrients
Erie	Ellicott Creek, Lower, and tribs	Silt/Sediment
Erie	Ellicott Creek, Lower, and tribs	Nutrients
Erie	Green Lake	Nutrients
Erie	Little Sister Creek, Lower, and tribs	Nutrients
Erie	Murder Creek, Lower, and tribs	Nutrients
Erie	Rush Creek and tribs	Nutrients
Erie	Scajaquada Creek, Lower, and tribs	Nutrients
Erie	Scajaquada Creek, Middle, and tribs	Nutrients
Erie	Scajaquada Creek, Upper, and tribs	Nutrients
Erie	South Branch Smoke Cr, Lower, and tribs	Silt/Sediment
Erie	South Branch Smoke Cr, Lower, and tribs	Nutrients
Essex	Lake Champlain, Main Lake, South	Nutrients
Essex	Lake Champlain, South Lake	Nutrients
Essex	Willsboro Bay	Nutrients
Genesee	Bigelow Creek and tribs	Nutrients
Genesee	Black Creek, Middle, and minor tribs	Nutrients
Genesee	Black Creek, Upper, and minor tribs	Nutrients
Genesee	Bowen Brook and tribs	Nutrients
Genesee	LeRoy Reservoir	Nutrients
Genesee	Oak Orchard Cr, Upper, and tribs	Nutrients
Genesee	Tonawanda Creek, Middle, Main Stem	Nutrients
Greene	Schoharie Reservoir	Silt/Sediment
Greene	Sleepy Hollow Lake	Silt/Sediment
Herkimer	Steele Creek tribs	Silt/Sediment
Herkimer	Steele Creek tribs	Nutrients
Jefferson	Moon Lake	Nutrients
Kings	Hendrix Creek	Nutrients
Kings	Prospect Park Lake	Nutrients
Lewis	Mill Creek/South Branch, and tribs	Nutrients
Livingston	Christie Creek and tribs	Nutrients
Livingston	Conesus Lake	Nutrients
Livingston	Mill Creek and minor tribs	Silt/Sediment
Monroe	Black Creek, Lower, and minor tribs	Nutrients
Monroe	Buck Pond	Nutrients
Monroe	Cranberry Pond	Nutrients

303(d) Segments Impaired by Construction Related Pollutant(s)

Monroe	Lake Ontario Shoreline, Western	Nutrients
Monroe	Long Pond	Nutrients
Monroe	Mill Creek and tribs	Nutrients
Monroe	Mill Creek/Blue Pond Outlet and tribs	Nutrients
Monroe	Minor Tribs to Irondequoit Bay	Nutrients
Monroe	Rochester Embayment - East	Nutrients
Monroe	Rochester Embayment - West	Nutrients
Monroe	Shipbuilders Creek and tribs	Nutrients
Monroe	Thomas Creek/White Brook and tribs	Nutrients
Nassau	Beaver Lake	Nutrients
Nassau	Camaans Pond	Nutrients
Nassau	East Meadow Brook, Upper, and tribs	Silt/Sediment
Nassau	East Rockaway Channel	Nutrients
Nassau	Grant Park Pond	Nutrients
Nassau	Hempstead Bay	Nutrients
Nassau	Hempstead Lake	Nutrients
Nassau	Hewlett Bay	Nutrients
Nassau	Hog Island Channel	Nutrients
Nassau	Long Island Sound, Nassau County Waters	Nutrients
Nassau	Massapequa Creek and tribs	Nutrients
Nassau	Milburn/Parsonage Creeks, Upp, and tribs	Nutrients
Nassau	Reynolds Channel, west	Nutrients
Nassau	Tidal Tribs to Hempstead Bay	Nutrients
Nassau	Tribs (fresh) to East Bay	Nutrients
Nassau	Tribs (fresh) to East Bay	Silt/Sediment
Nassau	Tribs to Smith/Halls Ponds	Nutrients
Nassau	Woodmere Channel	Nutrients
New York	Harlem Meer	Nutrients
New York	The Lake in Central Park	Nutrients
Niagara	Bergholtz Creek and tribs	Nutrients
Niagara	Hyde Park Lake	Nutrients
Niagara	Lake Ontario Shoreline, Western	Nutrients
Niagara	Lake Ontario Shoreline, Western	Nutrients
Oneida	Ballou, Nail Creeks and tribs	Nutrients
Onondaga	Harbor Brook, Lower, and tribs	Nutrients
Onondaga	Ley Creek and tribs	Nutrients
Onondaga	Minor Tribs to Onondaga Lake	Nutrients
Onondaga	Ninemile Creek, Lower, and tribs	Nutrients
Onondaga	Onondaga Creek, Lower, and tribs	Nutrients
Onondaga	Onondaga Creek, Middle, and tribs	Nutrients

303(d) Segments Impaired by Construction Related Pollutant(s)

Onondaga	Onondaga Lake, northern end	Nutrients
Onondaga	Onondaga Lake, southern end	Nutrients
Ontario	Great Brook and minor tribs	Silt/Sediment
Ontario	Great Brook and minor tribs	Nutrients
Ontario	Hemlock Lake Outlet and minor tribs	Nutrients
Ontario	Honeoye Lake	Nutrients
Orange	Greenwood Lake	Nutrients
Orange	Monhagen Brook and tribs	Nutrients
Orange	Orange Lake	Nutrients
Orleans	Lake Ontario Shoreline, Western	Nutrients
Orleans	Lake Ontario Shoreline, Western	Nutrients
Oswego	Lake Neatahwanta	Nutrients
Oswego	Pleasant Lake	Nutrients
Putnam	Bog Brook Reservoir	Nutrients
Putnam	Boyd Corners Reservoir	Nutrients
Putnam	Croton Falls Reservoir	Nutrients
Putnam	Diverting Reservoir	Nutrients
Putnam	East Branch Reservoir	Nutrients
Putnam	Lake Carmel	Nutrients
Putnam	Middle Branch Reservoir	Nutrients
Putnam	Oscawana Lake	Nutrients
Putnam	Palmer Lake	Nutrients
Putnam	West Branch Reservoir	Nutrients
Queens	Bergen Basin	Nutrients
Queens	Flushing Creek/Bay	Nutrients
Queens	Jamaica Bay, Eastern, and tribs (Queens)	Nutrients
Queens	Kissena Lake	Nutrients
Queens	Meadow Lake	Nutrients
Queens	Willow Lake	Nutrients
Rensselaer	Nassau Lake	Nutrients
Rensselaer	Snyders Lake	Nutrients
Richmond	Grasmere Lake/Bradys Pond	Nutrients
Rockland	Congers Lake, Swartout Lake	Nutrients
Rockland	Rockland Lake	Nutrients
Saratoga	Ballston Lake	Nutrients
Saratoga	Dwaas Kill and tribs	Silt/Sediment
Saratoga	Dwaas Kill and tribs	Nutrients
Saratoga	Lake Lonely	Nutrients
Saratoga	Round Lake	Nutrients
Saratoga	Tribs to Lake Lonely	Nutrients

