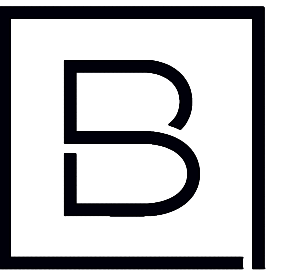


# DEVELOPMENT PLANS FOR PROPOSED

# CROWN POINT SOLAR PROJECT

## 12 LAKE ROAD CROWN POINT, NEW YORK



**BERGMANN**  
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**YELLOW 10 LLC**

**CROWN POINT  
SOLAR PROJECT**

12 LAKE ROAD  
CROWN POINT, NY 12928

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**OWNER**

BERT BARBER  
CROWN POINT, NY 12928

**APPLICANT**

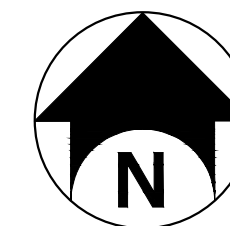
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280 EAST BROAD STREET, SUITE 200  
ROCHESTER, NY 14604  
CONTACT: KATHLEEN CONNOLLY  
PHONE: 585.498.7943



SITE LOCATION MAP  
1"=1000'

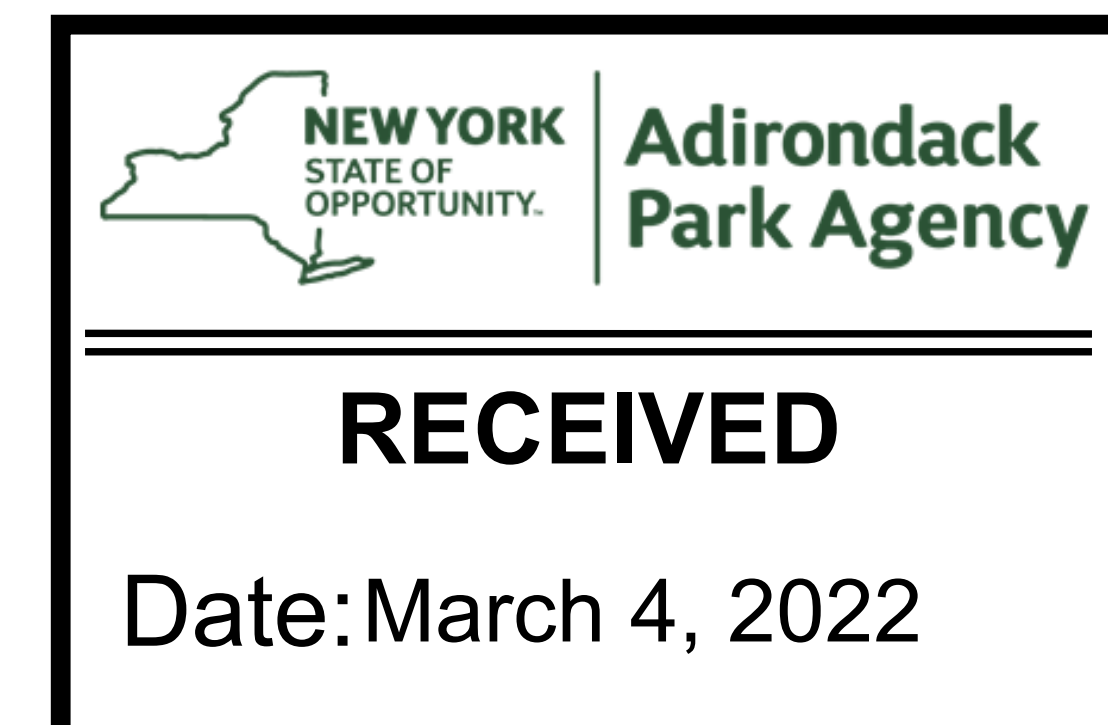


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Project Manager	Discipline Lead
<b>ECR</b>	<b>ECR</b>
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Date Issued	Project Number
<b>03/22/2021</b>	<b>14859.03</b>

Sheet Name

**COVER SHEET**

Drawing Number

**C000**



SEQUENCE OF CONSTRUCTION:

- PRE-CONSTRUCTION MEETING HELD TO INCLUDE PROJECT MANAGER, OPERATOR'S ENGINEER, CONTRACTOR, AND SUB-CONTRACTORS PRIOR TO LAND DISTURBING ACTIVITIES.
- CONSTRUCT CONSTRUCTION ENTRANCE/EXIT AT LOCATIONS DESIGNATED ON PLANS.
- INSTALL PERIMETER SILT FENCE.
- HAVE A QUALIFIED PROFESSIONAL CONDUCT AN ASSESSMENT OF THE SITE PRIOR TO THE COMMENCEMENT OF CONSTRUCTION.
- BEGIN CLEARING AND GRUBBING OPERATIONS. CLEARING AND GRUBBING SHALL BE DONE ONLY IN AREAS WHERE EARTHWORK WILL BE PERFORMED AND ONLY IN AREAS WHERE CONSTRUCTION IS PLANNED TO COMMENCE WITHIN 14 DAYS AFTER CLEARING AND GRUBBING.
- USE THE EXISTING GRAVEL ROAD DURING CONSTRUCTION.
- STRIP TOPSOIL AND STOCKPILE IN A LOCATION ACCEPTABLE TO CONSTRUCTION MANAGER. WHEN STOCKPILE IS COMPLETE, INSTALL PERIMETER SILT FENCE, SEED SURFACE WITH 100% PERENNIAL RYEGRASS MIXTURE AT A RATE OF 2-4 LBS. PER 1000 SF. APPLY 90-100 LBS PER 1000 SF OF MULCH.
- COMMENCE EARTHWORK CUT AND FILLS. THE WORK SHALL BE PROGRESSED TO ALLOW A REASONABLE TRANSFER OF CUT AND FILL. EARTH FOR ROUGH GRADING AND EARTH MOVING. THE CONTRACTOR WILL BE GIVEN SOME LATITUDE TO VARY FROM THE FOLLOWING SCHEDULE IN ORDER TO MEET THE FIELD CONDITIONS ENCOUNTERED. CONTRACTOR SHALL REVIEW VARIATIONS TO SWPPP WITH DESIGN ENGINEER AND QUALIFIED PROFESSIONAL PRIOR TO IMPLEMENTATION.
- REMOVE THE EXISTING GRAVEL DRIVEWAY AND CONSTRUCT THE PROPOSED GRAVEL DRIVEWAY AFTER CONSTRUCTION ACTIVITIES SUCH AS THE INSTALLATION OF THE PANELS AND PERIMETER FENCE. THE SUB-GRADE MATERIAL WHERE THE DRIVEWAY IS TO BE INSTALLED SHALL BE DECOMPACTED PER NYSDEC'S "DEEP-RIPPING AND DECOMPACTION" MANUAL, DATED APRIL 2008. CONTRACTOR SHALL AVOID FREQUENT HEAVY TRAFFIC ON THE LIMITED USE PERVIOUS GRAVEL.
- AS ROADWAY AND ACCESS DRIVES ARE BROUGHT TO GRADE, THEY WILL BE STABILIZED WITH CRUSHED STONE SUBBASE AT A DEPTH SPECIFIED ON PLANS TO PREVENT EROSION AS SOON AS PRACTICABLE.
- STABILIZE ALL AREAS AS SOON AS PRACTICABLE, IDLE IN EXCESS OF 7 DAYS AND IN WHICH CONSTRUCTION WILL NOT RECOMMENCE WITHIN 14 DAYS.
- INSTALL UTILITIES. TRENCH EXCAVATION/BACKFILL AREAS SHOULD BE STABILIZED PROGRESSIVELY AT THE END OF EACH WORKDAY WITH SEED AND STRAW MULCH AT A RATE OF 100% PERENNIAL RYE GRASS AT 2-4 LBS/1000 SF MULCHED AT 90-100 LBS/1000 SF.
- STABILIZE ALL AREAS IDLE IN EXCESS OF 7 DAYS IN WHICH CONSTRUCTION WILL NOT RECOMMENCE WITHIN 14 DAYS.
- REMOVE TEMPORARY CONSTRUCTION EXITS AND PERIMETER SILT FENCE ONCE SITE HAS ACHIEVED 80% UNIFORM STABILIZATION.

GENERAL NOTES:

- THE UNDERGROUND STRUCTURES AND UTILITIES SHOWN ON THIS MAP HAVE BEEN PLOTTED FROM AVAILABLE SURVEYS AND RECORD MAPS. THEY ARE NOT CERTIFIED TO THE ACCURACY OF THEIR LOCATION AND/OR COMPLETENESS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THE LOCATION AND EXTENT OF ALL UNDERGROUND STRUCTURES AND UTILITIES PRIOR TO ANY DIGGING OR CONSTRUCTION ACTIVITIES IN THEIR VICINITY. THE CONTRACTOR SHALL HAVE ALL EXISTING UTILITIES FIELD STAKED BEFORE STARTING WORK BY CALLING 1-800-962-7962.
- THE CONTRACTOR SHALL PERFORM ALL WORK IN COMPLIANCE WITH TITLE 29 OF FEDERAL REGULATIONS, PART 1926, SAFETY AND HEALTH REGULATIONS FOR CONSTRUCTION (OSHA).
- HIGHWAY DRAINAGE ALONG ALL ROADS AND PRIVATE DRIVES SHALL BE KEPT CLEAN OF MUD, DEBRIS ETC. AT ALL TIMES.
- THE CONTRACTOR SHALL CONSULT THE DESIGN ENGINEER BEFORE DEVIATING FROM THESE PLANS.
- IN ALL TRENCH EXCAVATIONS, CONTRACTOR MUST LAY THE TRENCH SIDE SLOPES BACK TO A SAFE SLOPE, USE A TRENCH SHIELD OR PROVIDE SHEETING AND BRACING.
- IF SUSPICIOUS AND/OR HAZARDOUS MATERIAL IS ENCOUNTERED DURING DEMOLITION/CONSTRUCTION, ALL WORK SHALL STOP AND THE ESSEX COUNTY DEPARTMENT OF HEALTH AND THE NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION SHALL BE NOTIFIED IMMEDIATELY. WORK SHALL NOT RESUME UNTIL THE DEVELOPER HAS OUTLINED APPROPRIATE ACTION FOR DEALING WITH THE WASTE MATERIAL AND THE DEVELOPMENT PLANS ARE MODIFIED AS MAY BE NECESSARY.
- EXCAVATED WASTE MATERIAL REMOVED FROM THE SITE SHALL BE PLACED AT A LOCATION ACCEPTABLE TO THE NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION.
- AREAS DISTURBED OR DAMAGED AS PART OF THIS PROJECTS CONSTRUCTION THAT ARE OUTSIDE OF THE PRIMARY WORK AREA SHALL BE RESTORED, AT THE CONTRACTORS EXPENSE, TO THE SATISFACTION OF THE OWNER'S REPRESENTATIVE.
- UNLESS COVERED BY THE CONTRACT SPECIFICATIONS OR AS NOTED ON THE PLANS, ALL WORK SHALL CONFORM TO THE NEW YORK STATE DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS DATED JANUARY 1, 2020 AND ANY SUBSEQUENT APPENDICES.

WASTE/HAZARDOUS MATERIAL PRACTICES:

- WHENEVER POSSIBLE COVERED TRASH CONTAINERS SHOULD BE USED.
- DAILY SITE CLEANUP IS REQUIRED TO REDUCE DEBRIS AND POLLUTANTS IN THE ENVIRONMENT.
- CONTRACTOR SHALL PROVIDE A SAFE STORAGE SPACE FOR ALL PAINTS, STAINS AND SOLVENTS INSIDE A COVERED STORAGE AREA.
- ALL FUELS, OILS, AND GREASE MUST BE KEPT IN CONTAINERS AT ALL TIMES.

EROSION & SEDIMENT CONTROL NOTES:

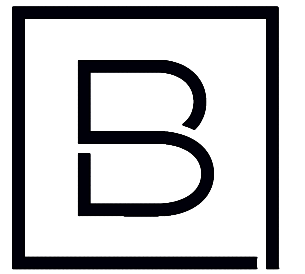
- INSTALL EROSION CONTROL MEASURES AS INDICATED ON THE PLAN PRIOR TO THE START OF ANY EXCAVATION WORK. EROSION CONTROL MEASURES WILL BE IMPLEMENTED IN ACCORDANCE WITH THE NEW YORK STATE GUIDELINES FOR URBAN EROSION SEDIMENT CONTROL MANUAL, NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION, AND THE GOVERNING MUNICIPAL REQUIREMENTS.
- REMOVE AND STOCKPILE TOPSOIL AS DIRECTED BY THE CONSTRUCTION MANAGER REPLACE TOPSOIL TO A MINIMUM 4" DEPTH WITH TOPSOIL OR AMENDED SOIL. ALL DISTURBED AREAS TO BE SEEDED TO PROMOTE VEGETATION AS SOON AS PRACTICABLE.
- IF THE SEASONS PROHIBITS TEMPORARY SEEDING, THE DISTURBED AREAS WILL BE MULCHED WITH STRAW HAY OR EQUIVALENT AND ANCHORED IN ACCORDANCE WITH THE "STANDARDS", NETTING OR LIQUID MULCH BINDER.
- CONTRACTOR SHALL BE RESPONSIBLE FOR THE MAINTENANCE AND REMOVAL OF TEMPORARY SEDIMENTATION CONTROLS. EROSION CONTROL MEASURES SHALL NOT BE REMOVED BEFORE 80% UNIFORM VEGETATIVE COVER HAS BEEN ACHIEVED.
- ALL EROSION CONTROL MEASURES ARE TO BE REPLACED WHENEVER THEY BECOME CLOGGED OR INOPERABLE AND SHALL BE REPLACED AT A MINIMUM OF EVERY 3 MONTHS.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR RESTORATION OF TOPSOIL OR AMENDED TO ALL DISTURBED AREAS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO MAINTAIN EROSION CONTROL MEASURES AT ALL TIMES.
- THE CONTRACTOR SHALL DESIGNATE A MEMBER OF HIS/HER FIRM TO BE RESPONSIBLE TO MONITOR EROSION CONTROL, EROSION CONTROL STRUCTURES, TREE PROTECTION AND PRESERVATION THROUGHOUT CONSTRUCTION.
- ALL DISTURBED AREAS SHALL BE FINISH GRADED TO PROMOTE VEGETATION ON ALL EXPOSED AREAS AS SOON AS PRACTICABLE. STABILIZATION PRACTICES (TEMPORARY/PERMANENT SEEDING, MULCHING, GEOTEXTILES, ETC.) MUST BE IMPLEMENTED WITHIN SEVEN (7) DAYS WHERE CONSTRUCTION ACTIVITIES HAVE TEMPORARILY OR PERMANENTLY CEASED, AND NOT EXPECTED TO RESUME WITHIN FOURTEEN (14) DAYS.
- PAVED ROADWAYS MUST BE KEPT CLEAN AT ALL TIMES. ALL CONSTRUCTION DEBRIS AND SEDIMENT SPOILS, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHT-OF-WAYS MUST BE REMOVED IMMEDIATELY.
- DUST SHALL BE CONTROLLED BY WATERING.
- ADJOINING PROPERTY SHALL BE PROTECTED FROM EXCAVATION AND FILLING OPERATIONS ON THE PROPOSED SITE.
- SLOPE TRACKING SHALL BE IMPLEMENTED ON ALL SLOPE 1 ON 3 OR GREATER AT THE END OF EACH WORK DAY AND PRIOR TO FINAL SLOPE GRADING AND STABILIZATION.

STORM WATER POLLUTION PREVENTION PLAN NOTES:

- THE CONTRACTOR SHALL PROVIDE A QUALIFIED INSPECTOR TO INSPECT THE PROJECT AT THE END OF EACH WORK WEEK AND PROVIDE A REPORT AT LEAST ONCE PER WEEK.
- EROSION CONTROL MEASURES WILL BE IMPLEMENTED IN ACCORDANCE WITH THE NEW YORK STATE GUIDELINES FOR URBAN EROSION SEDIMENT CONTROL MANUAL, ESSEX COUNTY HEALTH DEPARTMENT, AND THE TOWN OF CROWN POINTS REQUIREMENTS.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING THE BEST MANAGEMENT PRACTICES (BMP'S) UNTIL GROUND COVER IS ESTABLISHED.
- REMOVE AND STOCKPILE TOPSOIL AS DIRECTED BY THE CONSTRUCTION MANAGER. REPLACE TOPSOIL TO A MINIMUM 4" DEPTH. ALL DISTURBED AREAS TO BE HYDROSEEDED AS DIRECTED BY THE CONSTRUCTION MANAGER TO PROMOTE VEGETATION AS SOON AS PRACTICABLE.
- IF THE SEASONS PROHIBITS TEMPORARY SEEDING, THE DISTURBED AREAS WILL BE MULCHED WITH STRAW HAY OR EQUIVALENT AND ANCHORED IN ACCORDANCE WITH THE "STANDARDS", NETTING OR LIQUID MULCH BINDER.
- CONTRACTOR SHALL BE RESPONSIBLE FOR THE MAINTENANCE AND REMOVAL OF TEMPORARY SEDIMENTATION CONTROLS. EROSION CONTROL MEASURES SHALL NOT BE REMOVED BEFORE 80% UNIFORM VEGETATION HAS BEEN ACHIEVED.
- ALL EROSION CONTROL MEASURES ARE TO BE REPLACED WHENEVER THEY BECOME CLOGGED OR INOPERABLE AND SHALL BE REPLACED WHEN THEY HAVE REACHED THE DESIGN LIFE INDICATED IN THE NYS GUIDELINES FOR URBAN EROSION SEDIMENT CONTROL DESIGN MANUAL OR EVERY THREE MONTHS.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR RESTORATION OF TOPSOIL TO ALL DISTURBED AREAS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO MAINTAIN EROSION CONTROL MEASURES AT ALL TIMES.
- THE CONTRACTOR SHALL DESIGNATE A MEMBER OF HIS/HER FIRM TO BE RESPONSIBLE TO MONITOR EROSION CONTROL AND EROSION CONTROL STRUCTURES THROUGHOUT CONSTRUCTION.
- ALL DISTURBED AREAS SHALL BE FINISH GRADED TO PROMOTE VEGETATION ON ALL EXPOSED AREAS AS SOON AS PRACTICABLE. STABILIZATION PRACTICES (TEMPORARY/PERMANENT SEEDING, MULCHING, GEOTEXTILES, ETC.) MUST BE IMPLEMENTED WITHIN SEVEN (7) DAYS WHERE CONSTRUCTION ACTIVITIES HAVE TEMPORARILY OR PERMANENTLY CEASED, AND NOT EXPECTED TO RESUME WITHIN FOURTEEN (14) DAYS.
- PAVED ROADWAYS MUST BE KEPT CLEAN AT ALL TIMES. ALL CONSTRUCTION DEBRIS AND SEDIMENT SPOILS, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHT-OF-WAYS MUST BE REMOVED IMMEDIATELY.
- DUST SHALL BE CONTROLLED BY WATERING.
- ADJOINING PROPERTIES SHALL BE PROTECTED FROM EXCAVATION AND FILLING OPERATIONS ON THE PROPOSED SITE.
- EROSION CONTROL MEASURES SHOULD BE RELOCATED INWARD AS PERIMETER SLOPE CONSTRUCTION PROGRESSES AND RECONSTRUCTED TO THE NYS STANDARDS & SPECIFICATION AT THE END OF EACH DAY.
- PERIMETER AREAS SHALL BE TEMPORARILY STABILIZED WITH SEED AND MULCH PROGRESSIVELY AT MINIMUM AT THE END OF EACH WEEK WITH 100% PERENNIAL RYEGRASS MIX AT A RATE OF 2-4 LBS PER 1000 SF AND MULCH 90-100 LBS PER 1000 SF OF WEED FREE STRAW.
- SLOPE TRACKING SHALL BE IMPLEMENTED ON ALL SLOPE 1 ON 3 OR GREATER AT THE END OF EACH WORK DAY AND PRIOR TO FINAL SLOPE GRADING AND STABILIZATION.

SITE STABILIZATION:

- WHEN FINAL GRADE IS ACHIEVED DURING NON-GERMINATING MONTHS, THE AREA SHOULD BE MULCHED UNTIL THE BEGINNING OF THE NEXT PLANTING SEASON.
- MULCHES SHOULD BE APPLIED AT THE RATES SHOWN IN THE MULCH APPLICATION RATES TABLE. VERY LITTLE BARE GROUND SHOULD BE VISIBLE THROUGH THE MULCH.
- STRAW AND HAY MULCH SHOULD BE ANCHORED OR TACKIFIED IMMEDIATELY AFTER APPLICATION TO PREVENT BEING WINDBLOWN. A TRACTOR-DRAWN IMPLEMENTS MAY BE USED TO "CRIMP" THE STRAW OR HAY INTO THE SOIL - ABOUT 3 INCHES. THIS METHOD SHOULD BE LIMITED TO SLOPES NO STEEPER THAN 3H:1V. THE MACHINERY SHOULD BE OPERATED ALONG THE CONTOUR. NOTE: CRIMPING OF HAY OR STRAW BY RUNNING OVER IT WITH TRACKED MACHINERY IS NOT RECOMMENDED.
- BEFORE SEEDING IS APPLIED THE CONTRACTOR SHALL SPREAD SOIL TO PREVENT PONDING AND CONFIRM THAT SOIL WILL SUSTAIN THE SEED GERMINATION AND ESTABLISHMENT OF VEGETATION.
- GRADED AREAS SHOULD BE SCARIFIED OR OTHERWISE LOOSENEED TO A DEPTH OF 3 TO 5 INCHES TO PERMIT BONDING OF THE TOPSOIL TO THE SURFACE AREAS AND TO PROVIDE A ROUGHENED SURFACE TO PREVENT TOPSOIL FROM SLIDING DOWN SLOPE. COMPACTED SOILS SHOULD BE SCARIFIED TO A DEPTH OF 6 TO 12 INCHES, ALONG CONTOUR WHEREVER POSSIBLE, PRIOR TO SEEDING.
- TOPSOIL OR AMENDED SOIL SHOULD BE UNIFORMLY DISTRIBUTED ACROSS THE DISTURBED AREA TO A MINIMUM DEPTH OF 6 INCHES. SPREADING SHOULD BE DONE IN SUCH A MANNER THAT SODDING OR SEEDING CAN PROCEED WITH A MINIMUM OF ADDITIONAL PREPARATION OR TILLAGE. IRREGULARITIES IN THE SURFACE RESULTING FROM TOPSOIL PLACEMENT SHOULD BE CORRECTED IN ORDER TO PREVENT FORMATION OF DEPRESSIONS.
- TOPSOIL SHOULD NOT BE PLACED WHILE THE TOPSOIL OR SUBSOIL IS IN A FROZEN OR MUDDY CONDITION, WHEN THE SUBSOIL IS EXCESSIVELY WET, OR IN A CONDITION THAT MAY OTHERWISE BE DETRIMENTAL TO PROPER GRADING AND SEEDBED PREPARATION.
- WHEN USED AS A MULCH REPLACEMENT, THE APPLICATION RATE (THICKNESS) OF THE COMPOST SHOULD BE  $\frac{1}{2}$ " TO  $\frac{1}{4}$ ". COMPOST SHOULD BE PLACED EVENLY AND SHOULD PROVIDE 100% SOIL COVERAGE. NO SOIL SHOULD BE VISIBLE.
- POLYMERIC AND GUM TACKIFIERS MIXED AND APPLIED ACCORDING TO MANUFACTURER'S RECOMMENDATIONS MAY BE USED TO TACK MULCH. AVOID APPLICATION DURING RAIN AND ON WINDY DAYS. A 24-HOUR CURING PERIOD AND A SOIL TEMPERATURE HIGHER THAN 45° F ARE TYPICALLY REQUIRED. APPLICATION SHOULD GENERALLY BE HEAVIEST AT EDGES OF SEEDED AREAS AND AT CRESTS OF RIDGES AND BANKS TO PREVENT LOSS BY WIND. THE REMAINDER OF THE AREA SHOULD HAVE BINDER APPLIED UNIFORMLY. BINDERS MAY BE APPLIED AFTER MULCH IS SPREAD OR SPRAYED INTO THE MULCH AS IT IS BEING BLOWN ONTO THE SOIL. APPLYING STRAW AND BINDER TOGETHER IS GENERALLY MORE EFFECTIVE.
- SYNTHETIC BINDERS, OR CHEMICAL BINDERS, MAY BE USED AS RECOMMENDED BY THE MANUFACTURER TO ANCHOR MULCH PROVIDED SUFFICIENT DOCUMENTATION IS PROVIDED TO SHOW THEY ARE NON-TOXIC TO NATIVE PLANT AND ANIMAL SPECIES.
- MULCH ON SLOPES OF 8% OR STEEPER SHOULD BE HELD IN PLACE WITH NETTING. LIGHTWEIGHT PLASTIC, FIBER, OR PAPER NETS MAY BE STAPLED OVER THE MULCH ACCORDING TO MANUFACTURER'S RECOMMENDATIONS.
- SHREDDED PAPER HYDROMULCH SHOULD NOT BE USED ON SLOPES STEEPER THAN 5%. WOOD FIBER HYDROMULCH MAY BE APPLIED ON STEEPER SLOPES PROVIDED A TACKIFIER IS USED. THE APPLICATION RATE FOR ANY HYDROMULCH SHOULD BE 2,000 LBS/ACRE AT A MINIMUM.
- LIME, FERTILIZER, SEED, AND MULCH DISTURBED AREAS PER THE EROSION AND SEDIMENT CONTROL PLANS, IN AREAS OF STEEP SLOPES OR OBVIOUS AREAS WHERE POTENTIAL EROSION MAY OCCUR, AN EROSION CONTROL MAT OR FLEXIBLE GROWTH MEDIUM (FGM) SHALL BE USED. FGM SHALL BE APPLIED PER MANUFACTURER SPECIFICATIONS.
- ONCE A SECTION OF THE ALIGNMENT HAS BEEN STABILIZED, NO CONSTRUCTION TRAFFIC SHALL OCCUR TO REMOVE ANY BMPS UNTIL THE SECTION HAS ACHIEVED 80% PERENNIAL VEGETATIVE COVER. AN AREA SHALL BE CONSIDERED TO HAVE ACHIEVED FINAL STABILIZATION WHEN IT HAS A MINIMUM 80% PERENNIAL VEGETATIVE COVER OR OTHER PERMANENT NONVEGETATIVE COVER WITH A DENSITY SUFFICIENT TO RESIST ACCELERATED EROSION AND SUBSURFACE CHARACTERISTICS SUFFICIENT TO RESIST SLIDING OR OTHER MOVEMENTS.



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## YELLOW 10 LLC

## CROWN POINT SOLAR PROJECT

12 LAKE ROAD  
CROWN POINT, NY 12928

Date Revised	Description
6/15/2021	UPDATED PER APA COMMENTS
10/05/2021	UPDATED PER APA & NYS DOT COMMENTS
02/16/2022	UPDATED PER APA COMMENTS
03/04/2022	UPDATED PER COMMENTS

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Project Manager	Discipline Lead
<b>ECR</b>	<b>ECR</b>
Designer	Reviewer
<b>WD</b>	<b>ECR</b>
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<b>03/22/2021</b>	<b>14859.03</b>

Sheet Name

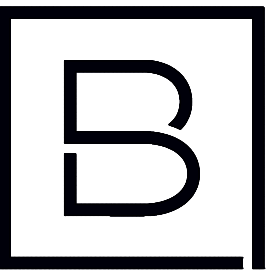
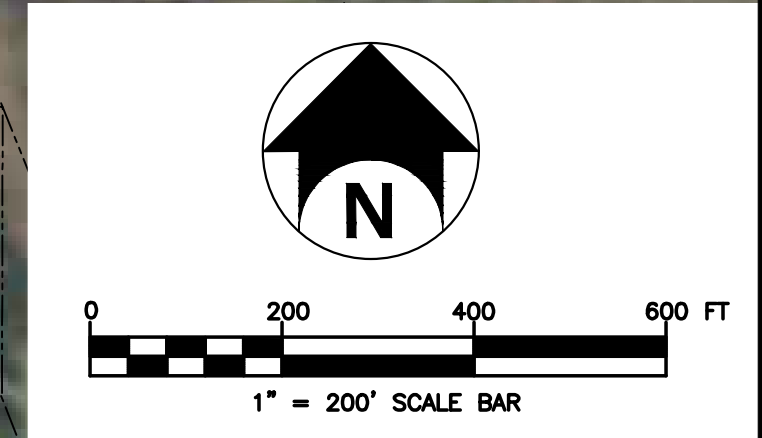
## GENERAL NOTES

Drawing Number

# C001



NUMBER	TAX ID	PARCEL OWNER
1	117.19-2-20.000	PAIGE DOLBACK



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Sheet Name

**AREA PARCEL PLAN**

Drawing Number

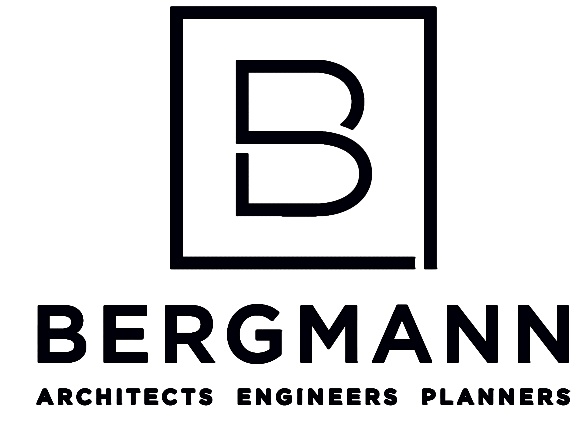
**C002**





**LEGEND**

	EXISTING HOUSE
	EXISTING OVERHEAD ELECTRIC
	PROPERTY LINE
	STREAM
	EXISTING TREE LINE
	ELECTRIC POLE



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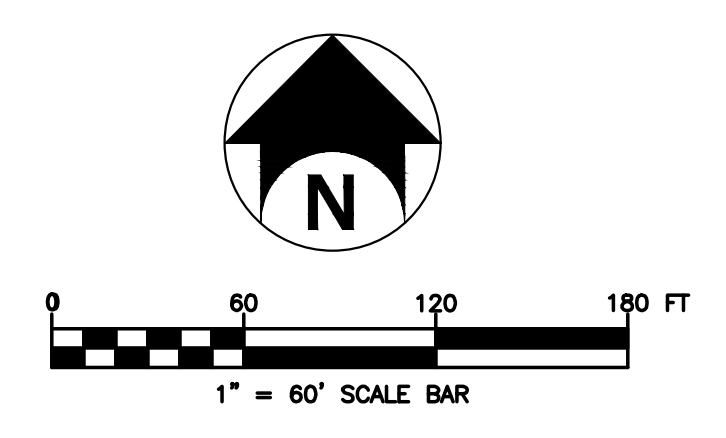


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<b>03/22/2021</b>	<b>14859.03</b>

Sheet Name  
**EXISTING CONDITIONS PLAN**

Drawing Number  
**C003**







SITE PLAN DATA TABLE	
SITE IS LOCATED IN THE "OH" OUTSIDE HAMLET ZONING DISTRICT.	
PROPOSED USE: SOLAR ENERGY SYSTEM	
PARCEL 117.19-2-1.000	
TOWN OF CROWN POINT, COUNTY OF ESSEX	
STATE OF NEW YORK	
APPLICANT: YELLOW 4 LLC 125 WOLF ROAD, SUITE 312 COLONIE, NY 12205 (518) 390-4004	OWNER(S) OF RECORD: BURT BARBER
PLANS PREPARED BY: BERGMANN 2 WINNERS CIRCLE, SUITE 102 ALBANY, NY 12205 (518) 862-0325	

LEGEND	
	PROPOSED SOLAR PANEL
	PROPOSED PERIMETER FENCE
	PROPOSED UNDERGROUND ELECTRIC
	PROPOSED OVERHEAD ELECTRIC
	STREAM
	PROPOSED GRAVEL DRIVE
	PROPOSED LEASE AREA BOUNDARY
	PROPERTY LINE
	PROPOSED TREELINE
	EXISTING TREELINE
	EXISTING OVERHEAD ELECTRIC
	100' WETLAND BUFFER
	PALUSTRINE FORESTED WETLAND (PFO)
	PALUSTRINE UNCONSOLIDATED BOTTOM WETLAND (PUB)
	EXISTING UTILITY POLE
	PROPOSED UTILITY POLE

ARRAY INFORMATION	
CROWN POINT	
SYSTEM SIZE	1.51± MW-DC
MODULES	JINKO SOLAR, JKM525-72HL4-TV (525W)



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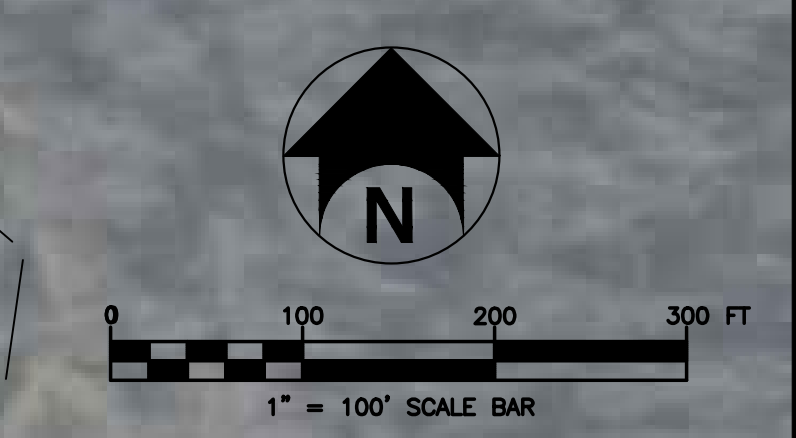
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03/22/2021	14859.03