303(d) Segments Impaired by Construction Related Pollutant(s)

Schenectady	Collins Lake	Nutrients
Schenectady	Duane Lake	Nutrients
Schenectady	Mariaville Lake	Nutrients
Schoharie	Engleville Pond	Nutrients
Schoharie	Summit Lake	Nutrients
Seneca	Reeder Creek and tribs	Nutrients
St.Lawrence	Black Lake Outlet/Black Lake	Nutrients
St.Lawrence	Fish Creek and minor tribs	Nutrients
Steuben	Smith Pond	Nutrients
Suffolk	Agawam Lake	Nutrients
Suffolk	Big/Little Fresh Ponds	Nutrients
Suffolk	Canaan Lake	Silt/Sediment
Suffolk	Canaan Lake	Nutrients
Suffolk	Flanders Bay, West/Lower Sawmill Creek	Nutrients
Suffolk	Fresh Pond	Nutrients
Suffolk	Great South Bay, East	Nutrients
Suffolk	Great South Bay, Middle	Nutrients
Suffolk	Great South Bay, West	Nutrients
Suffolk	Lake Ronkonkoma	Nutrients
Suffolk	Long Island Sound, Suffolk County, West	Nutrients
Suffolk	Mattituck (Marratooka) Pond	Nutrients
Suffolk	Meetinghouse/Terrys Creeks and tribs	Nutrients
Suffolk	Mill and Seven Ponds	Nutrients
Suffolk	Millers Pond	Nutrients
Suffolk	Moriches Bay, East	Nutrients
Suffolk	Moriches Bay, West	Nutrients
Suffolk	Peconic River, Lower, and tidal tribs	Nutrients
Suffolk	Quantuck Bay	Nutrients
Suffolk	Shinnecock Bay and Inlet	Nutrients
Suffolk	Tidal tribs to West Moriches Bay	Nutrients
Sullivan	Bodine, Montgomery Lakes	Nutrients
Sullivan	Davies Lake	Nutrients
Sullivan	Evens Lake	Nutrients
Sullivan	Pleasure Lake	Nutrients
Tompkins	Cayuga Lake, Southern End	Nutrients
Tompkins	Cayuga Lake, Southern End	Silt/Sediment
Tompkins	Owasco Inlet, Upper, and tribs	Nutrients
Ulster	Ashokan Reservoir	Silt/Sediment
Ulster	Esopus Creek, Upper, and minor tribs	Silt/Sediment
Warren	Hague Brook and tribs	Silt/Sediment

303(d) Segments Impaired by Construction Related Pollutant(s)

Warren	Huddle/Finkle Brooks and tribs	Silt/Sediment
Warren	Indian Brook and tribs	Silt/Sediment
Warren	Lake George	Silt/Sediment
Warren	Tribs to L.George, Village of L George	Silt/Sediment
Washington	Cossayuna Lake	Nutrients
Washington	Lake Champlain, South Bay	Nutrients
Washington	Tribs to L.George, East Shore	Silt/Sediment
Washington	Wood Cr/Champlain Canal and minor tribs	Nutrients
Wayne	Port Bay	Nutrients
Westchester	Amawalk Reservoir	Nutrients
Westchester	Blind Brook, Upper, and tribs	Silt/Sediment
Westchester	Cross River Reservoir	Nutrients
Westchester	Lake Katonah	Nutrients
Westchester	Lake Lincolndale	Nutrients
Westchester	Lake Meahagh	Nutrients
Westchester	Lake Mohegan	Nutrients
Westchester	Lake Shenorock	Nutrients
Westchester	Long Island Sound, Westchester (East)	Nutrients
Westchester	Mamaroneck River, Lower	Silt/Sediment
Westchester	Mamaroneck River, Upper, and minor tribs	Silt/Sediment
Westchester	Muscoot/Upper New Croton Reservoir	Nutrients
Westchester	New Croton Reservoir	Nutrients
Westchester	Peach Lake	Nutrients
Westchester	Reservoir No.1 (Lake Isle)	Nutrients
Westchester	Saw Mill River, Lower, and tribs	Nutrients
Westchester	Saw Mill River, Middle, and tribs	Nutrients
Westchester	Sheldrake River and tribs	Silt/Sediment
Westchester	Sheldrake River and tribs	Nutrients
Westchester	Silver Lake	Nutrients
Westchester	Teatown Lake	Nutrients
Westchester	Titicus Reservoir	Nutrients
Westchester	Truesdale Lake	Nutrients
Westchester	Wallace Pond	Nutrients
Wyoming	Java Lake	Nutrients
Wyoming	Silver Lake	Nutrients