Sheet Name

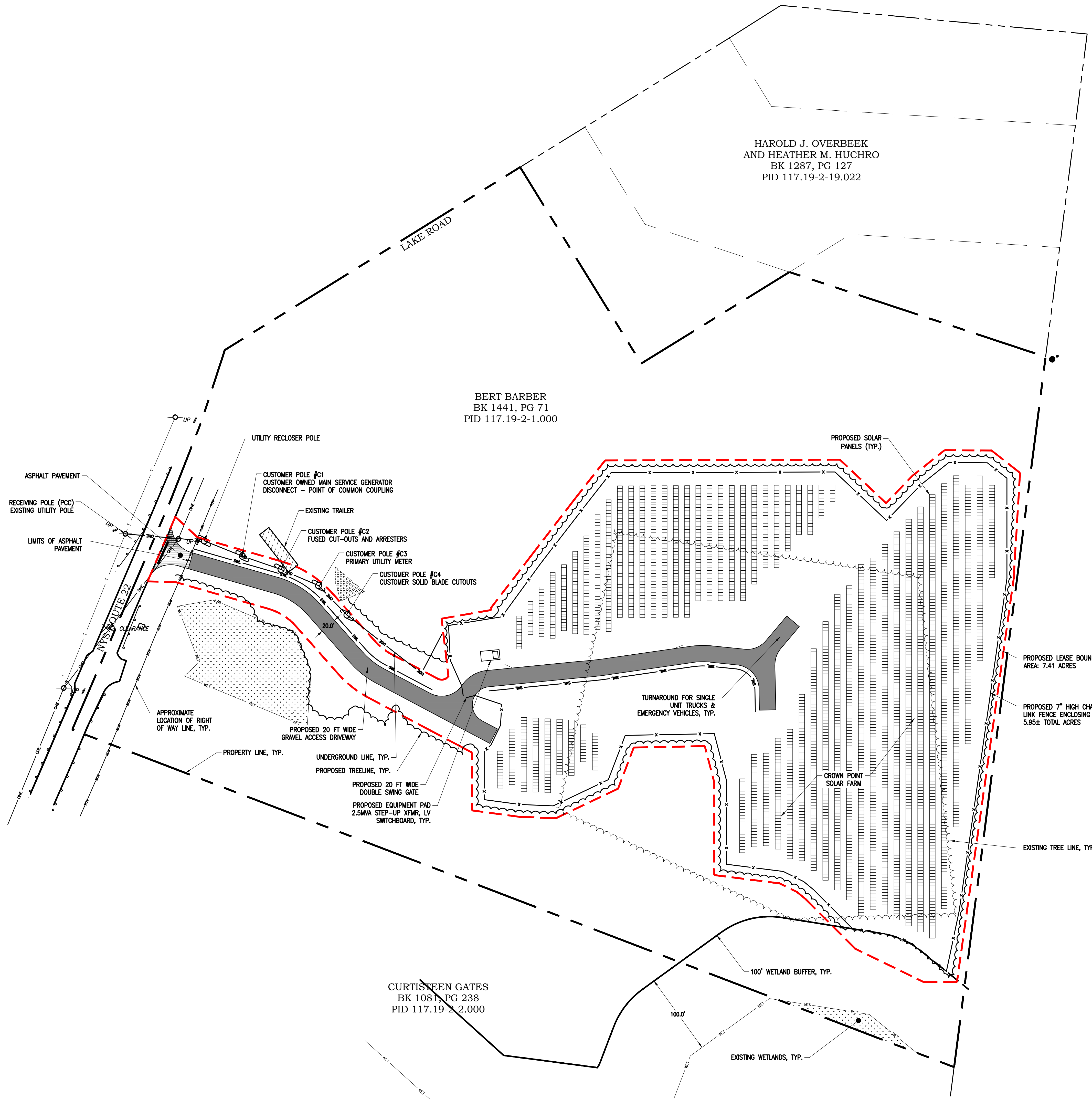
# OVERALL SITE PLAN

Drawing Number

# C004





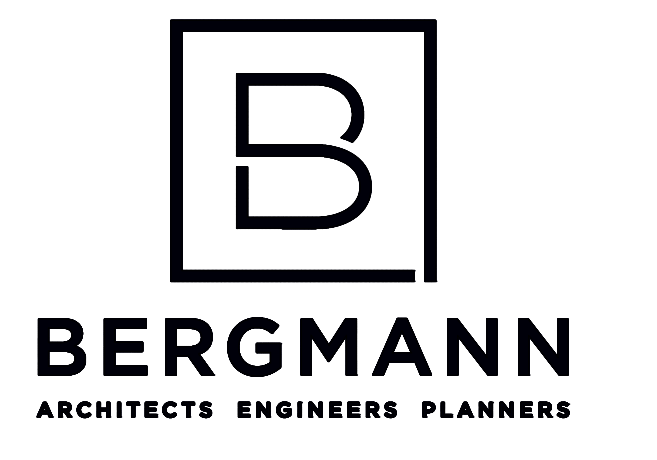
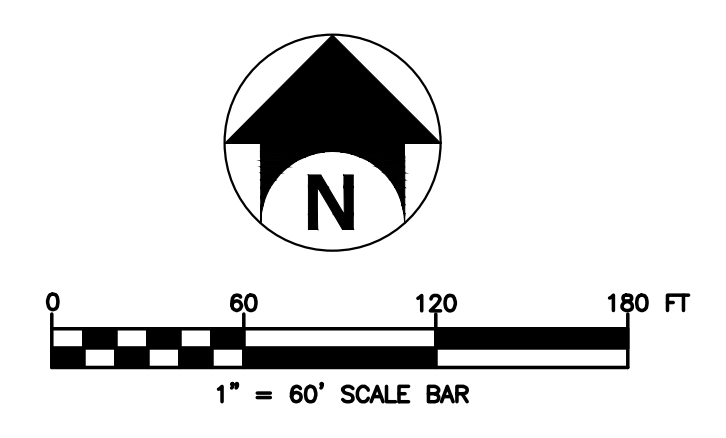


SITE PLAN DATA TABLE	
SITE IS LOCATED IN THE "OH" OUTSIDE HAMLET ZONING DISTRICT.	
PROPOSED USE: SOLAR ENERGY SYSTEM	
PARCEL 117.19-2-1.000	
TOWN OF CROWN POINT, COUNTY OF ESSEX	
STATE OF NEW YORK	
APPLICANT: YELLOW 4 LLC 125 WOLF ROAD, SUITE 312 COLONIE, NY 12205 (518) 390-4004	OWNER(S) OF RECORD: BURT BARBER
PLANS PREPARED BY: BERGMANN 2 WINNERS CIRCLE, SUITE 102 ALBANY, NY 12205 (518) 862-0325	

LEGEND	
	PROPOSED SOLAR PANEL
	PROPOSED PERIMETER FENCE
	PROPOSED UNDERGROUND ELECTRIC
	PROPOSED OVERHEAD ELECTRIC
	STREAM
	PROPOSED GRAVEL DRIVE
	PROPOSED LEASE AREA BOUNDARY
	PROPERTY LINE
	PROPOSED TREELINE
	EXISTING TREELINE
	100' WETLAND BUFFER
	EXISTING OVERHEAD ELECTRIC
	PALUSTRINE FORESTED WETLAND (PFO)
	PALUSTRINE UNCONSOLIDATED BOTTOM WETLAND (PUB)
	EXISTING UTILITY POLE
	PROPOSED UTILITY POLE

ARRAY INFORMATION	
CROWN POINT	
SYSTEM SIZE	1.51± MW-DC
MODULES	JINKO SOLAR, JK525-72HL4-TV (525W)

GARY C. TABOR  
BK 1115, PG 116  
PID 117.20-1-1.100



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Albany, NY 12205  
www.bergmannpc.com  
office: 518.862.0325

# YELLOW 10 LLC

## CROWN POINT SOLAR PROJECT

12 LAKE ROAD  
CROWN POINT, NY 12928

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Project Manager	Discipline Lead
Designer	Reviewer
Date Issued	Project Number
03/22/2021	14859.03

Sheet Name

### SITE PLAN

Drawing Number  
**C005**

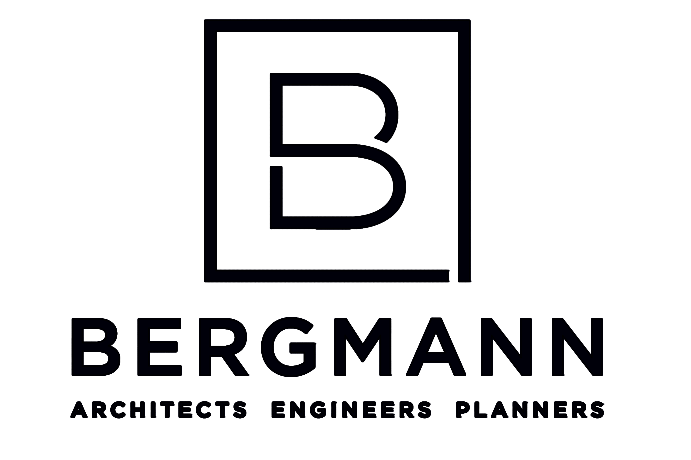
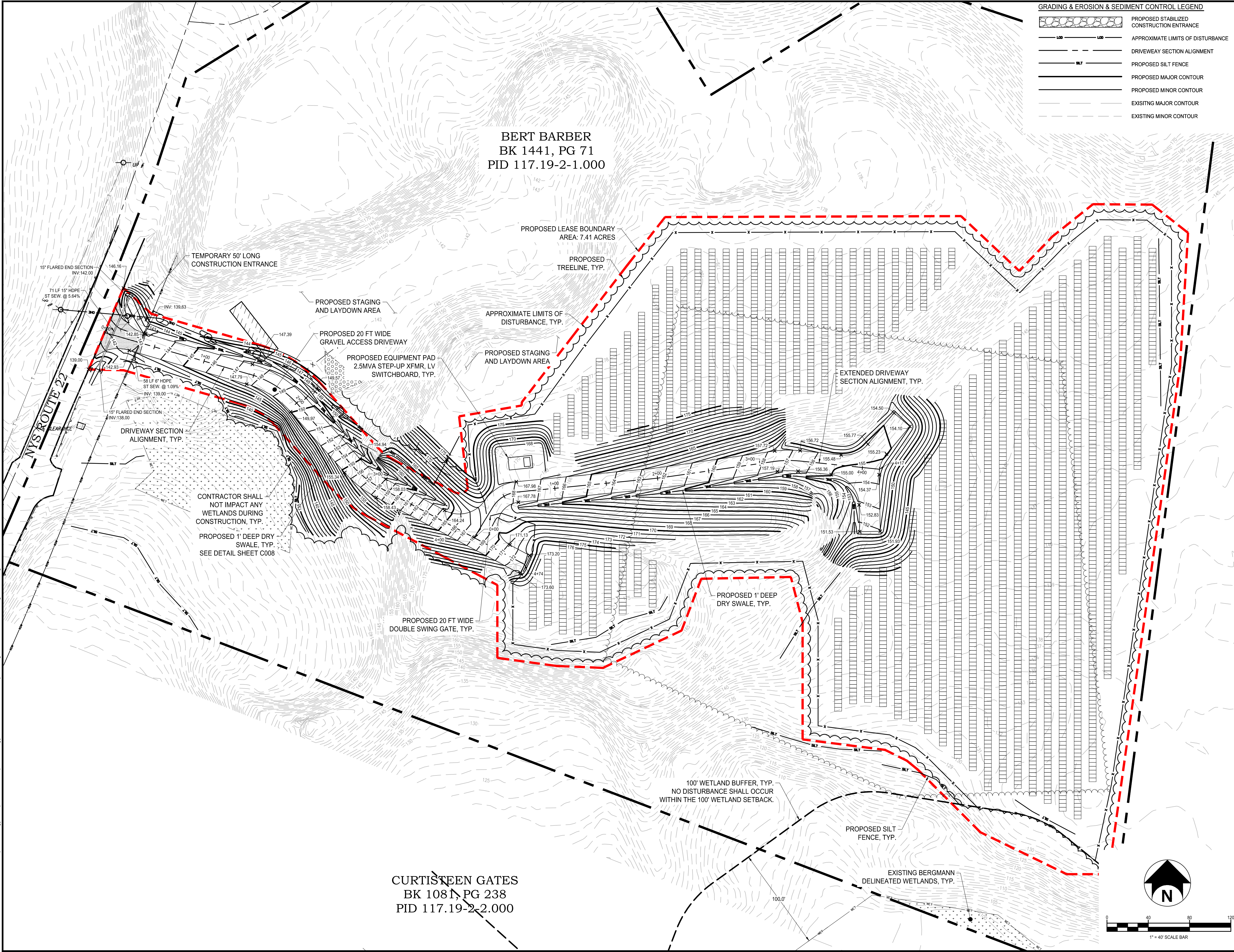


**GRADING & EROSION & SEDIMENT CONTROL LEGEND**

	PROPOSED STABILIZED CONSTRUCTION ENTRANCE
	APPROXIMATE LIMITS OF DISTURBANCE
	DRIVEWAY SECTION ALIGNMENT
	PROPOSED SILT FENCE
	PROPOSED MAJOR CONTOUR
	PROPOSED MINOR CONTOUR
	EXISTING MAJOR CONTOUR
	EXISTING MINOR CONTOUR

BERT BARBER  
BK 1441, PG 71  
PID 117.19-2-1.000

CURTISTEEN GATES  
BK 1081, PG 238  
PID 117.19-2-2.000



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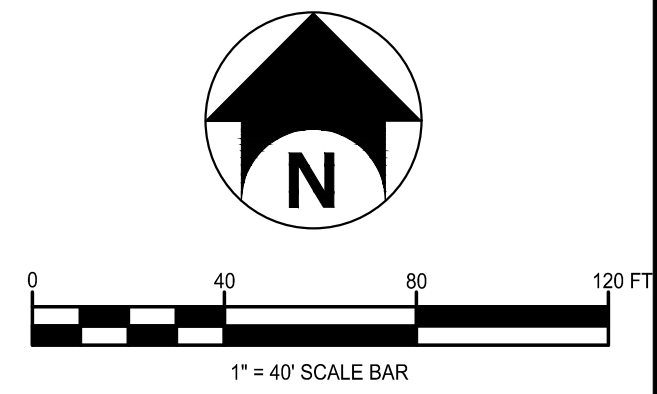


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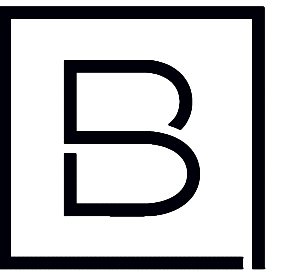
Project Manager	Discipline Lead
ECR	ECR
Designer	Reviewer
WD	ECR
Date Issued	Project Number
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**GRADING & EROSION CONTROL PLAN**

Sheet Name  
Drawing Number  
**C006**







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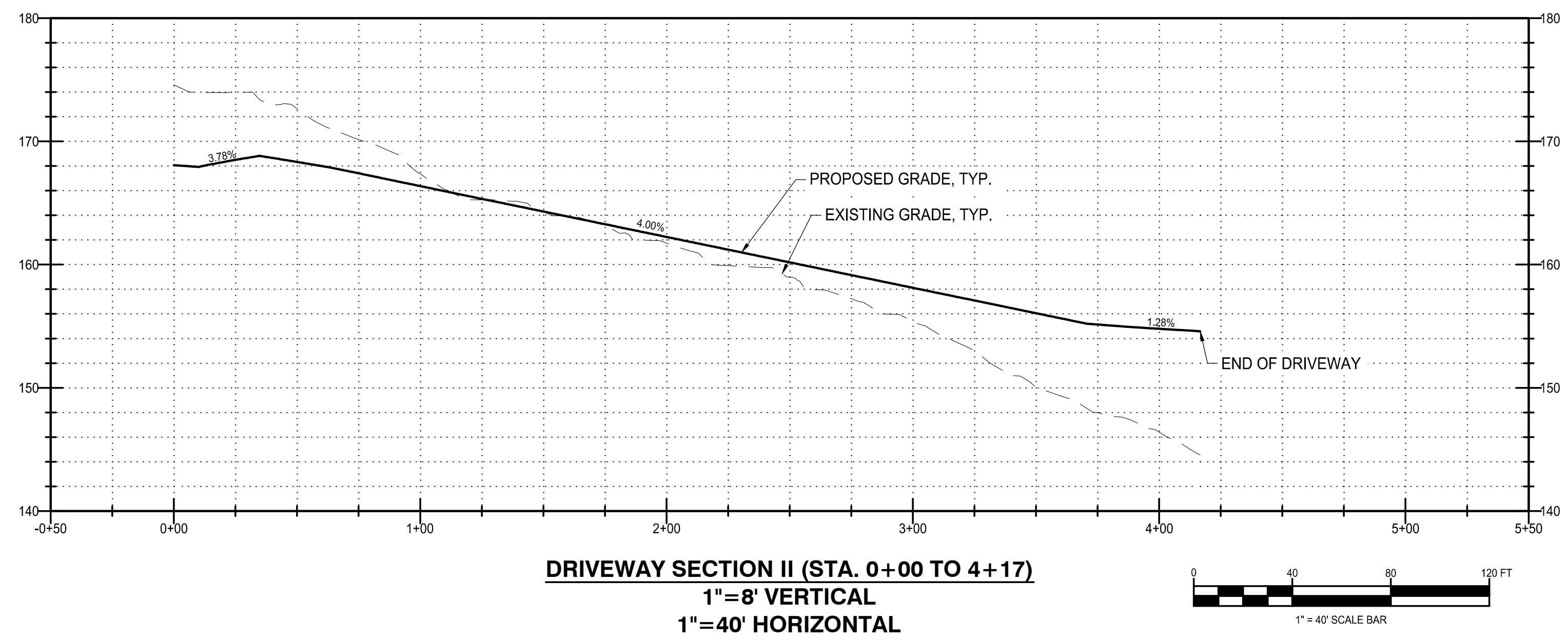
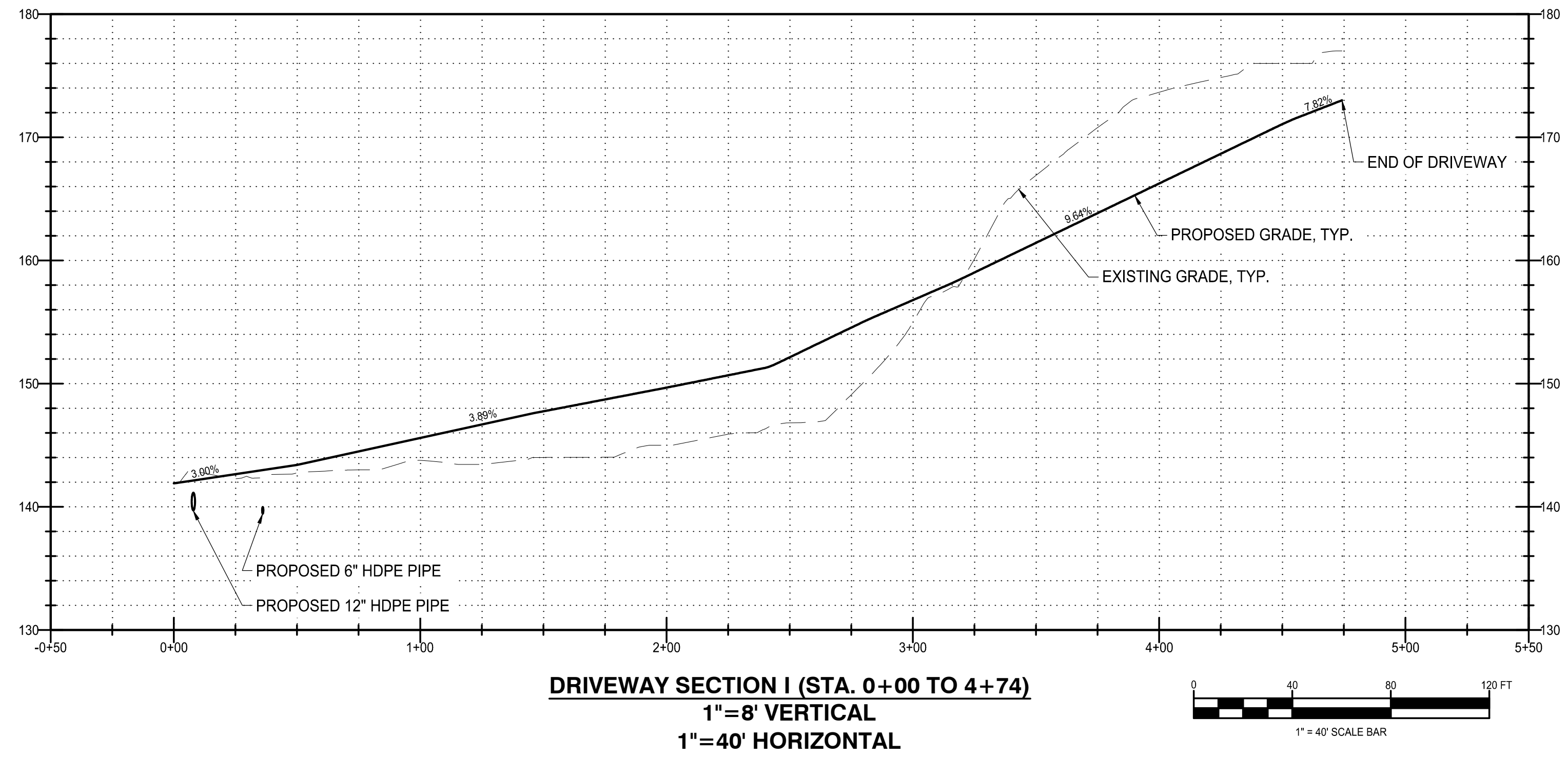
Project Manager	Discipline Lead
<b>ECR</b>	<b>ECR</b>
Designer	Reviewer
<b>WD</b>	<b>ECR</b>
Date Issued	Project Number
<b>03/22/2021</b>	<b>14859.03</b>

Sheet Name

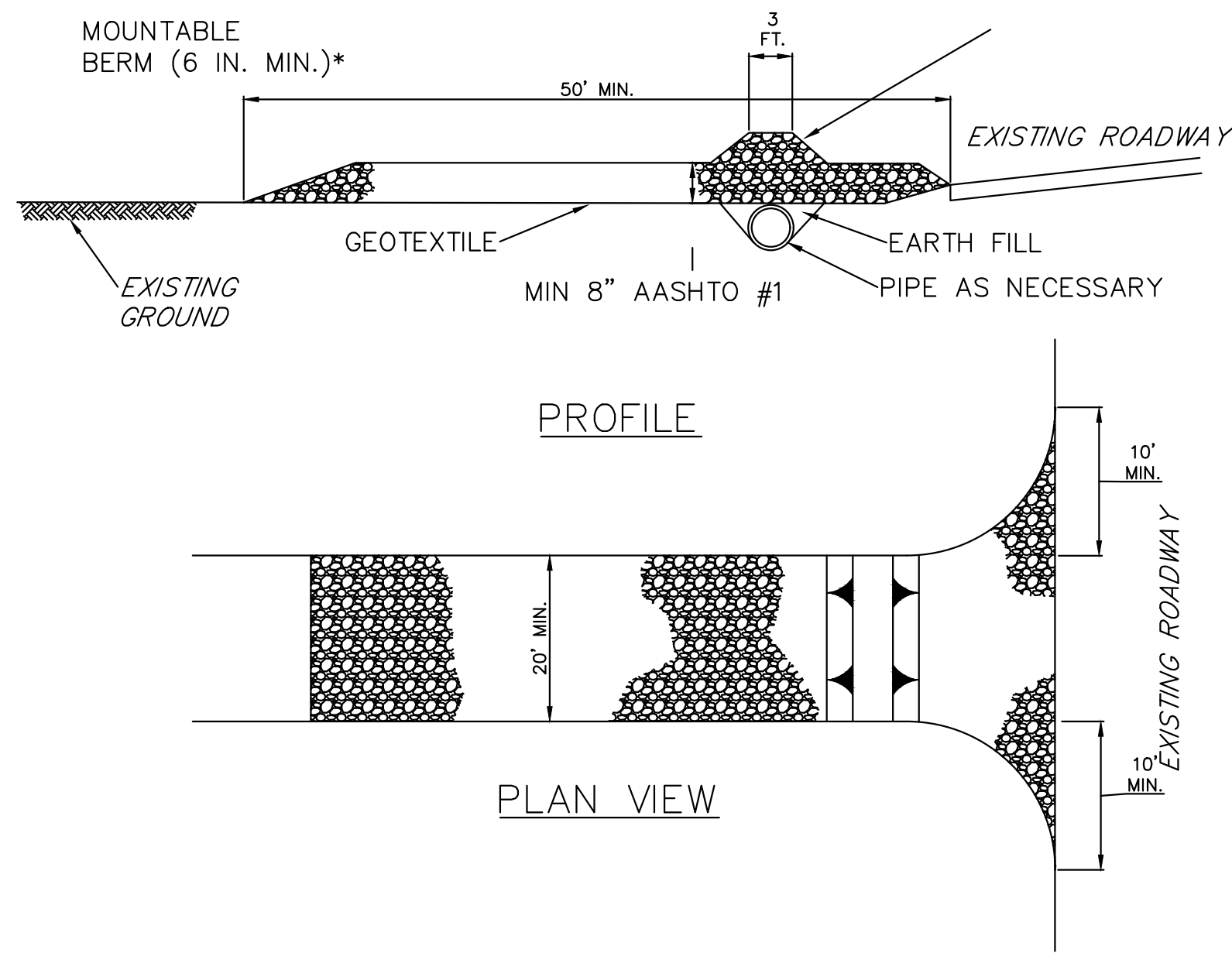
**GRADING PLAN DETAILS**

Drawing Number

**C007**







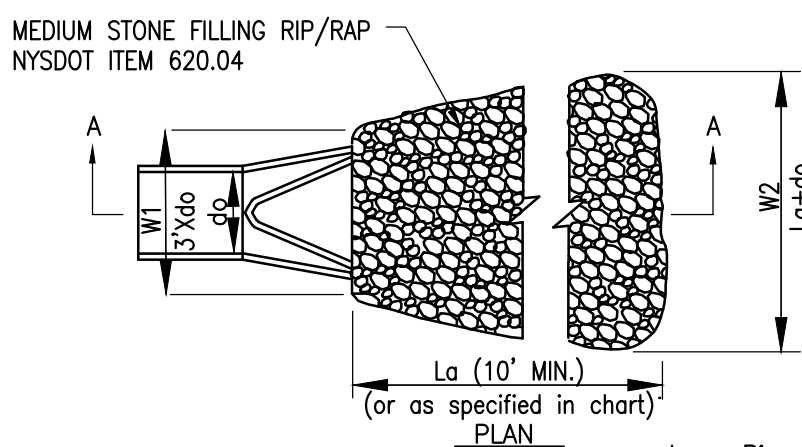
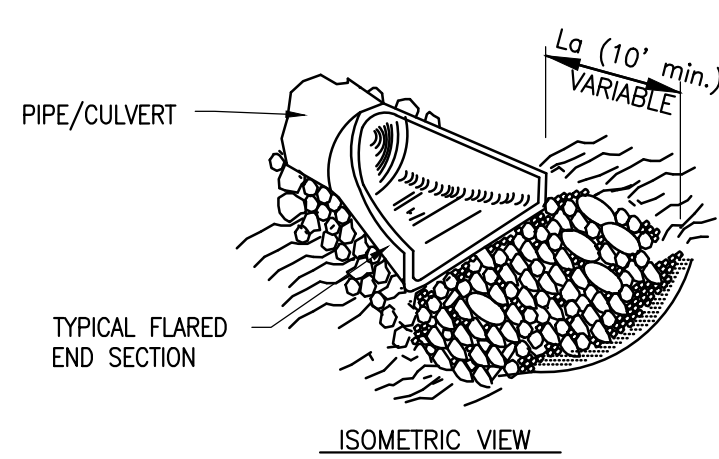
\* MOUNTABLE BERM USED TO PROVIDE PROPER COVER FOR PIPE

**NOTES:**

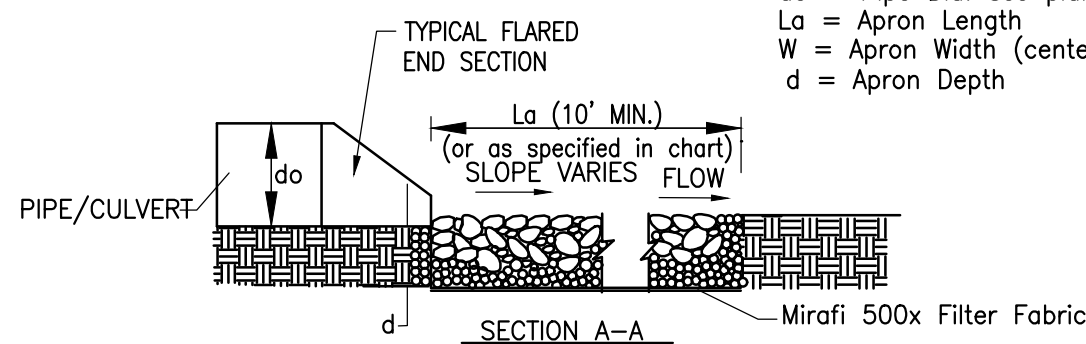
1. REMOVE TOPSOIL PRIOR TO INSTALLATION OF ROCK CONSTRUCTION ENTRANCE. EXTEND ROCK OVER FULL WIDTH OF ENTRANCE.
2. RUNOFF SHALL BE DIVERTED FROM ROADWAY TO A SUITABLE SEDIMENT REMOVAL BMP PRIOR TO ENTERING ROCK CONSTRUCTION ENTRANCE.
3. MOUNTABLE BERM SHALL BE INSTALLED WHEREVER OPTIONAL CULVERT PIPE IS USED AND PROPER PIPE COVER AS SPECIFIED BY MANUFACTURER IS NOT OTHERWISE PROVIDED. PIPE SHALL BE SIZED APPROPRIATELY FOR SIZE OF DITCH BEING CROSSED.
4. MAINTENANCE: ROCK CONSTRUCTION ENTRANCE THICKNESS SHALL BE CONSTANTLY MAINTAINED TO THE SPECIFIED DIMENSIONS BY ADDING ROCK. A STOCKPILE SHALL BE MAINTAINED ON SITE FOR THIS PURPOSE. ALL SEDIMENT DEPOSITED ON PAVED ROADWAYS SHALL BE REMOVED AND RETURNED TO THE CONSTRUCTION SITE IMMEDIATELY. IF EXCESSIVE AMOUNTS OF SEDIMENT ARE BEING DEPOSITED ON ROADWAY, EXTEND LENGTH OF ROCK CONSTRUCTION ENTRANCE BY 50 FOOT INCREMENTS UNTIL CONDITION IS ALLEVIATED OR INSTALL WASH RACK. WASHING THE ROADWAY OR SWEEPING THE DEPOSITS INTO ROADWAY DITCHES, SEWERS, CULVERTS, OR OTHER DRAINAGE COURSES IS NOT ACCEPTABLE.

**STABILIZED CONSTRUCTION ENTRANCE**

N.T.S.



do = Pipe Dia. see plans  
La = Apron Length  
W = Apron Width (centered on pipe)  
d = Apron Depth



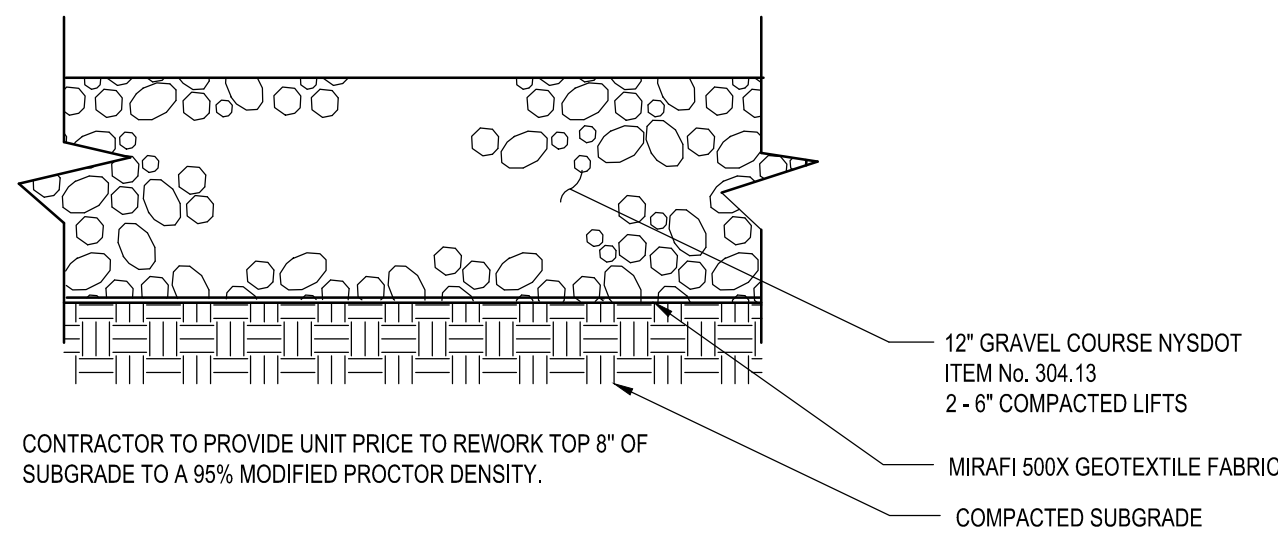
PIPE DIA.	W1-MINIMUM	W2-MINIMUM	La-MINIMUM	D-MINIMUM
12"	3'	15'	14'	13.5"
18"	4.5'	15.5'	14'	13.5"
24"	6'	15'	13'	13.5"

**NOTES:**

1. d = 1.5 TIMES THE MAXIMUM STONE DIAMETER BUT NO LESS THAN 6".
2. INSTALL FILTER MIRAFI 500X OR APPROVED EQUAL FILTER FABRIC BETWEEN RIP-RAP AND SUBGRADE.

**OUTLET PROTECTION RIP-RAP APRON**

N.T.S.