APPENDIX F – List of NYS DEC Regional Offices

Region	Covering the following counties:	DIVISION OF ENVIRONMENTAL PERMITS (DEP) Permit Administrators	DIVISION OF WATER (DOW) Water (SPDES) Program
1	Nassau and Suffolk	50 Circle Road Stony Brook, NY 11790 Tel. (631) 444-0365	50 Circle Road Stony Brook, NY 11790-3409 Tel. (631) 444-0405
2	Bronx, Kings, New York, Queens and Richmond	1 Hunters Point Plaza, 47-40 21st St. Long Island City, NY 11101-5407 Tel. (718) 482-4997	1 Hunters Point Plaza, 47-40 21st St. Long Island City, NY 11101-5407 Tel. (718) 482-4933
3	Dutchess, Orange, Putnam, Rockland, Sullivan, Ulster and Westchester	21 South Putt Corners Road New Paltz, NY 12561-1696 Tel. (845) 256-3059	100 Hillside Avenue, Suite 1w White Plains, NY 10603 Tel. (914) 428 - 2505
4	Albany, Columbia, Delaware, Greene, Montgomery, Otsego, Rensselaer, Schenectady and Schoharie	1150 North Westcott Road Schenectady, NY 12306-2014 Tel. (518) 357-2069	1130 North Westcott Road Schenectady, NY 12306-2014 Tel. (518) 357-2045
5	Clinton, Essex, Franklin, Fulton, Hamilton, Saratoga, Warren and Washington	1115 State Route 86, Po Box 296 Ray Brook, NY 12977-0296 Tel. (518) 897-1234	232 Golf Course Road Warrensburg, NY 12885-1172 Tel. (518) 623-1200
6	HERKIMER, JEFFERSON, LEWIS, ONEIDA AND ST. LAWRENCE	STATE OFFICE BUILDING 317 WASHINGTON STREET WATERTOWN, NY 13601-3787 TEL. (315) 785-2245	STATE OFFICE BUILDING 207 GENESEE STREET UTICA, NY 13501-2885 TEL. (315) 793-2554
7	BROOME, CAYUGA, CHENANGO, CORTLAND, MADISON, ONONDAGA, OSWEGO, TIOGA AND TOMPKINS	615 ERIE BLVD. WEST SYRACUSE, NY 13204-2400 TEL. (315) 426-7438	615 ERIE BLVD. WEST SYRACUSE, NY 13204-2400 TEL. (315) 426-7500
8	CHEMUNG, GENESEE, LIVINGSTON, MONROE, ONTARIO, ORLEANS, SCHUYLER, SENECA, STEUBEN, WAYNE AND YATES	6274 EAST AVON-LIMA ROADAVON, NY 14414-9519 TEL. (585) 226-2466	6274 EAST AVON-LIMA RD. AVON, NY 14414-9519 TEL. (585) 226-2466
9	ALLEGANY, CATTARAUGUS, CHAUTAUQUA, ERIE, NIAGARA AND WYOMING	270 MICHIGAN AVENUE BUFFALO, NY 14203-2999 TEL. (716) 851-7165	270 MICHIGAN AVENUE BUFFALO, NY 14203-2999 TEL. (716) 851-7070

APPENDIX K

Disconnection & Sheetflow Stormwater Management Practices Level 1 Inspection Checklist

SMP ID #		**SMP Owner**		☐ Private ☐ Public
SMP Location (Address; Latitude & Longitude)				
	Latitude		**Longitude**	

Party Responsible for Maintenance	**System Type**		**Type of Site**
☐ Same as SMP Owner ☐ Other _____	☐ Seasonal ☐ Continuous Use ☐ Other	☐ Above Ground ☐ Below Ground	☐ Commercial ☐ Industrial ☐ Residential ☐ State

Inspection Date		**Inspection Time**	
Inspector			
Date of Last Inspection			

Table 2.4.1 D&S Drainage Area

Visually inspect any surfaces in the drainage area.

Problem (Check if Present)	**Follow-Up Actions**
 ☐ Changes in flow; more runoff; runoff bypassing the practice	☐ For rooftop areas, make sure downspouts are still disconnected and conveying water into the treatment area. ☐ Look for and remove any “dams” of sediment and grass clippings that prevent water from entering the treatment area as sheet flow. ☐ Other:

Table 2.4.1 D&S Drainage Area

Visually inspect any surfaces in the drainage area.

Problem (Check if Present)	Follow-Up Actions
	☐ Kick-Out to Level 2 Inspection: Changes to drainage area size or amount of runoff due to construction, tillage, etc.
☐ For parking lots in the drainage area—sediment, grass clippings, or other debris has accumulated at pavement edge.	☐ For small, isolated amounts of debris, sweep up by hand and dispose properly so that it will not be exposed to runoff. ☐ Other: ☐ Kick-Out to Level 2 Inspection: Sediment is widespread and cannot be removed by manual sweeping.
☐ For parking lots in the drainage area—dips or damage at pavement edge caused flow to concentrate.	☐ Kick-Out to Level 2 Inspection: This will likely require special expertise to diagnose and fix pavement edge.

Table 2.4.2 D&S Level Spreader/Energy Dissipator

Inspect the energy dissipator closely, during a rain event if possible.

Problem (Check if Present)		Follow-Up Actions
	☐ Debris and/or sediment accumulated behind or around the level spreader.	☐ Remove debris and sediment by hand and ensure that the area behind the level spreader is relatively flat. Too much debris and sediment can cause runoff to bypass the level spreader structure. ☐ Other:
	☐ Sinking, cracking, sloughing, or other structural problem makes the energy dissipator no longer level.	☐ For stone/gravel spreaders, add new material or rake out as needed to make it even. ☐ Other: ☐ Kick-Out to Level 2 Inspection: Structural issues that cannot be easily fixed by hand

Table 2.4.3 D&S Treatment Area

Examine where flow enters the treatment area as well as the whole flow path. Look for signs of concentrated flow.

Problem (Check if Present)		Follow-Up Actions
☐ Trash and/or debris in the treatment area		☐ Collect trash/debris and dispose of properly.
	☐ Grass filter strip has grown very tall, to the point that runoff cannot easily enter or is getting concentrated.	☐ Mow filter strip twice a year or more frequently in a residential yard.

Table 2.4.3 D&S Treatment Area	
Examine where flow enters the treatment area as well as the whole flow path. Look for signs of concentrated flow.	
Problem (Check if Present)	**Follow-Up Actions**
☐ Sparse vegetation or bare spots	☐ For grassy areas, add topsoil (as needed), grass seed, mulch, and water during the growing season to re-establish consistent vegetation cover. ☐ Other:
 ☐ Rills or gullies are forming in treatment area where flow has become concentrated	☐ For minor rills, fill in with soil, compact, and add seed and straw to establish vegetation. ☐ Other:
	☐ Kick-Out to Level 2 Inspection: Rills are more than 2" to 3" deep and require more than just hand raking and re-seeding.

Additional Notes:

Inspector:_____ Date: _____

Complete the following if follow-up/corrective actions were identified during this inspection:

Certified Completion of Follow-Up Actions:

> "I hereby certify that the follow-up/corrective actions identified in the inspection performed on _____ (DATE) have been completed and any required maintenance deficiencies have been adequately corrected."