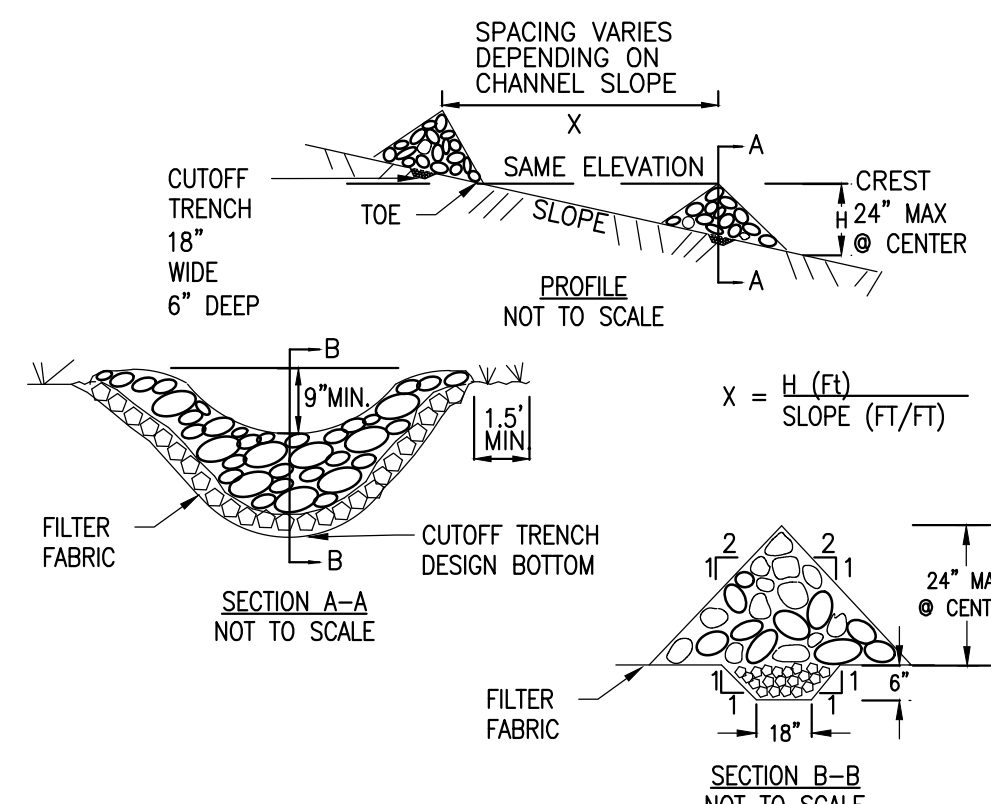


CONTRACTOR TO PROVIDE UNIT PRICE TO REWORK TOP 8\"/>

NOTE:  
ITEM 304.13 SHALL HAVE NO MORE THAN 7 PERCENT BY WEIGHT FINER THAN No. 200 SIEVE

**TYPICAL GRAVEL PAVEMENT SECTION**

N.T.S.

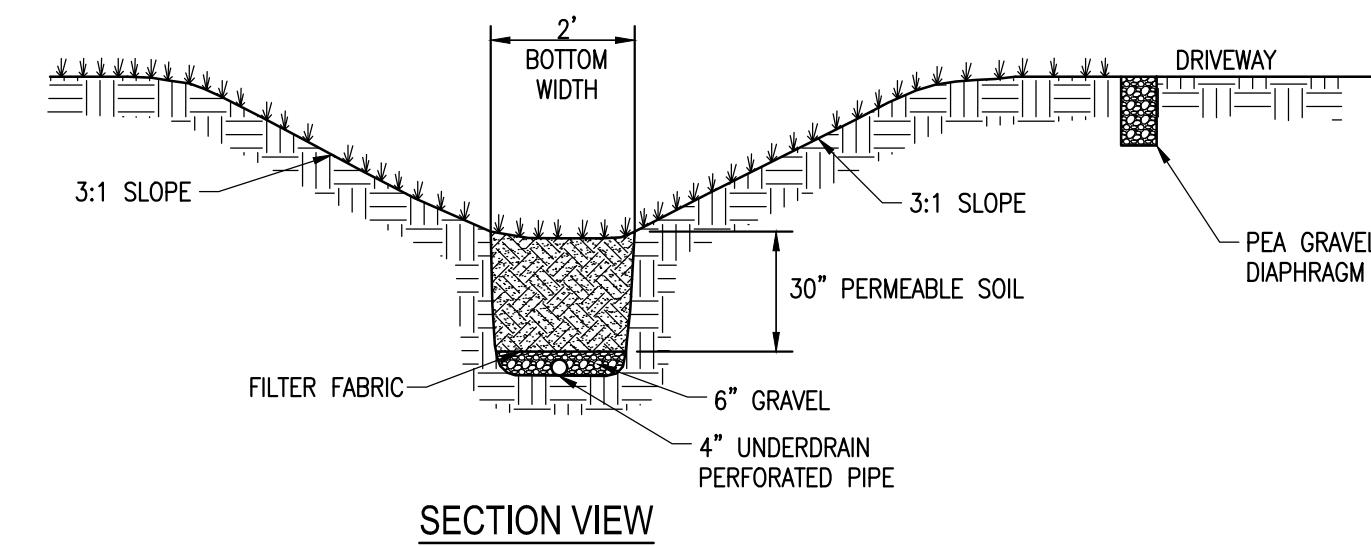


**CONSTRUCTION SPECIFICATIONS**

1. STONE WILL BE PLACED ON A FILTER FABRIC FOUNDATION TO THE LINES, GRADES AND LOCATIONS SHOWN IN THE PLAN.
2. SET SPACING OF CHECK DAMS TO ASSUME THAT THE ELEVATIONS OF THE CREST OF THE DOWNSTREAM DAM IS AT THE SAME ELEVATION OF THE TOE OF THE UPSTREAM DAM.
3. EXTEND THE STONE A MINIMUM OF 1.5 FEET BEYOND THE DITCH BANKS TO PREVENT CUTTING AROUND THE DAM.
4. PROTECT THE CHANNEL DOWNSTREAM OF THE LOWEST CHECK DAM FROM SCOUR AND EROSION WITH STONE OR LINER AS APPROPRIATE.
5. ENSURE THAT CHANNEL APPURTENANCES SUCH AS CULVERT ENTRANCES BELOW CHECK DAMS ARE NOT SUBJECT TO DAMAGE OR BLOCKAGE FROM DISPLACED STONE.
6. MAXIMUM DRAINAGE AREA 2 ACRES.

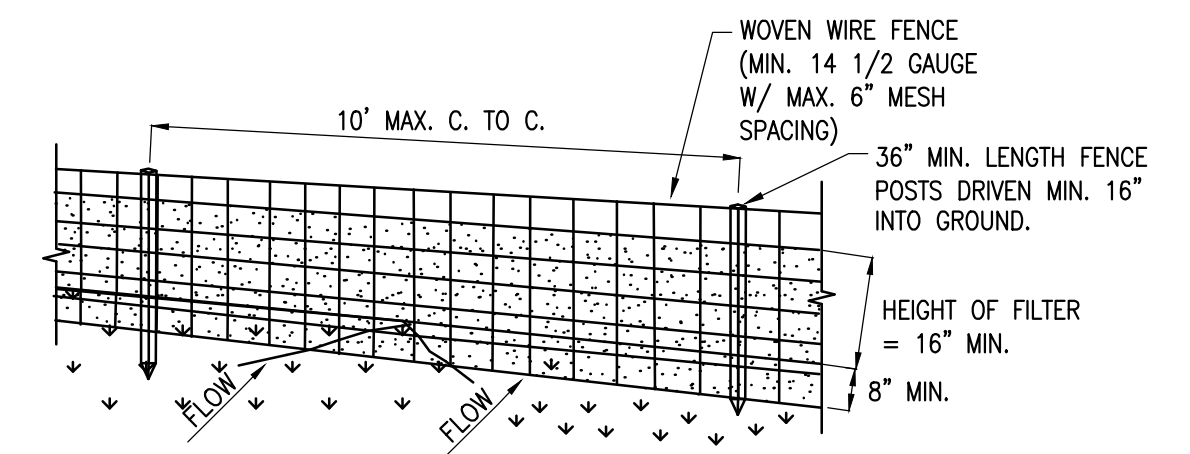
**LIGHT STONE CHECK DAM**

N.T.S.



**DRY SWALE DETAIL**

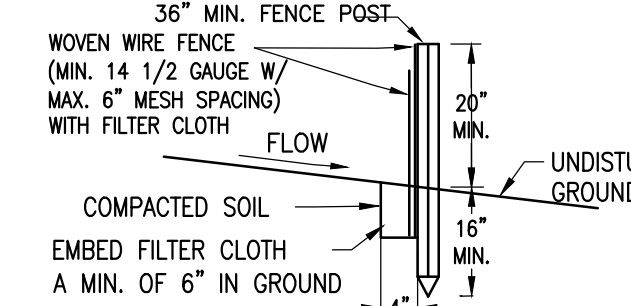
N.T.S.



**PERSPECTIVE VIEW**

**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 TO BE FASTENED SECURELY TO WOVEN WIRE FENCE WITH TIES SPACED EVERY 24" AT TOP AND MID SECTION. FENCE SHALL BE WOVEN WIRE, 12 1/2 GAUGE, 6" MAXIMUM MESH OPENING.
3. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER THEY SHALL BE OVERLAPPED BY SIX INCHES AND FOLDED. FILTER CLOTH SHALL BE EITHER FILTER X, MIRAFI 100X, STABILINKA T140N, OR APPROVED EQUIVALENT.
4. PREFABRICATED UNITS SHALL BE GEOFAB, ENVIROFENCE, OR APPROVED EQUIVALENT.
5. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL "BULGES" DEVELOP IN THE SILT FENCE.



**SECTION VIEW**

**SILT FENCE INSTALLATION DETAIL**

N.T.S.

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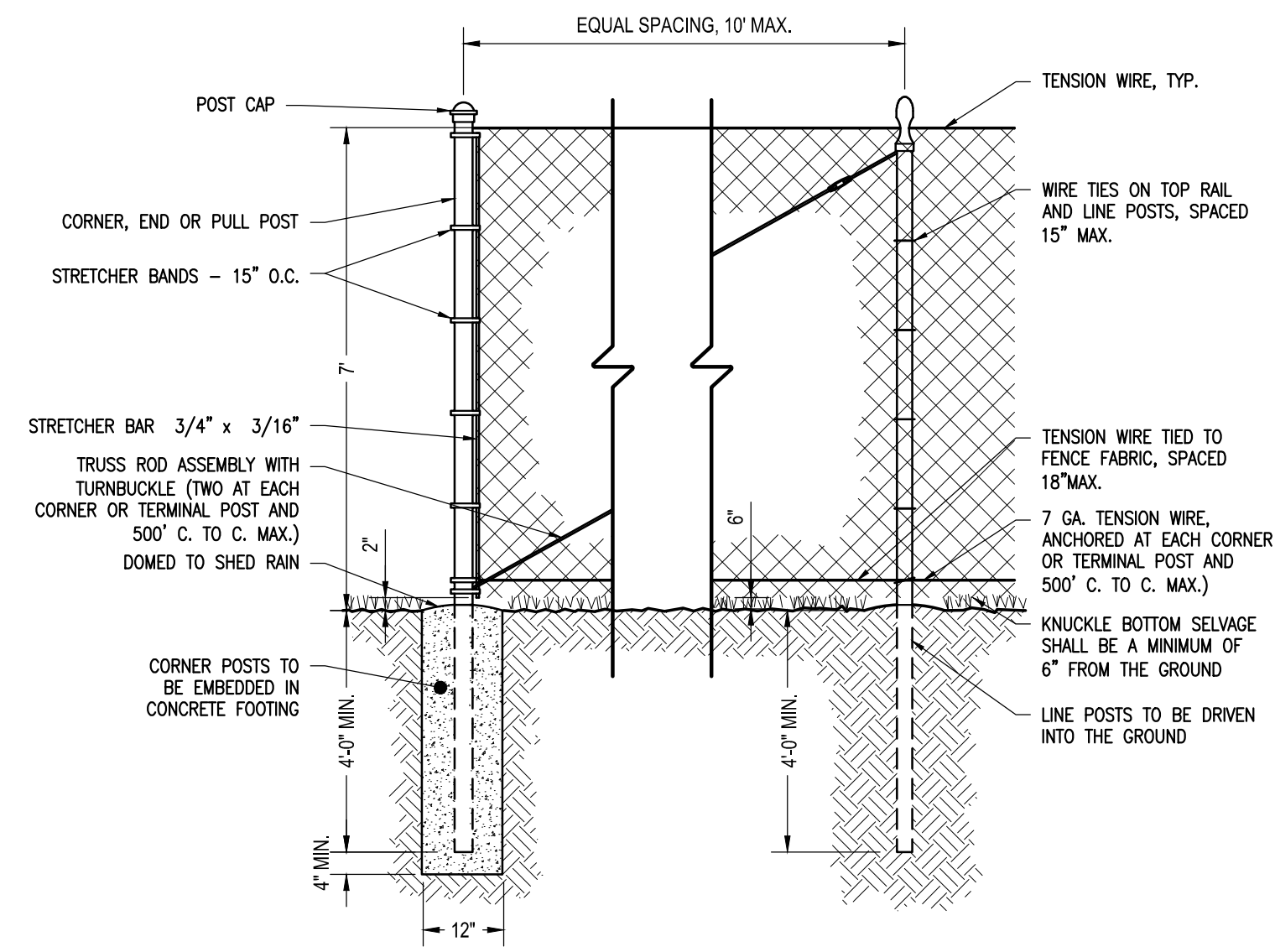
Sheet Name

**DETAILS I**

Drawing Number

**C008**

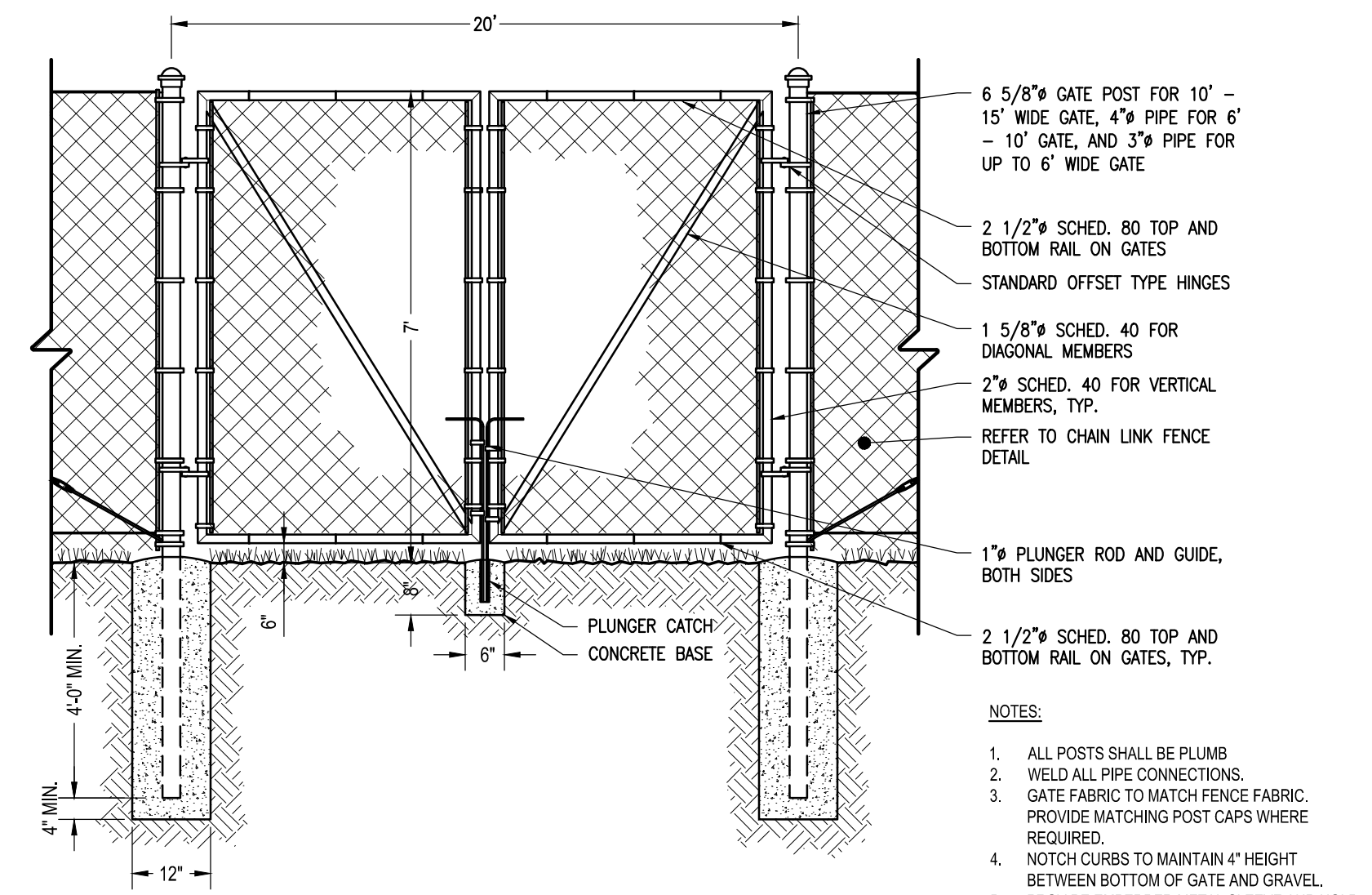




- NOTES:
1. ALL POSTS SHALL BE PLUMB
  2. WIRE TIES SHALL BE PLACED 15" ON CENTER ALONG TOP RAIL AND LINE POSTS.
  3. LINE POSTS SHALL BE DRIVEN INTO THE GROUND.
  4. CORNER POSTS SHALL BE EMBEDDED IN 12" DIAMETER CONCRETE FOOTING.
  5. THE KNUCKLE BOTTOM SELVAGE SHALL BE A MINIMUM OF 8" OFF THE GROUND SURFACE

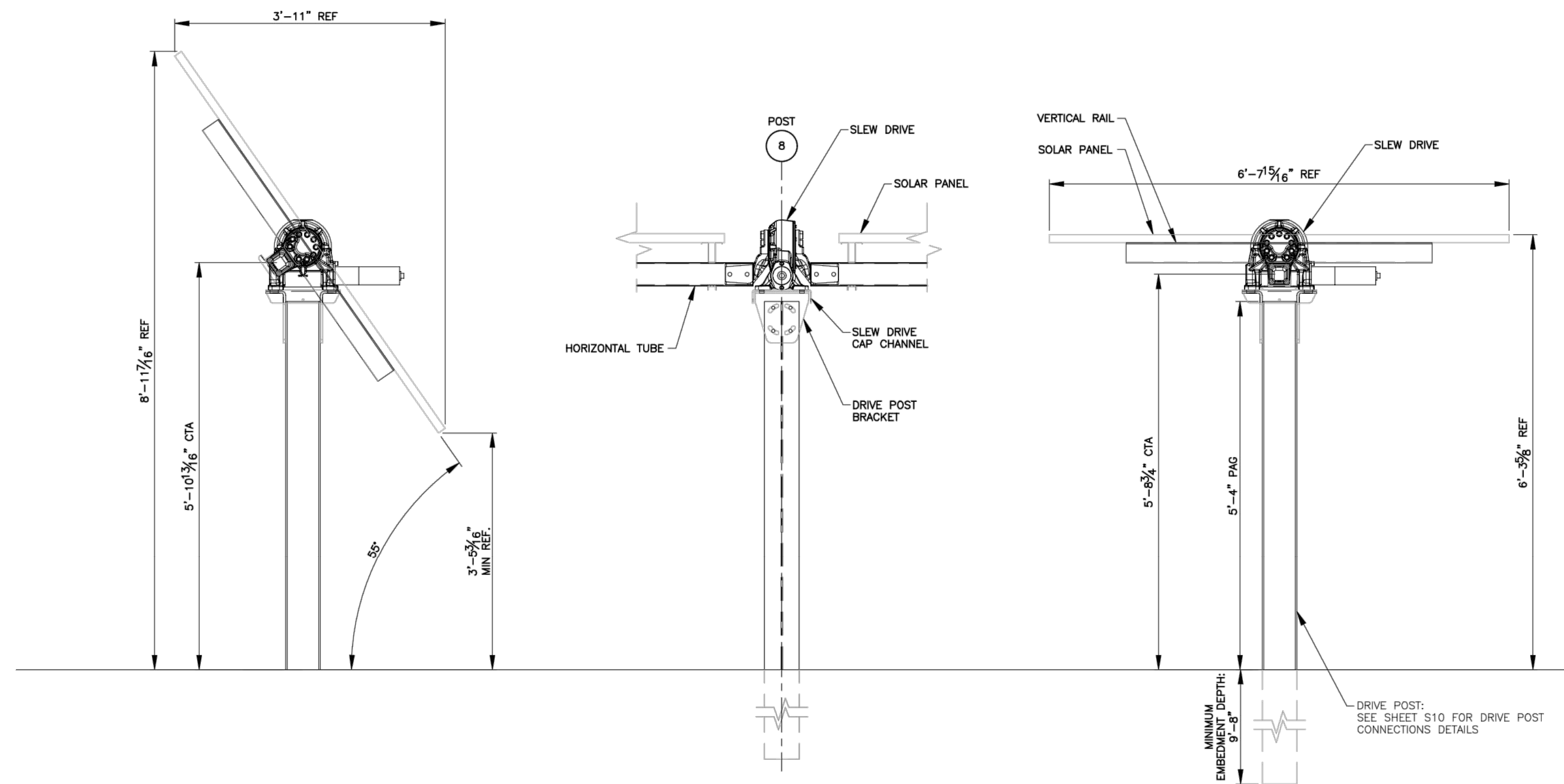
USE	NOM. OD.
LINE POSTS	2 1/2"
CORNER, END, GATE, & PULL POSTS	3"
RAILS	1.58"
GATE FRAMES	2"

**CHAIN-LINK FENCE DETAIL**  
N.T.S.

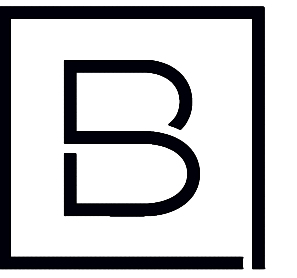


- NOTES:
1. ALL POSTS SHALL BE PLUMB
  2. WELD ALL PIPE CONNECTIONS.
  3. GATE FABRIC TO MATCH FENCE FABRIC. PROVIDE MATCHING POST CAPS WHERE REQUIRED.
  4. NOTCH CURBS TO MAINTAIN 4" HEIGHT BETWEEN BOTTOM OF GATE AND GRAVEL.
  5. PROVIDE EMBEDDED METAL SLEEVE AND HOLD OPEN FOR EACH LEAF OF GATE.
  6. CONTRACTOR SHALL INSTALL A KNOX BOX NEXT TO GATE FOR FIRE DEPARTMENT ACCESS

**CHAIN-LINK FENCE GATE DETAIL**  
N.T.S.



**SOLAR ARRAY DETAIL**  
N.T.S.



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<b>ECR</b>	<b>ECR</b>
Designer	Reviewer
<b>HB</b>	<b>ECR</b>
Date Issued	Project Number
<b>02/02/2021</b>	<b>14859.03</b>

Sheet Name

**DETAILS II**

Drawing Number

**C009**





**Ernst Conservation Seeds**  
 8884 Mercer Pike  
 Meadville, PA 16335  
 (800) 873-3321 Fax (814) 336-5191  
[www.ernstseed.com](http://www.ernstseed.com)

Date: July 27, 2021

**Ernst Native/Naturalized Solar Farm Seed Mix - ERNMX-186-1**

Botanical Name	Common Name	Price/lb
34.00 % <i>Festuca rubra</i>	Creeping Red Fescue	3.30
33.00 % <i>Festuca ovina</i> , Variety Not Stated	Sheep Fescue, Variety Not Stated	4.08
10.00 % <i>Festuca brevipila</i> , 'Beacon'	Hard Fescue, 'Beacon'	3.84
5.00 % <i>Festuca ovina</i> var. <i>duriuscula</i> , <i>Gladiator</i>	Hard Fescue, <i>Gladiator</i>	3.84
5.00 % <i>Festuca ovina</i> var. <i>glauca</i> , <i>Azure</i>	Blue Fescue, <i>Azure</i>	4.50
5.00 % <i>Poa pratensis</i> , 'Selway'	Kentucky Bluegrass, 'Selway'	3.36
5.00 % <i>Poa pratensis</i> , <i>Appalachian</i>	Kentucky Bluegrass, <i>Appalachian</i>	3.36
3.00 % <i>Agrostis perennans</i> , <i>Albany Pine Bush-NY Ecotype</i>	Autumn Bentgrass, <i>Albany Pine Bush-NY Ecotype</i>	16.80

**100.00 %** **Mix Price/lb Bulk: \$4.11**

**Seeding Rate:** 6 lb per 1,000 sq ft  
 Lawn & Turfgrass Sites; Solar Sites

Provide a 2' clearance between the ground and the solar panels. Mix formulations are subject to change without notice depending on the availability of existing and new products. While the formula may change, the guiding philosophy and function of the mix will not.

SITE STABILIZATION - SEED MIX  
 N.T.S.

SOIL AMENDMENT APPLICATION RATE EQUIVALENTS					
SOIL AMENDMENT	PER ACRE	PER 1,000 SQ. FT.	PER 1,000 SQ. YD.	NOTES	
PERMANENT SEEDING	AGRICULTURAL LIME	6 TONS	240 LB.	2,480 LB.	OR AS PER SOIL TEST: MAY NOT BE REQUIRED IN AGRICULTURAL FIELDS
	10-10-20 FERTILIZER	1,000 L.B.	25 LB.	210 LB.	
TEMPORARY SEEDING	AGRICULTURAL LIME	1 TON	40 LB.	410 LB.	TYPICALLY NOT REQUIRED FOR TOPSOIL STOCKPILES
	10-10-20 FERTILIZER	500 LB.	12.5 LB.	100 LB.	
COMPOST STANDARDS					
ORGANIC MATTER CONTENT		80% - 100% (DRY WEIGHT BASIS)			
ORGANIC PORTION		FIBROUS AND ELONGATED			
pH		5.5 - 8.0			
MOISTURE CONTENT		35% - 55%			
PARTICLE SIZE		98% PASS THROUGH 1" SCREEN			
SOLUBLE SALT CONCENTRATION		5.0 dS/m (mmhos/cm) MAXIMUM			
MULCH APPLICATION RATES					
MULCH TYPE	APPLICATION RATE (MIN.)			NOTES	
	PER ACRE	PER 1,000 SQ. FT.	PER 1,000 SQ. YD.		
STRAW	3 TONS	140 LB.	1,240 LB.	EITHER WHEAT OR OAT STRAW, FREE OF WEEDS, NOT CHOPPED OR FINELY BROKEN	
HAY	3 TONS	140 LB.	1,240 LB.	TIMOTHY, MIXED CLOVER AND TIMOTHY, OR OTHER NATIVE FORAGE GRASSES	
WOOD CELLULOSE	1,500 LB.	35 LB.	310 LB.	DO NOT USE ALONE IN WINTER, DURING HOT AND DRY WEATHER OR ON STEEP SLOPES (> 3:1)	
WOOD	1,000 LB. CELLULOSE	25 LB.	210 LB.	WHEN USED OVER STRAW OR HAY	
WOOD CHIPS	4 - 6 TONS	185 - 275 LB.	1,650 - 2,500 LB.	MAY PREVENT GERMINATION OF GRASSES AND LEGUMES	

NOTES:

- WHEN FINAL GRADE IS ACHIEVED DURING NON-GERMINATING MONTHS, THE AREA SHOULD BE TEMPORARILY STABILIZED UNTIL THE BEGINNING OF THE NEXT PLANTING SEASON.
- MULCHES SHOULD BE APPLIED AT THE RATES SHOWN IN THE MULCH APPLICATION RATES TABLE. VERY LITTLE BARE GROUND SHOULD BE VISIBLE THROUGH THE MULCH.
- STRAW AND HAY MULCH SHOULD BE ANCHORED OR TACKIFIED IMMEDIATELY AFTER APPLICATION TO PREVENT BEING WINDBLOWN.
- TOPSOIL SHOULD BE UNIFORMLY DISTRIBUTED ACROSS THE DISTURBED AREA TO A DEPTH OF 4 INCHES MINIMUM. SPREADING SHOULD BE DONE IN SUCH A MANNER THAT SEEDING CAN PROCEED WITH A MINIMUM OF ADDITIONAL PREPARATION OR TILLAGE.
- TOPSOIL SHOULD NOT BE PLACED WHILE THE TOPSOIL OF SUBSOIL IS IN A FROZEN OR MUDDY CONDITION, WHEN THE SUBSOIL IS EXCESSIVELY WET, OR IN A CONDITION THAT MAY OTHERWISE BE DETRIMENTAL TO PROPER GRADING AND SEEDBED PREPARATION.
- WHEN USED AS A MULCH REPLACEMENT, THE APPLICATION RATE (THICKNESS) OF THE COMPOST SHOULD BE 1/2" TO 3/4". COMPOST SHOULD BE PLACED EVENLY AND SHOULD PROVIDE 100% SOIL COVERAGE. NO SOIL SHOULD BE VISIBLE.
- BLANKETING SHALL BE USED ON ALL SLOPES 3H:1V OR STEEPER OR AS NOTED ON THE PLANS.
- PERMANENT STABILIZATION SHALL BE INSTALLED IMMEDIATELY UPON COMPLETION OF EARTH DISTURBANCE.