Inspector/Operator: _____ Date: _____

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

Disconnection & Sheetflow Stormwater Management Practices Level 2 Inspection Checklist

SMP ID #		**SMP Owner**		☐ Private ☐ Public
SMP Location (Address; Latitude & Longitude)				
	Latitude		**Longitude**	

Party Responsible for Maintenance	**System Type**		**Type of Site**
☐ Same as SMP Owner ☐ Other _____	☐ Seasonal ☐ Continuous Use ☐ Other	☐ Above Ground ☐ Below Ground	☐ Commercial ☐ Industrial ☐ Residential ☐ State

Inspection Date		**Inspection Time**	
Inspector			
Date of Last Inspection			

Level 2 Inspection – DISCONNECTION AND SHEETFLOW	
Recommended Repairs	**Triggers for Level 3 Inspection**
Observed Condition: Significant sediment on pavement that drains to disconnection area (e.g., grass strip)	
☐ Condition 1: Sediment on parking lot is widespread Enlist a mechanical sweeper or vacuum sweeper to remove sediment across entire pavement surface. Pay special attention to downhill edges of pavement where more sediment may have accumulated.	• Sediment accumulation is so serious that it cannot be sufficiently removed with mechanical sweeper. May indicate a high sediment load from uphill in the drainage area that needs to be mitigated. ☐ Level 3 inspection necessary
Observed Condition: Pavement edge deteriorating	
☐ Condition 1: Dips or damage at pavement edge causing runoff to concentrate Determine whether the damaged edge is causing significant enough concentration of runoff to warrant repair or regrading of the pavement.	• Edge must be patched or re-paved to make secure and level. • Parking lot not draining properly to the energy dissipator and treatment area. ☐ Level 3 inspection necessary
Observed Condition: Level spreader/energy dissipator	
☐ Condition 1: Level spreader sinking or uneven If basic equipment can be used, prop up and secure any section of level spreader that is sinking. Regrade soil all around level spreader and add stone as necessary to prevent erosion and bypassing. ☐ Condition 2: Level spreader is broken These repairs can be simple for small, residential-scale practices, such as at a downspout. Ensure the level spreader is level across, keyed in to soil at the edges, and made of durable material that can withstand the flow of water running across it. Larger or more complicated level spreaders (e.g., concrete) will likely require specialized skill and equipment.	• Level spreader requires specialized equipment, regrading, or large amount of material to make level again. • Level spreader needs to be re-designed and replaced. ☐ Level 3 inspection necessary

Level 2 Inspection – DISCONNECTION AND SHEETFLOW	
Recommended Repairs	**Triggers for Level 3 Inspection**
Observed Condition: Erosion in treatment area	
☐ Condition 1: Rills from concentrated flow Inspect energy dissipator to see whether it needs to be improved to better spread out incoming flow. Regrade flow path to ensure that it is relatively flat (if minor). If major re-grading is needed, the treatment area may need to be redesigned and fixed with specialized equipment.	• Major rills and gullies • Treatment area needs to be re-designed and major grading needed. ☐ Level 3 inspection necessary

Notes:

Inspector:_____ Date: _____

Complete the following if follow-up/corrective actions were identified during this inspection:

Certified Completion of Follow-Up Actions:

> "I hereby certify that the follow-up/corrective actions identified in the inspection performed on _____ (DATE) have been completed and any required maintenance deficiencies have been adequately corrected."

Inspector/Operator: _____ Date: _____

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

Swale Stormwater Management Practices
Level 1 Inspection Checklist

SMP ID #		**SMP Owner**		☐ Private ☐ Public
SMP Location (Address; Latitude & Longitude)				
	Latitude		**Longitude**	

Party Responsible for Maintenance	**System Type**		**Type of Site**
☐ Same as SMP Owner ☐ Other _____	☐ Seasonal ☐ Continuous Use ☐ Other	☐ Above Ground ☐ Below Ground	☐ Commercial ☐ Industrial ☐ Residential ☐ State

Inspection Date		**Inspection Time**	
Inspector			
Date of Last Inspection			

SW Drainage Area

Look at areas that are uphill from the swale.

Problem (Check if Present)	Follow-Up Actions
☐ Bare soil, erosion of the ground (rills washing out the dirt)	☐ Seed and mulch or sod areas of bare soil to establish vegetation. ☐ Fill in erosion areas with soil, compact, and add seed and straw to establish vegetation. ☐ If a rill or small channel is forming, try to redirect water flowing to this area by creating a small berm or adding topsoil to areas that are heavily compacted. ☐ Other: ☐ Kick-Out to Level 2 Inspection: Large areas of soil have been eroded, or larger channels are forming. May require rerouting of flow paths
☐ Piles of grass clippings, mulch, dirt, salt, or other materials	☐ Remove or cover piles of grass clippings, mulch, dirt, etc. ☐ Other:
☐ Open containers of oil, grease, paint, or other substances	☐ Cover or properly dispose of materials; consult your local solid waste authority for guidance on materials that may be toxic or hazardous.
☐ Grass dying at edge of road	☐ Seed and mulch; add topsoil or compost if needed. ☐ Other: ☐ Kick-Out to Level 2 Inspection: Grass on edge of pavement continues to die off for unknown reasons. Swale edge may need to be replaced with other materials (e.g., stone diaphragm).

SW Inlets

Stand in the swale and look for all the places where water flows in.

Problem (Check if Present)	Follow-Up Actions
☐ Inlets or the swale edge are collecting grit, grass clippings, or debris or have grass/weeds growing. Some water may not be getting into the swale. The objective is to have a clear pathway for water to flow into the swale.	☐ Use a flat shovel to remove grit and debris (especially at curb inlets or opening). Parking lots will generate fine grit that will accumulate at these spots. ☐ Pull out clumps of growing grass or weeds, and scoop out the soil or grit that the plants are growing in. ☐ Remove any grass clippings, leaves, sticks, and other debris that is collecting at inlets or along the edge of the swale where water is supposed to enter. ☐ For pipes and ditches, remove sediment and debris that is partially blocking the pipe or ditch opening where it enters the swale. ☐ Dispose of all material properly in an area where it will not re-enter the swale. ☐ Other:
	☐ Kick-Out to Level 2 Inspection: Inlets are blocked to the extent that most of the water does not seem to be entering the swale.
 ☐ Some or all of the inlets are eroding so that rills, gullies, and other erosion are present, or there is bare dirt that is washing into the swale.	☐ For small areas of erosion, smooth out the eroded part and apply rock or stone (e.g., river cobble) to prevent further erosion. Usually, filter fabric is placed under the rock or stone. ☐ In some cases, reseeding and applying an erosion control matting can be used to prevent further erosion. Some of these materials may be available at a garden center, but it may be best to consult a landscape contractor. ☐ Other:
	☐ Level 2 Inspection: Erosion is occurring at most of the inlets or along much of the swale edge. The inlet design may have to be modified.

SW Surface Area

Examine the entire swale surface and side slopes.

Problem (Check if Present)	Follow-Up Actions
☐ Minor areas of sediment, grit, trash, or other debris are accumulating in the swale.	☐ Use a shovel to scoop out minor areas of sediment or grit, especially in the spring after winter sanding materials may wash in and accumulate. Dispose of the material where it cannot re-enter the swale. ☐ If removing the material creates a hole or low area, fill with good topsoil and add seed and straw to re-vegetate. ☐ Remove trash, vegetative debris, and other undesirable materials. ☐ If the swale is densely vegetated, it may be difficult to do the maintenance; check for excessive ponding or other issues described in this section to see if the accumulated material is causing a problem. ☐ Other:
	☐ Kick-Out to Level 2 Inspection: Sediment has accumulated more than 3 inches deep and covers 25% or more of the swale surface. ☐ The source of sediment is unknown or cannot be controlled with simple measures.
 ☐ There is erosion in the bottom or on the side slopes. Water seems to be carving out rills as it flows through the swale or on the slopes.	☐ Try filling the eroded areas with clean topsoil, and then seed and mulch to establish vegetation. ☐ If the problem recurs, you may have to use some type of matting, stone (e.g., river cobble), or other material to fill in eroded areas. ☐ If the erosion is on a side slope, fill with soil and cover with erosion-control matting or at least straw mulch after re-seeding.
	☐ Kick-Out to Level 2 Inspection: The problem persists or the erosion is more than 3 inches deep and seems to be an issue with how water enters and moves through the swale. ☐ Kick-Out to Level 2 Inspection: The problem does not seem to be caused by flowing water, but a collapse or sinking of the surface (e.g., “sinkhole”) due to some underground problem.
☐ Water does not flow evenly down the length of the swale, but ponds in certain areas for long periods of time (e.g., 72 hours after a storm). The swale does not seem to have “positive drainage.” Check during or immediately after a rain storm.	☐ If the problem is minor (just small, isolated areas), try using a metal rake or other tools to create a more even flow path; remove excessive vegetative growth, sediment, or other debris that may be blocking the flow. ☐ Other:
	☐ Kick-Out to Level 2 Inspection: Water ponds in more than 25% of the swale for three days or more after a storm. The issue may be with the underlying soil or the grade of the swale. ☐ Water ponds behind check dams for three days or more after a storm. Check dams may be clogged or not functioning properly.

SW Surface Area

Examine the entire swale surface and side slopes.

Problem (Check if Present)	Follow-Up Actions
 ☐ Check dams (if present): water is flowing around the edges of check dams, creating erosion or sinkholes on the uphill or downhill side, or the check dams are breaking apart or breaching .	☐ If the problem is isolated to just a few check dams, try simple repairs. ☐ It is very important for the center of each check dam (where most of the water flows) to be lower (by at least several inches) than the edges of the check dams where they meet the side slopes. Also, the check dams should be keyed into side slopes so water does not flow between the check dam and side slope. ☐ Use a level to check the right check-dam configuration, as noted above. Repair by moving around stone, filling and compacting soil, or adding new material so that water will be directed to the center of the check dam instead of the edges. ☐ Other: ☐ Kick-Out to Level 2 Inspection: Many check dams are impacted and/or the problem seems to be a design issue with height, spacing, shape, or materials used to construct them.

SW Vegetation

Assess the swale vegetation.

Problem (Check if Present)	Follow-Up Actions
 ☐ Vegetation is too overgrown to access swale for maintenance activities	☐ Mow or bush-hog the path. ☐ Other:

SW Vegetation

Assess the swale vegetation.

Problem (Check if Present)	Follow-Up Actions
	☐ If you can identify which plants are weeds or not intended to be part of the planting plan, eliminate these, preferably by hand pulling. ☐ If weeds are widespread, check with the local stormwater authority and/or Extension Office about proper use of herbicides for areas connected with the flow of water. ☐ Even vegetation that is intended to be present can become large, overgrown, block flow, and/or crowd out surrounding plants. Prune and thin accordingly. ☐ If weeds or invasive plants have overtaken the whole swale, bush-hog the entire area before seed heads form in the spring. It will be necessary to remove the root mat manually or with appropriate herbicides, as noted above. ☐ Replant with species that are aesthetically pleasing and seem to be doing well in the swale. ☐ Other:
☐ Vegetation requires regular maintenance: pulling weeds, removing dead and diseased plants, adding plants to fill in areas that are not well vegetated, etc.	☐ Kick-Out to Level 2 Inspection: You are unsure of the original planting design or the vegetation maintenance task is beyond your capabilities of time, expertise, or resources. If you are unsure of the health of the vegetation (e.g. salt damage, invasives, which plants are undesirable) or the appropriate season to conduct vegetation management, consult a landscape professional before undertaking any cutting, pruning, mowing, or brush hogging.
☐ Vegetation is too thin, is not healthy, and there are many spots that are not well vegetated.	☐ The original plants are likely not suited for the actual conditions within the swale. If you are knowledgeable about plants, select and plant more appropriate vegetation (preferably native plants) so that almost the entire surface area will be covered by the end of the second growing season. ☐ Other:
	☐ Kick-Out to Level 2 Inspection: For all but small practices (e.g., in residential yards), this task will likely require a landscape design professional or horticulturalist.

SW Outlets

Examine outlets that release water out of the swale.

Problem (Check if Present)	Follow-Up Actions
☐ Outlet is obstructed with mulch, sediment, debris, trash, etc.	☐ Remove the debris and dispose of it where it cannot re-enter the swale. ☐ Other:
	☐ Kick-Out to Level 2 Inspection: Outlet is completely clogged or obstructed; there is too much material to remove by hand or with simple hand tools.

Additional Notes:

Inspector:_____ Date: _____

Complete the following if follow-up/corrective actions were identified during this inspection:

Certified Completion of Follow-Up Actions:

> "I hereby certify that the follow-up/corrective actions identified in the inspection performed on _____ (DATE) have been completed and any required maintenance deficiencies have been adequately corrected."