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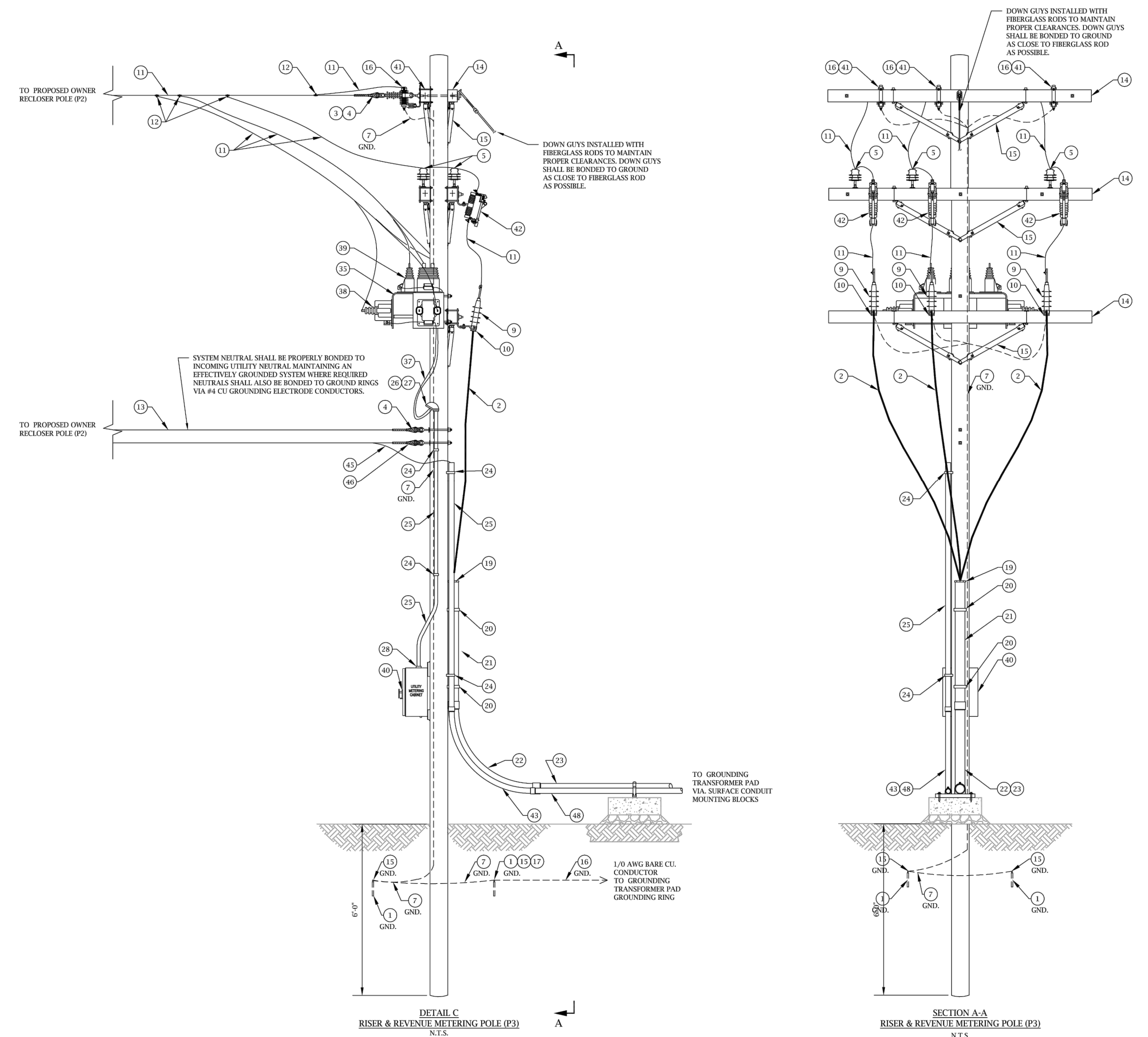
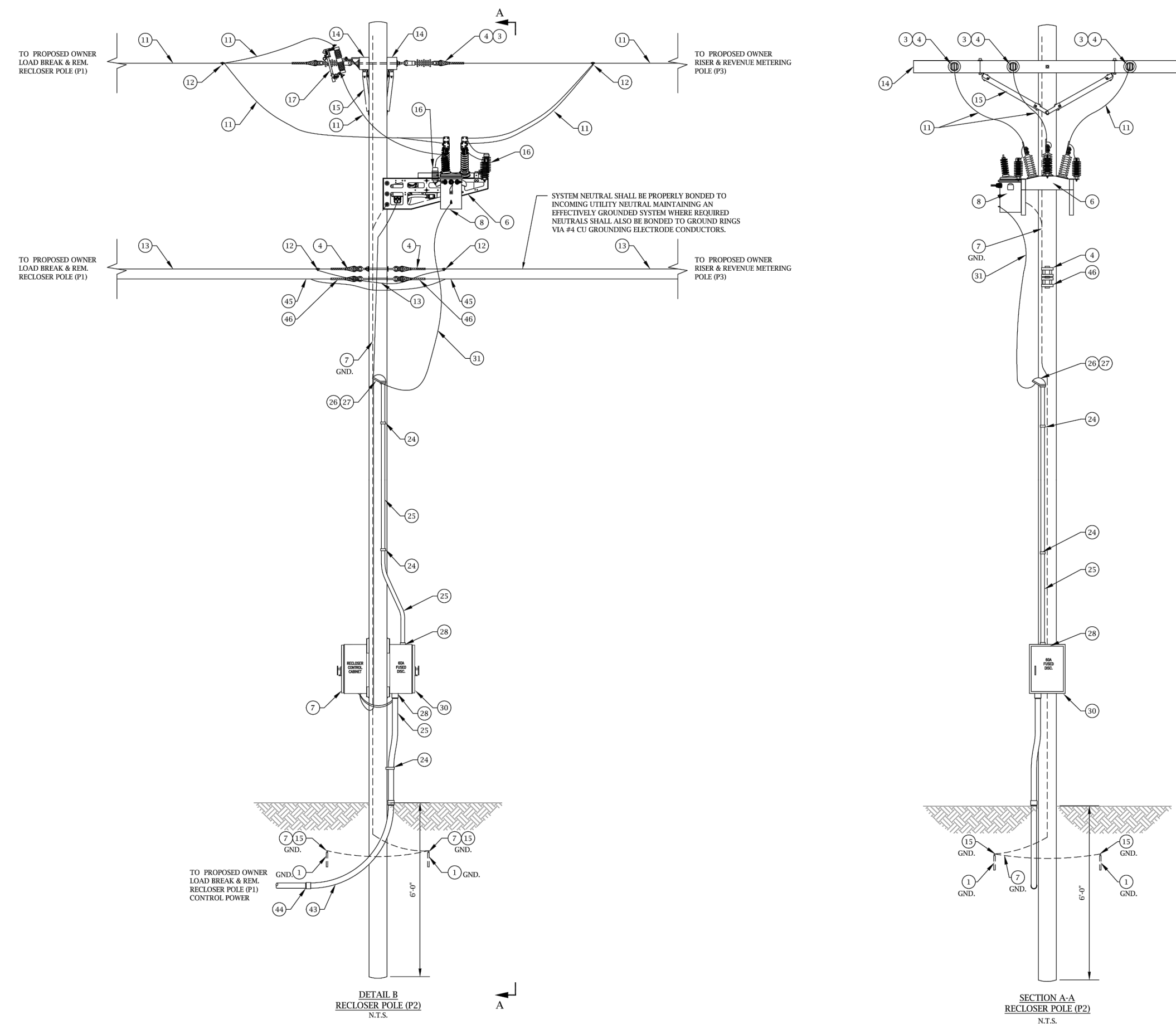
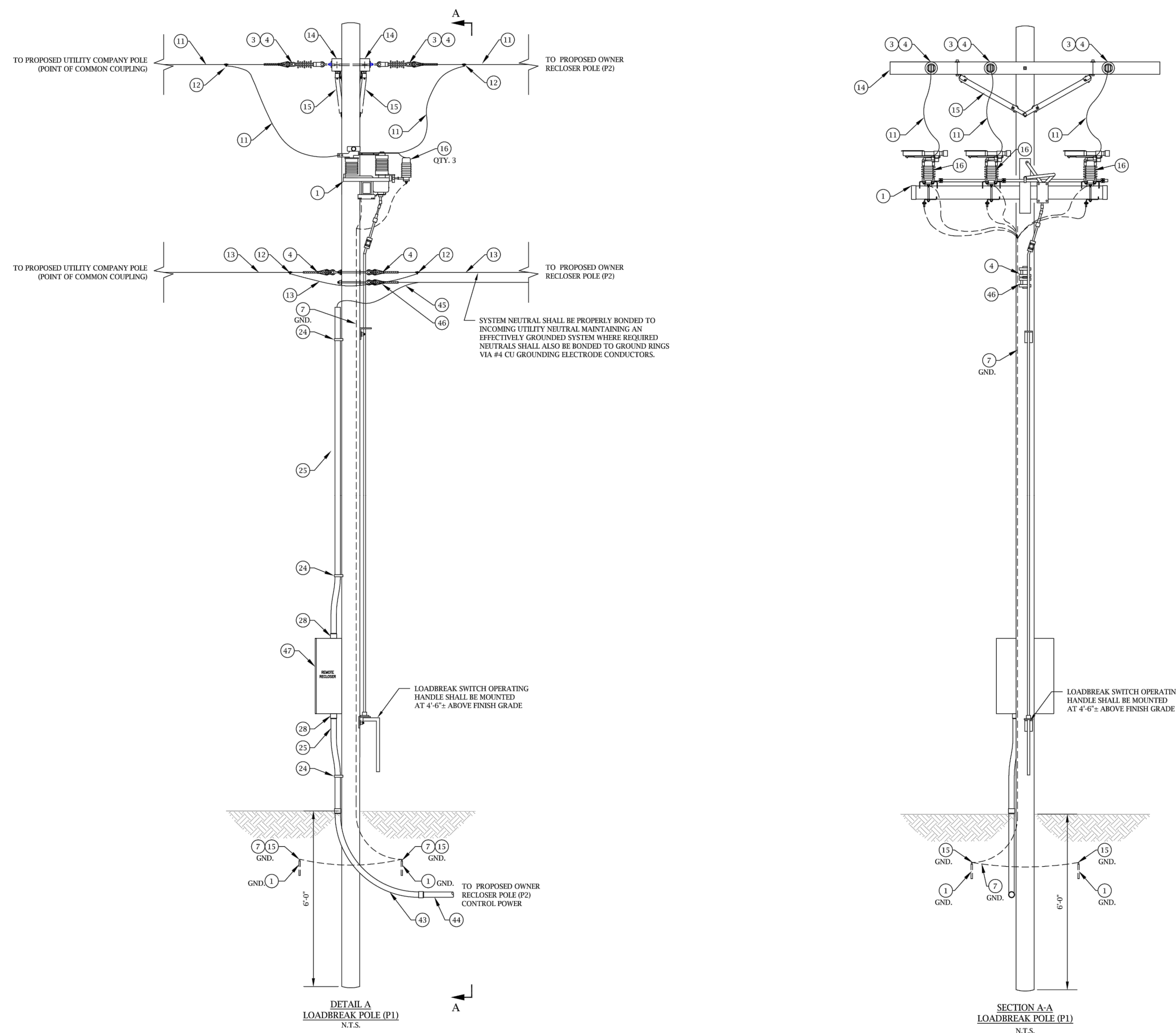
Sheet Name

**DETAILS III**

Drawing Number

**C010**





POLE SCHEDULE				
POLE NO.	POLE DETAIL	HEIGHT	CLASS	DESCRIPTION
P1	A	45'	2	LOADBREAK & REM. RECIOSER POLE
P2	B	45'	2	RECIOSER POLE
P3	C	45'	2	RISER & REVENUE METERING POLE

POLE LINE MATERIAL LIST				
ITEM NO.	MANUFACTURER	CATALOGUE NO.	DESCRIPTION	NOTES
1	COOPER	M1H11TR2BHRV	15.5KV 900A GANG OPERATED DISCONNECT SWITCH WITH MANUAL OPERATOR	17
2	KRONITE	141-23-5081	15KV 13.9% #4/0 AWG CU JACKETED FULL NEUTRAL CABLE	
3	HENDRIX	DENS-15	15KV DEADEND INSULATOR	
4	HENDRIX	CG-0119	PRE-FORM DEADEND GRIP	
5	HENDRIX	HP-15	TIE TOP PIN INSULATOR	
6	TAVRIDA	OSM25-AL2030_ISO_S	3 PHASE 15KV, 630A, 150KV BL. TAVRIDA RECIOSER	7
7	---	---	3 PH. 15KV, 800A, RECIOSER CONTROL CABINET W/ SEL-651R	
8	---	---	1 PH. 2KVA WPMR, 7620V TO 120V	
9	3M	7654-S-4	15KV - #4/0 AWG OUTDOOR TERM. W/ SC9092 CONN.	
10	3M	MB-4	CABLE SUPPORT MOUNTING BRACKET	
11	HENDRIX	---	15KV #4/0 AL COVERED CONDUCTOR	
12	BLACKBURN	PA12	#4/0 AWG PAR. GROOVE CONNECTOR	
13	HENDRIX	---	ALUMA WELD ALUMINUM NEUTRAL CONDUCTOR OR #4/0 AL	
14	HUGHES BROS.	---	3 1/2" x 4 1/2" X 8" WOODEN CROSSARM	
15	HUGHES BROS.	---	2" FLAT STEEL CROSSARM BRACE	
16	OHIO BRASS	PDV-65 OPTIMA	10KV - 8.4KV MCOV DISTRIBUTION CLASS ARRESTER	15
17	S & C	89031810	15KV, 100A FUSED CUTOUTS	
18	N/A	N/A	NOT APPLICABLE	
19	CROUSE HINDS	---	4" BONDING BUSHING	
20	CROUSE HINDS	---	4" CONDUIT CLAMP	
21	WHEATLAND TUBE	---	4" RIGID STEEL CONDUIT	
22	WHEATLAND TUBE	---	4" RIGID STEEL CONDUIT 90° BEND W/ 3/8" RAD	
23	---	---	4" FIBER CONDUIT	
24	CROUSE HINDS	---	2" CONDUIT CLAMP	
25	WHEATLAND TUBE	---	2" RIGID STEEL CONDUIT	
26	---	---	2" WEATHERHEAD	
27	CROUSE HINDS	---	2" BONDING BUSHING	
28	EATON	HRB6	2" RGS THREADED CONDUIT HUB	
29	N/A	N/A	NOT APPLICABLE	
30	---	---	FUSED DISTRIBUTION PANEL, NEMA 3R	
31	---	---	3/C#10 CU CONTROL POWER CABLE (SUNLIGHT RESISTANT)	
32	N/A	N/A	NOT APPLICABLE	
33	N/A	N/A	NOT APPLICABLE	
34	N/A	N/A	NOT APPLICABLE	
35	ALUMA - FORM	PRM-6	POLE CLUSTER MOUNT - FOR PRIMARY METERING - (3) C.T.'S & (3) P.T.'S	
36	N/A	N/A	NOT APPLICABLE	
37	---	---	METERING CABLE (BY UTILITY)	
38	---	---	METERING C.T. (BY UTILITY)	
39	---	---	METERING P.T. (BY UTILITY)	
40	---	---	METERING CABINET (BY UTILITY)	
41	OHIO BRASS	724	7224 MOUNTING HARDWARE FOR PDV-65 OPTIMA ARRESTER (ITEM 16)	
42	CHANCE / HIRIBELL	CP710133PB	15KV, 300A SOLID RADE DISCONNECT	19
43	WHEATLAND TUBE	---	2" RIGID CONDUIT 90° SWEEP, 3/8" RAD.	
44	---	---	2" PVC CONDUIT - SCHEDULE 40	
45	---	---	DIELECTRIC FIBER OPTIC CABLE	
46	---	---	PRE-FORM DEADEND GRIP FOR FIBER OPTIC CABLE	
47	INACCISS	MSSU-F-16-AD-0-2-0-ED	REMOTE RECIOSER COMMUNICATION MODULE	
48	---	---	2" FIBER CONDUIT	

- GENERAL NOTES:**
- UTILITY'S POLES ARE SHOWN AS CONCEPTUAL AND ARE FOR DIAGRAMMATIC PURPOSES ONLY. ACTUAL EQUIPMENT AND CONFIGURATION WILL BE DETERMINED BY THE UTILITY.
  - MANUFACTURER AND CATALOG NUMBERS ARE FOR REFERENCE ONLY. ENGINEER APPROVED EQUALS WILL BE ACCEPTED.
  - CONTRACTOR SHALL FURNISH AND INSTALL ALL MISC. CONNECTORS TO PROVIDE A COMPLETE AND OPERABLE SYSTEM.
  - CONTRACTOR SHALL PROVIDE ALL POLE LINE AND MISC. HARDWARE FOR INSTALLING EQUIPMENT. ALL POLE LINE HARDWARE SHALL BE RATED FOR 10K LBS MINIMUM.
  - ALL EQUIPMENT AND MATERIALS SHALL BE LISTED FOR THE PURPOSE AND INSTALLED IN ACCORDANCE WITH THE CURRENT VERSION OF THE NEW YORK ELECTRICAL CODE AND NATIONAL ELECTRIC SAFETY CODE.
  - RECIOSER MANUFACTURER SHALL PROVIDE SINGLE PHASE 2KVA CONTROL POWER TRANSFORMER (7620V/120V) ON CIRCUIT RECIOSER ASSEMBLY FOR CONTROL POWER. TRANSFORMER SHALL BE EQUIPPED WITH SURGE ARRESTOR.
  - RECIOSER SHALL BE A TAVRIDA RECIOSER WITH AN SEL-651R CONTROLLER AND BE EQUIPPED WITH THREE (3) 600:1 CURRENT TRANSFORMERS THAT ARE NOT IN SERVICE AND SIX (6) LOW ENERGY VOLTAGE SENSING DEVICES ON LINE/UTILITY AND LOAD SIDE. LOW ENERGY VOLTAGE SENSORS SHALL BE CAPABLE OF MEETING INDUSTRY STANDARDS FOR RELAYING ACCURACY.
  - CONTRACTOR SHALL BE RESPONSIBLE FOR FURNISHING AND INSTALLING ALL NECESSARY MATERIAL, HARDWARE, EQUIPMENT ETC. COMMON WITHIN THE INDUSTRY TO PROVIDE THE CUSTOMER WITH A COMPLETE AND OPERABLE SYSTEM AS INTENDED BY THESE CONTRACT DOCUMENTS.
  - CONTRACTOR SHALL LEAVE 50 FEET OF COILED CONDUCTOR PER PHASE FOR UTILITY CONNECTION.
  - CONTRACTOR SHALL INSTALL AND MAKE ALL ELECTRICAL AND COMMUNICATION CONNECTIONS AS SHOWN ON THESE CONTRACT DOCUMENTS.
  - ALL CONDUIT RISERS SHALL BE RIGID STEEL CONDUIT AND EXTEND ABOVE GRADE A MINIMUM OF 8 FEET. EXPOSED CONDUIT SEALS SHALL BE SEALED TO PREVENT INGRESS OF MOISTURE.
  - ALL UTILITY POLES SHALL CONFORM TO ANSI O.S.1, AWPA C4, ANSI C2 AND ANY OTHER APPLICABLE CODES AND STANDARDS.
  - ALL DOWN GUY'S SHALL BE 3/8" STEEL MINIMUM. ANCHORS SHALL BE GALVANIZED SQUARE SHAFI HELICAL WITH A MINIMUM DIAMETER OF 8 INCHES. INSTALLATION OF HELICAL ANCHORS SHALL BE BY EITHER ELECTRICAL OR HYDRAULIC ROTARY TYPE TORQUE MOTOR.
  - ALL WORK SHALL BE INSTALLED IN A NEAT AND WORKMAN LIKE MANNER AND IN ACCORDANCE WITH THE CURRENT VERSION OF THE NEC AND ALL LOCAL APPLICABLE CODES AND STANDARDS.
  - LIGHTNING ARRESTERS INSTALLED ON RISER POLES SHALL BE RATED FOR RISER INSTALLATIONS.
  - ALL CONDUCTOR CLEARANCES SHALL COMPLY WITH NEC AND NESC REQUIREMENTS.
  - CONTRACTOR SHALL ALIGN AND ADJUST THE GANG OPERATED DISCONNECT SWITCH AS NEEDED TO ENSURE THAT THE SWITCH OPERATES PER THE MANUFACTURERS INSTALLATION AND OPERATION INSTRUCTIONS.
  - RECIOSER AND GANG OPERATED DISCONNECT SWITCH SHALL BE OPENED AND LOCKED OUT PRIOR TO ANY WORK INVOLVING EXPOSED ELECTRICAL CIRCUIT PARTS.
  - ALL SINGLE PHASE DISCONNECTS SHALL BE LEFT CLOSED UNTIL THE GANG OPERATED DISCONNECT SWITCH AND RECIOSER HAVE BEEN OPENED AND LOCKED OUT.