Inspector/Operator: _____ Date: _____

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

Swale Stormwater Management Practices
Level 2 Inspection Checklist

SMP ID #		**SMP Owner**		☐ Private ☐ Public
SMP Location (Address; Latitude & Longitude)				
	Latitude		**Longitude**	

Party Responsible for Maintenance	**System Type**		**Type of Site**
☐ Same as SMP Owner ☐ Other _____	☐ Seasonal ☐ Continuous Use ☐ Other	☐ Above Ground ☐ Below Ground	☐ Commercial ☐ Industrial ☐ Residential ☐ State

Inspection Date		**Inspection Time**	
Inspector			
Date of Last Inspection			

Level 2 Inspection: SWALE	
Recommended Repairs	**Triggers for Level 3 Inspection**
Observed Condition: Water Stands on Surface for More than 72 Hours after Storm	
☐ Condition 1: Small pockets of standing water Use a soil probe or auger to examine the soil profile. If isolated areas have accumulated grit, fines, or vegetative debris or have compacted soil, try scraping off top 3 to 6 inches of soil and replacing with clean material. Also check to see that surface is level and water is not ponding selectively in certain areas. ☐ Condition 2: Standing water is widespread or covers entire surface Requires diagnosis and resolution of problem: • Bad or compacted soil • Filter fabric on the swale bottom • Too much sediment/grit washing in from drainage area? • Too much ponding depth? • Longitudinal slope is too flat?	• Soil is overly compacted or clogged and problem is not evident from Level 2 inspection. • Level 2 inspection identifies problem, but it cannot be resolved easily or is associated with the original design of the practice (e.g., not enough slope down through the swale). ☐ Level 3 inspection necessary
Observed Condition: Vegetation is predominantly weeds and invasive species	
For a small area, weed and dig up invasive plants. Replant with natives or plants from original planting plan. If longer than 100 feet, develop a new planting plan and have it professionally reviewed.	• Vegetation deviates significantly from original planting plan; swale has been neglected and suffered from deferred maintenance. • Owner/responsible party does not know how to maintain the practice. • For large area, hire a professional to develop a grading plan and develop a planting plan. ☐ Level 3 inspection necessary

Notes:

Inspector:_____ Date: _____

Complete the following if follow-up/corrective actions were identified during this inspection:

Certified Completion of Follow-Up Actions:

> "I hereby certify that the follow-up/corrective actions identified in the inspection performed on _____ (DATE) have been completed and any required maintenance deficiencies have been adequately corrected."

Inspector/Operator: _____ Date: _____

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

Tree Planting Stormwater Management Practices Level 1 Inspection Checklist

SMP ID #		**SMP Owner**		☐ Private ☐ Public
SMP Location (Address; Latitude & Longitude)				
	Latitude		**Longitude**	

Party Responsible for Maintenance	**System Type**		**Type of Site**
☐ Same as SMP Owner ☐ Other _____	☐ Seasonal ☐ Continuous Use ☐ Other	☐ Above Ground ☐ Below Ground	☐ Commercial ☐ Industrial ☐ Residential ☐ State

Inspection Date		**Inspection Time**	
Inspector			
Date of Last Inspection			

TP Watering

Inspect the trees to determine whether they need watering.

Problem (Check if Present)	**Follow-Up Actions**
☐ Soil is not moist to the touch and/or it has not rained in a week, and leaves/needles are starting to appear wilted/dry.	☐ Water trees deeply and slowly near the base. Soaker hoses and drip irrigation work best for deep watering of trees and shrubs. ☐ Other:

TP Mulch

Mulch should be applied in the late spring and during leaf fall. Check the depth of mulch regularly. Rake the old mulch to break up any matted layers and to refresh the appearance.

Problem (Check if Present)	Follow-Up Actions
☐ Mulch is too thin or thick (should be approximately 3" deep) or does not extend to tree canopy (or 5' radius if tree has a larger than 10' canopy reach).	☐ Add or remove mulch around tree canopy to maximum 5' radius but not within 3" of the bark. ☐ If mulch is against the stems or tree trunks, pull it back several inches to expose the base of the trunk and root crown. ☐ Other:

TP Pruning

Examine the branches and tree shape.

Problem (Check if Present)	Follow-Up Actions
☐ Presence of suckers, dead or diseased branches, branches that interfere with pedestrian traffic	☐ Selective cutting ☐ Prune to make the tree more aesthetically pleasing and remove disease. ☐ Other:
	☐ Kick-Out to Level 2 Inspection: Use an arborist or landscaper for more extensive pruning jobs.

Additional Notes:

Inspector:_____ Date: _____

Complete the following if follow-up/corrective actions were identified during this inspection:

Certified Completion of Follow-Up Actions:

> "I hereby certify that the follow-up/corrective actions identified in the inspection performed on _____ (DATE) have been completed and any required maintenance deficiencies have been adequately corrected."

Inspector/Operator: _____ Date: _____

Tree Planting Stormwater Management Practices
Level 2 Inspection Checklist

SMP ID #		**SMP Owner**		☐ Private ☐ Public
SMP Location (Address; Latitude & Longitude)				
	Latitude		**Longitude**	

Party Responsible for Maintenance	**System Type**		**Type of Site**
☐ Same as SMP Owner ☐ Other _____	☐ Seasonal ☐ Continuous Use ☐ Other	☐ Above Ground ☐ Below Ground	☐ Commercial ☐ Industrial ☐ Residential ☐ State

Inspection Date		**Inspection Time**	
Inspector			
Date of Last Inspection			

Level 2 Inspection: TREE PLANTING	
Recommended Repairs	**Triggers for Level 3 Inspection**
Observed Condition: Appearance of fungus or pest damage	
☐ Condition 1: Fungus, discoloration, browning leaves or holes in leaves Check with arborist or other tree professional about the best way to proceed. This requires a Level 3 inspection. ☐ Condition 2: Burrowing insects, holes Check with arborist or other tree professional about the best way to proceed. This requires a Level 3 inspection.	• Any concerns about how to address infestation or disease ☐ Level 3 inspection necessary

Notes:

Inspector:_____ Date: _____

Complete the following if follow-up/corrective actions were identified during this inspection:

Certified Completion of Follow-Up Actions:

> "I hereby certify that the follow-up/corrective actions identified in the inspection performed on _____ (DATE) have been completed and any required maintenance deficiencies have been adequately corrected."

Inspector/Operator: _____ Date: _____

IN THE MATTER

Of

LOCAL LAW 2023 -___ TO AMEND CHAPTER 155 OF THE TOWN OF MANLIUS CODE (ZONING) TO CREATE A NEW SECTION 155-20.1-20.6 THAT WOULD AUTHORIZE A PLANNED UNIT DEVELOPMENT ("PUD") ZONING DISTRICT IN VARIOUS ZONING DISTRICTS IN THE TOWN AND SETTING FORTH RULES AND REGULATIONS FOR SITE DEVELOPMENT IN THE PUD

RESOLUTION FOR REFERRAL TO THE PLANNING BOARD AND SETTING DATE FOR PUBLIC HEARING

The **TOWN BOARD OF THE TOWN OF MANLIUS**, in the County of Onondaga, State of New York, met in regular session at the Town Hall in the Town of Manlius, located at 301 Brooklea Drive in the Village of Fayetteville, County of Onondaga, State of New York, and virtually on the platform commonly referred to as Zoom, the Town Facebook page and YouTube on the 24th of March, 2023, at 6:30 p.m.

The meeting was called to order by John T. Deer, Supervisor, and the following were present, namely:

John T. Deer	Supervisor
Sara Bollinger	Councilor
Elaine Denton	Councilor
Alissa Italiano	Councilor
Katelyn M. Kriesel	Councilor
William Nicholson	Councilor
Heather Allison Waters	Councilor

The following resolution was moved, seconded and adopted:

WHEREAS, the Town Board desires to create a zoning district for parcels of land in the Town that have unique characteristics and development of which can provide housing, mixed-use, retail, commercial, walkability, and sustainability options that are not available in the Town of Manlius;

WHEREAS, the Town is in the process of developing a comprehensive plan that is consistent with the goals set forth above;

WHEREAS, a Local Law has been introduced before the Board, to wit: Local Law No. 2023- ____, amending Chapter 155 of the Town Code entitled "Zoning" as follows:

LOCAL LAW 2023-___, A LOCAL LAW AMENDING CHAPTER 155 ENTITLED "ZONING" TO CREATE A NEW SECTION 155-20.1-20.6 THAT WOULD AUTHORIZE A PLANNED UNIT DEVELOPMENT ZONING DISTRICT

Be it enacted by the Town Board of the Town of Manlius, Onondaga County, New York as follows :

Section 1. Article III of Chapter 155 of the Town Code (District Régulations) shall be amended as follows:

§ 155-20.1 Planned Unit Development

A. Legislative Intent. A Planned Unit Development ("PUD") provides flexibility and encourages a variety of land uses and innovative design techniques that otherwise would be restricted by standard use and area regulations contained within the Town of Manlius Zoning Law. A PUD may be placed in the R-5, CA, CB, RM and Industrial Districts at the discretion of the Town Board and pursuant to this Section 155-20.1.

B. Legislative Purpose. The Town of Manlius, Onondaga County, New York hereby finds and determines that:

1. When coordinated with the comprehensive plan, a PUD can be an effective tool to encourage development in ways that support the community goals and priorities outlined in the Town of Manlius Comprehensive Plan and its Zoning Code.

2. This section provides a process to allow for the approval of a beneficial development plan that would not otherwise be possible due to existing

zoning laws that regulate permissible uses and bulk requirements. A PUD provides flexibility in the regulation of land use development in order to:

a. Encourage innovation in land use variety and design, in the layout and type of new structures and in their integration with existing structures;

b. Enhance efficiency in the use of land, natural resources, energy, community services and utilities;

c. Encourage open space preservation and protection of natural resources, historic sites and structures;

d. Facilitate the construction of multi-unit housing and improved residential environments;

e. Enhance the Town's ability to promote business and employment opportunities;

f. Preserve the safety and efficiency of the State, County and Town transportation system within the Town of Manlius;

g. Provide for logical and orderly extensions of water, sewer and utility infrastructure; and

h. Provide for a unified and logical pattern of development to land areas determined to be appropriate for growth as outlined in the Town of Manlius Comprehensive Plan.

i. Develop land that has unique characteristics, including water bodies, steeper slopes, topographic challenges, connectability to population centers and/or commercial areas and authorize growth to meet goals and policies of the Town of Manlius.

C. Authority. In addition to any other powers and authority to plan and regulate by zoning, the Town of Manlius hereby enacts requirements for the review of applications to establish a Planned Unit Development District and the establishment and simultaneous mapping of Planned Unit Development Districts pursuant to the provisions of this Section 155-20.1 local law.

§ 155-20.2 Definitions

A. "Planned Unit Development" ("PUD") means a site upon which residential, commercial, industrial or other land uses or any combination thereof may be authorized in a flexible manner so as to achieve the goals of the Town Comprehensive Plan and the Town Zoning Code.

B. "Planned Unit Development District" ("PUD District") means the location where a District Plan has been approved by the Town Board.

D. "District Plan" means a proposal for a PUD prepared in a manner prescribed by local regulation showing general layout of the proposed project. The plan will establish the allowable uses and design guidelines within the PUD. The District Plan will establish bulk requirements for the district, including, lot sizes, setbacks, height limits, buffers, screening, open space areas, lighting, signage, landscaping, parking and loading, traffic circulation, protection of natural resources, public or private amenities and such other elements as may be required by local regulation.

E. "District Plan Approval" means the approval with conditions, if any, of the proposed PUD and the simultaneous amendment of the local zoning law or ordinance by the legislative body to create and map a Planned Unit Development District within a land area designated by the Town Board.

F. "PUD Site Plan" means a plan prepared pursuant to Section 155-28 of the Town of Manlius Zoning Law showing information as is required by local law or regulations.

G. "PUD Site Plan Approval" means the signing of a final plan by a duly authorized member of the Town Planning Board pursuant to a resolution granting final approval to the plan or after conditions, if any, specified in said resolution granting conditional approval of the plan are completed. Such final approval qualifies the plan for filing in the office of the Town Clerk as provided herein. Final approval shall be decided by the Town Planning Board.

§ 155-20.3 Overview of Process.

A. An applicant that seeks to establish a PUD District Plan in the Town must submit a PUD District Plan Application to the Town Board. Only persons who can demonstrate legal control over the parcel(s) covered by the proposed PUD district, or their authorized representative(s), may file a PUD District Application. A contract-vendee for a parcel or parcels of land may be considered to have sufficient legal control for purposes of submitting a PUD District Plan Application.

B. The establishment of a PUD District Plan shall require two steps: (i) approval of the PUD District Plan Application; and (ii) enactment of a local law to adopt the provisions of the PUD District Plan, establish the legal boundaries of the district and to amend the Town Zoning Map.

C. After a PUD District Plan has been adopted by the Town Board, the applicant must obtain PUD Site Plan Approval for the project from the Town Planning Board.

D. No permit for the erection of a building or structure or development of the site may be granted until after all necessary approvals under this Article have been issued.

E. The applicant for a PUD District shall pay and the Town shall be entitled to receive reimbursement for expenses associated with the review of any application submitted pursuant to this Article.

§ 155-20.4 Planned Unit Development District Plan Application Requirements

The following must be submitted as part of an application to establish a PUD District Plan:

A. PUD District Plan Description. The application must include a description of the proposed PUD District Plan requirements, including the types of land uses, bulk requirements, parking requirements, the regulations of signage, as well as provisions, if any, relating to cluster development, incentives, bonuses, open space, design guidelines and the preservation of historic resources;

B. PUD District Plan Map. The applicant must provide a map of the PUD District Plan identifying the location of permissible land uses, roads, sidewalks, drainage, landscaped areas, parking, utilities and the total acreage of the proposed PUD District. A PUD District Plan must include an area no smaller than twenty-five (25) contiguous acres. In no instance shall a PUD District be bisected by a State Highway or County Highway. However, an area that includes land divided by internal private roads or roads intended to be dedicated to the Town, may be considered to be contiguous for the purpose of complying with this requirement.

C. Phasing Plan. The application must include a schedule describing all phases for the completion of buildings, public and private facilities and site improvements for the full buildout of the development and shall clearly indicate all aspects of the phasing of the entire development.

D. Application Timeline. The PUD District Plan must include a timeline providing deadlines to apply for PUD Site Plan Approval and building permits. Failure to meet the deadlines set forth in the PUD District Plan may result in the automatic revocation of the PUD District Plan Approval, unless extended by the Town Board.

E. Real Property Rights. The application must include a draft of all covenants, easements and rights of way relating to the site development and / or homeownership, homeowners associations and any lands dedicated to public use within the PUD District Plan.

F. Environmental Review. The Town Board must comply with the New York State Environmental Quality Review Act (SEQRA) when considering an application for a PUD District Plan. The applicant must provide a completed Part 1 of the Full Environmental Assessment Form. In addition, the applicant will be required to provide the Town with any information deemed necessary by the Town in order to evaluate the potential environmental impacts of a proposed development.

G. Fee and Escrow. The application shall be accompanied by a fee of $_____.00. In addition, the Town Board may require that the applicant place into escrow at the time of submission of the application sufficient funds to pay for the Town's use of legal and engineering professionals to evaluate the application.

§ 155-20.5 Procedure.

The Manlius Town Board may approve a proposed PUD District Plan after receiving comments and recommendations from the Town of Manlius Planning Board. The following procedural steps shall be required prior to approval:

A. Preapplication conference. Before submission of an application for approval of a PUD District Plan, the applicant is encouraged to contact the Code Enforcement Officer to arrange for a meeting with representatives of the Town in order to obtain feedback on the application prior to formal submittal.

B. Referrals. Upon the receipt of a complete PUD District Plan application, the Town Board shall review it and refer it to the Town Planning Board and the County Planning Board for comment.

C. Public Hearing(s). The Town Board shall be required to conduct one or more public hearing(s) prior to adopting a PUD District Plan. Notice of each public hearing shall be published in a newspaper of general circulation at least ten (10) calendar days in advance of the hearing. The application shall be made available for public review at least ten (10) calendar days prior to said public hearing at the office of the Town Clerk.

D. Review and Comment. The Town Planning Board must provide comments to the Town Board no later than forty-five (45) days after having the application referred to them. If the Planning Board fails to provide comments prior to the deadline, the Town Board may proceed without receiving comments from the Planning Board.

E. Town Board Action. Following completion of the referral and comment process, at least one public hearing and satisfaction of the Town Board's obligations pursuant to SEQRA, the Town Board may vote to approve or deny the PUD District Plan Application. In the event that the application is approved, the Town

Board must also adopt a local law to amend the Town Code to include the District Plan and to amend the zoning map.

F. PUD Site Plan Approval. Following approval of a PUD District Plan, the applicant must submit an application for PUD Site Plan Approval to the Town Planning Board and follow procedure for Site Plan Review as outlined in section 155-28 of the Town of Manlius Code.

§ 155-20.6 PUD District Plan Review Criteria

The Town Board shall weigh the following factors when considering whether to approve an application to create a PUD District Plan:

A. Whether the proposed plan will result in the efficient use of land, natural resources, energy sustainability, community services, infrastructure and utilities.

B. Whether the proposed plan is consistent with the Comprehensive Plan and the orderly development of the Town.

C. Whether the proposed plan will negatively impact natural resources, the environment or historic resources.

D. Whether the proposed plan will result in new employment opportunities for Town residents and investment in the community in the form of economic development.

E. Whether the proposed plan will improve the availability of affordable housing in the Town.

F. Whether the proposed plan will have a negative impact on existing residential uses of land in the Town in terms of traffic, noise, dust, odors, glare, threats to human health or other nuisances.

G. Whether the proposed plan has adequately addressed issues related to the provision of sewer, water, drainage, electricity, parking, public safety, fire safety and other infrastructure issues.

H. Whether the proposed plan will result in the loss of prime farmland or will interfere with existing farm businesses.

I. Whether the proposed plan is consistent with the existing character of the neighborhood.

Section 2. This law shall take effect upon filing with the New York State Department of State.

WHEREAS, the Town Board desires to hear from the public on the Application and refer Local Law 2023-___ and to the Planning Board for their review and comment;

NOW, THEREFORE, BE IT RESOLVED, that the Town Board of the Town of Manlius, County of Onondaga, State of New York, shall hold a Public Hearing on said proposed Local Law 2023-___, and that such Hearing shall be held in persona and virtually on the Internet platform commonly referred to as ZOOM, directions for attendance which will be on the Town's Website and such hearing shall take place on the 12th day of April 2023 at approximately 6:35 p.m. and be it further

RESOLVED, that the Town Clerk shall give notice of such Public Hearing by the publication of a notice in at least one newspaper circulated in the Town, specifying the time when and the place where such Public Hearing will be held and the instructions by which the public can access the virtual meeting, and in general terms, describing the proposed Local Law. Such notice shall be published once at least five (5) days prior to the Public Hearing, and be it further

RESOLVED, that the Town Clerk shall refer Local Law 2023-___ to the Planning Board for their review and recommendation.

I, ALLISON WEBER, Town Clerk of the Town of Manlius, **DO HEREBY CERTIFY** that the preceding Resolution was duly adopted by the Town Board of the Town of Manlius at a regular meeting of the Board duly called and held on the 22nd day of March 2023; that said Resolution was entered in the minutes of said meeting; that I have compared the foregoing copy with the original thereof now on file in my office; and that the same is a true and correct transcript of said Resolution and of the whole thereof.

I FURTHER CERTIFY that all members of said Board had due notice of said meeting.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed the seal of the Town of Manlius, this 22nd day of March, 2023.

DATED: **March 22, 2023**
Fayetteville, New York

Allison Weber
Town Clerk of the Town of Manlius
Onondaga County, New York