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**YELLOW 10 LLC**

**CROWN POINT SOLAR PROJECT**

12 LAKE ROAD  
CROWN POINT, NY 12928

Date Revised	Description
6/15/2021	UPDATED PER APA COMMENTS
10/05/2021	UPDATED PER APA & NYS DOT COMMENTS
02/16/2022	UPDATED PER APA COMMENTS
03/04/2022	UPDATED PER COMMENTS

**ISSUED FOR PERMIT**



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Project Manager	Discipline Lead
<b>ECR</b>	<b>ECR</b>
Designer	Reviewer
<b>HB</b>	<b>ECR</b>
Date Issued	Project Number
<b>02/02/2021</b>	<b>14859.03</b>

Sheet Name

**DETAILS IV**

Drawing Number

**C011**





# Crown Point Solar Project

TOWN OF CROWN POINT

STORMWATER POLLUTION PREVENTION PLAN



Town of Crown Point  
Clinton County, New York  
March 23, 2021  
Revised: June 16, 2021

## PREPARED FOR:

Yellow 10 LLC c/o Chris Stroud  
125 Wolf Road, Suite 312  
Colonie, NY 12205

## PREPARED BY:

Bergmann

2 Winners Circle, Suite 102  
Albany, NY 12205

Phone: 518.862.0325





# Stormwater Pollution Prevention Plan (SWPPP)

## CROWN POINT SOLAR PROJECT – YELLOW 4 LLC – TOWN OF CROWN POINT INSTRUCTIONS TO OWNER/OPERATOR/OPERATOR'S ENGINEER AND CONTRACTORS

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### Responsibilities for Compliance with Storm Water Discharge Permit Regulations at Construction Sites

#### Operator's Engineer's Responsibilities:

1. Prepare the SWPPP using good engineering practices, Best Management Practices, and in compliance with all federal, state and local permit requirements. This preparation shall also include providing a description of the Project as it relates to site ownership and development responsibilities. The Operator's Engineer shall also prepare the SWPPP Ledger for use in the implementation and documentation of the SWPPP at the Project during Construction Activities.
2. Prepare the NOI form for the Operator's signature and forward to Operator for signature; submit the signed form to the appropriate regulatory agency along with any required fees and attachments. SWPPP must be complete prior to NOI submittal.
3. Include a signed NOI in the SWPPP prepared for the Project.
4. Participate at the pre-construction meeting with Contractor and appropriate subcontractors, which should include a review with all parties of the requirements of the SWPPP, if requested by Operator.
5. Review Contractor's SWPPP records on a periodic basis to ensure compliance with requirements for reports and inspection and maintenance logs, if requested by Operator.
6. Certify to Operator the Contractor's compliance with SWPPP record keeping requirements, if requested by Operator.

#### Operator's Responsibilities:

1. Have an authorized corporate officer sign the NOI and SWPPP Certification Statement.
2. Schedule and conduct a SWPPP Pre-Construction Meeting with the Operator's Engineer, Contractor and appropriate subcontractors, which should include a review with all parties the requirements under the SWPPP.
3. Require the Contractor to implement fully the SWPPP prepared for the site by the Operator's Engineer.
4. Forward a copy of the original permit certificate received from the regulatory agency to the Owner (if different than the operator), the Municipality's Representative, the MS4 (if applicable and if different from the municipality), the Operator's Engineer and the Contractor for inclusion in the SWPPP Ledger and display at the Project.
5. Ensure (through periodic observations by Operator's Engineer) and document that the Contractor is implementing the controls, inspections, maintenance, record-keeping, and all other requirements of the SWPPP.
6. File an appropriately signed Notice of Termination ("NOT") form when site work construction is completed and stabilization is achieved in accordance with the General Permit.
7. Request and receive all SWPPP records from the Contractor and archive those records for a minimum of five (5) years after the NOT is filed.





#### Contractor's Responsibilities:

1. Sign the SWPPP Contractor's Certification Form in the SWPPP prepared for the Project (Appendix H).
2. Provide subcontractor training and require all subcontractors to sign the Subcontractor's Certification Form in the SWPPP prepared for the Project (Appendix I).
3. Identify a trained individual (i.e. *Trained Contractor*) who will be responsible for implementing the SWPPP and will be on-site during all soil disturbing activities.
4. Implement the Erosion and Sediment Control Plans, and other requirements of the SWPPP.
5. Provide *Trained Contractors*, and documentation of qualifications, for the controls implemented at the Project.
6. Conduct all necessary inspections at the required intervals and prepare and retain written documentation of those inspections and all other written documentation required by the Construction General Permit.
7. Keep a copy of the SWPPP, all NOI's, permit certificates, permit language, Materials Management Process (MMP), inspection records, and other required records on the Project.
8. Post in a prominent place at the Project entrance and inside the job trailer office wall those documents required to be posted under the terms of the Construction General Permit including, the NOI (Appendix D), Letter of Acknowledgement, etc.
9. Update and make changes to the SWPPP and supporting documents (such as the BMPs) as needed and with the approval of the Operator and the Operator's Engineer.
10. Prepare and sign a NOT form when site work construction is completed and stabilization is achieved in accordance with the General Permit.
11. Transfer the SWPPP documents, along with all NOI's, permit certificates, NOT's, and written records required by the Construction General Permit to the Operator for archiving.

#### Off-site borrow or fill locations

The General Permit applies to construction activities involving soil disturbances of one (1) or more acres. This may require off-site borrow, fill, and material storage sites to be permitted under the NOI and covered by the SWPPP for the construction site, only if the off-site sites are used solely for that one project. If an off-site borrow or fill location or material storage site is operated by a subcontractor for more than one project, the Operator of this multi-use site must obtain a separate NOI. The multi-use site must be covered under its own Project Permit. A Construction General Permit from a state, local, or appropriate governmental agency may have different requirements relating to off-site borrow or excess (waste) locations. The Operator's Engineer must determine any applicable permit requirements for off-site borrow or excess (waste) locations. The requirements must be incorporated into the SWPPP, where applicable. If a separate General Permit coverage is required for these activities, a copy of the coverage must be provided in the SWPPP.





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# Appendix A

## Written Storm Water Pollution Prevention Plan





## I. SCOPE

### A. PURPOSE:

1. Development and proper implementation of the New York State Department of Environmental Conservation (NYSDEC), State Pollutant Discharge Elimination System (SPDES) Construction General Permit governing stormwater discharges during construction and the National Pollutant Discharge Elimination System (NPDES) Construction General Permit governing storm water discharges during construction, and in accordance with Erosion and Sediment Control practices is critical. The Contractor's participation in this program is mandatory and its non-compliance is subject to various remedies, including without limitation, monetary set-offs, withholding payments; reimbursement for costs, expenses (including reasonable attorney's fees), fines and civil penalties incurred by the Operator. This section provides a descriptive explanation of the Storm Water Pollution Prevention Program and required Contractor participation.

### B. SPDES CONSTRUCTION GENERAL PERMIT FOR STORM WATER DISCHARGE FROM CONSTRUCTION SITES:

1. Regulations promulgated by the NYSDEC to regulate the discharge of storm water from Construction Activity on sites where one (1) or more acre of soil is disturbed. One of the ways to comply with these regulations for affected sites is to request coverage under the SPDES General Permit for Stormwater Discharges from Construction Activities (GP-0-20-001). In order to use the Construction General Permit, a Notice of Intent (NOI) form must be completed and mailed to the NYSDEC. Authorization to discharge stormwater under the General Permit will be effective when the owner or operator has satisfied all of the criteria listed in Part II, B of the SPDES General Permit for Construction Activity (GP-0-20-001).

### C. NOTICE OF INTENT:

1. The Operator will petition the NYSDEC for stormwater discharges during construction at this site to be covered by the SPDES General Permit for Stormwater Discharges from Construction Activity, GP-0-20-001, following completion of this SWPPP. An NOI form will be filed by the Operator. Authorization to discharge stormwater from Construction Activities is effective five (5) or (60) calendar days after the NYSDEC receives the complete NOI.

### D. RESPONSIBILITIES OF CONTRACTOR REGARDING THE CONSTRUCTION GENERAL PERMIT:

1. The Contractor shall manage the discharge of stormwater from the site in accordance with the NYSDEC General Permit for Stormwater Discharges from Construction Activities and the following provisions:
  - a) The Contractor shall be responsible for conducting the Storm Water Management practices in accordance with the permit.
  - b) The Contractor shall be responsible for providing *Trained Contractors* (See GP-0-20-001 for definition) to conduct the inspections required by the SWPPP.
  - c) The Contractor shall be responsible for any enforcement action taken or imposed by federal, state, or local agencies, including the cost of fines, construction delays, and remedial actions resulting from the Contractor's failure to comply with the permit provisions.





E. PRE-CONSTRUCTION MEETING:

1. A Pre-Construction SWPPP Meeting shall be mandatory and occur before any land disturbing activities are started. The Certification and Training Program have been developed to stress the importance of the following topics:
  - a) Erosion and sediment control for water quality protection
  - b) Implementation of Erosion and Sediment Control Plans
  - c) The importance to proper installation of erosion and sediment control measures
  - d) Regular inspection by Qualified Inspector of erosion and sediment control measures
  - e) Diligent maintenance to erosion and sediment control measures
  - f) Contemporaneous preparation of accurate and complete records regarding inspection and maintenance of erosion and sediment control measures
  - g) Record-keeping for inspections and maintenance activities

F. SWPPP CERTIFICATION REQUIREMENTS FOR THE CONTRACTOR AND SUBCONTRACTOR(S):

1. The SWPPP shall provide forms for both the Contractor and Subcontractor(s) identifying the Company Name, Business Address and Telephone Number along with the Responsible Person for the Contractor and all Subcontractors who will implement the measures identified in the SWPPP. The Contractor shall sign, the Contractor's Certification Statement (Appendix H) and all Subcontractors shall sign the Subcontractor's Certification Statement (Appendix I) verifying they have been instructed on how to comply with and fully understand the requirements of the NYSDEC and SWPPP. These certifications must be signed by a responsible corporate officer or other party meeting the "Signatory Requirements" in Part VII Section H & Part III.A.5. of the NYS DEC SPDES General Permit for Stormwater Runoff from Construction Activity (GP-0-20-001), on behalf of each entity, prior to the beginning of any Construction Activities and shall be filed in the Project's SWPPP.

G. SWPPP LOCATION REQUIREMENTS:

1. The SWPPP Ledger is meant to be a working document that shall be maintained at the site of the Construction Activities at all times throughout the Project, shall be readily available upon request by the Operator's personnel or NYSDEC or any other agency with regulatory authority over storm water issues, and shall be kept on-site until the site complies with the Final Stabilization section of this document. A copy of the General Permit (GP-0-20-001), NOI, NOI Acknowledgment Letter, SWPPP, and inspection reports shall be maintained at the construction site until all disturbed areas have achieved final stabilization and the Notice of Termination 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; that is accessible during normal working hours to an individual performing a compliance inspection.

H. SWPPP:

1. A minimum of two (2) copies of the SWPPP, in three (3) ring binders shall be provided by the Operator's Engineer. One (1) copy shall be provided for use by the General Contractor and one (1) copy shall be provided as an original.





- I. INSPECTIONS AND RECORD-KEEPING: Inspections are required per the General Permit GP-0-20-001 by a qualified inspector.
  1. INSPECTOR QUALIFICATIONS:
    - a) Inspections must be conducted by a "Qualified" Inspector. "Qualified" is defined as a person knowledgeable in the principles and practices of erosion and sediment controls who possesses the skills to assess conditions at the construction site that could impact storm water quality and to assess the effectiveness of any sediment and erosion control measures selected to control the quality of storm water discharges from the Construction Activity such as a licensed Professional Engineer, Certified Professional in Erosion and Sediment Control (CPESC), licensed Landscape Architect. It also means that someone working under the direct supervision of a licensed Professional Engineer, or 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 an individual performing the site inspection has received four (4) hours of training, endorsed by the Department, from a Soil and Water Conservation District, CPESC, Inc. or other department endorsed entity in proper erosion and sediment control principles no later than two (2) years from the date of the current general permit issued. After receiving the initial training, an individual working under the direct supervision of a licensed Professional Engineer or licensed Landscape Architect shall receive four (4) hours of training every three (3) years. Inspections of post construction stormwater management practices that include structural components, such as a dam for impoundment, shall be performed by a licensed Professional Engineer.
  2. RAINFALL MONITORING:
    - a) A rain gage should be maintained on the site and a record of the rainfall amounts (in tenths of an inch) and dates shall be recorded every 24 hours on the Rain Log (Appendix P).
  3. INSPECTOR RESPONSIBILITIES:
    - a) The Qualified Inspector shall be trained in all the inspection and maintenance practices necessary for keeping the Erosion and Sediment Controls that are used onsite in good working order. They will also be trained in the completion of, initiation of actions required by, and the filing of the inspection forms. Documentation of Qualified Inspector training will be kept on site with the SWPPP.
  4. INSPECTION PROCEDURES:
    - a) Inspections must include all areas of the site disturbed by Construction Activities and areas used for storage of materials that are exposed to precipitation. Qualified Inspectors must look for evidence of, or the potential for, pollutants entering the storm water conveyance system. Erosion and Sediment Control measures identified in the SWPPP must be observed to ensure proper operation. Discharge locations must be inspected to ascertain whether Erosion and Sediment Control measures are effective in preventing significant impacts to Waters of the United States, where accessible. Where discharge locations are inaccessible, nearby downstream locations must be inspected to the extent that such inspections are practicable. Locations where vehicles enter or exit the site must be inspected for evidence of off-site tracking. The following inspection and maintenance practices will be used to maintain Erosion and Sediment Controls and stabilization measures:
      - (1) All control measures will be inspected at least at the frequency identified in this Section. The minimum inspection frequency shall be once every seven (7) calendar days.





- (2) All measures will be maintained in good working order; if repairs or other measures are found to be necessary, they will be initiated within 24 hours of report, and completed within 48 hours of report and documented with photos.
  - (3) Built up sediment will be removed from silt fence when it has reached 25% of the height of the fence.
  - (4) Silt fences will be inspected for depth of sediment, tears, etc., to see if the fabric is securely attached to the fence posts, and to see that the fence posts are securely in the ground.
  - (5) Temporary and permanent seeding and all other stabilization measures will be inspected for bare spots, washouts, and healthy growth.
  - (6) An Inspection Report (Appendix J) will be completed after each inspection. Copies of the report forms to be completed by the Qualified Inspector(s) are included in this SWPPP. These reports shall be provided to the Town of Warrensburg within 24 hours of completion.
  - (7) The Contractor's Superintendent will be responsible for selecting and training the individuals who will be responsible for these inspections, maintenance and repair activities, and filling out inspection and maintenance reports.
  - (8) Disturbed Areas and materials storage areas will be inspected for evidence of or potential for pollutants entering stormwater systems.
  - (9) Report to U.S. Environmental Protection Agency, or NYSDEC within 24 hours any noncompliance with the SWPPP that will endanger public health or the environment. Follow up with a written report within five (5) days of the noncompliance event. The following events require 24-hour reporting: a) any unanticipated bypass which exceeds any effluent limitation in the permit, b) any upset which exceeds any effluent limitation in the permit, and c) a violation of a maximum daily discharge limitation for any of the pollutants listed by the EPA in the permit to be reported within 24 hours. The written submission must contain a description of the non-compliance and its cause; the period of non-compliance, including exact dates and times, and if the non-compliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent recurrence of the non-compliance.
  - (10) Spills or Releases of Hazardous Substances or Oil in excess of reportable quantities (as established under 40 CFR Part 110, 40 CFR Part 117 or 40 CFR Part 302) must be reported.
5. MONITORING:
- a) Contractor shall be required to inspect daily per GP-0-20-001, Part IV.B.1.
6. THIRD PARTY INSPECTIONS:
- a) Where required or requested by the Operator, third party inspections by the design engineer shall be in addition to and shall not replace inspections by the Contractor (Qualified Inspector). The third-party inspector shall complete and sign any inspection report and include a copy of the report in the SWPPP following each inspection.
7. RECORDKEEPING:
- a) It is imperative that documentation of the inspection and maintenance of all erosion and sediment control measures as soon as possible after the inspection and/or maintenance is completed. The inspection reports identify any incidents of non-compliance with the permit conditions. Where a report does not identify any incidents of non-compliance, the report must





contain a certification that the Project is in compliance with the SWPPP and the Construction General Permit or other applicable State Permit. The report must be signed in accordance with the General Permit (GP-0-20-001). These records are used to prove that the required inspection and maintenance were performed and shall be placed in the SWPPP Ledger. In addition to inspection and maintenance reports, records should be kept of the Construction Activities that occur on the site. The Contractor shall retain copies of the SWPPP, all reports and data for a minimum of five (5) years after the project is complete in paper and CD format.

The forms found in this SWPPP shall be used by the Qualified Inspector(s) and/or the *Trained Contractor* (as applicable) to inventory and report the condition of each measure to assist in maintaining the erosion and sediment control measures in good working order. The following list identifies the required Inspection and Maintenance documentation and record keeping that must be maintained by the Contractor under this SWPPP:

- Appendix J: Inspection Report
- Appendix K: Stabilization Schedule
- Appendix L: Implementation Schedule
- Appendix M: Modification Report
- Appendix N: Final Stabilization/Notice of Termination Checklist
- Appendix O: Reportable Quantity Release Form
- Appendix P: Project Rainfall Log

These report forms shall become an integral part of the SWPPP and shall be made readily accessible to governmental inspection officials, the Operator's Engineer, and the Operator for review upon request during visits to the Project site. In addition, copies of the reports shall be provided to any of these persons, upon request, via mail or facsimile transmission. Inspection and maintenance report forms are to be maintained by the permittee for five years following the final stabilization of the site.

8. OTHER RECORD KEEPING REQUIREMENTS:

- a) The Contractor shall keep the following records related to Construction Activities at the site:
  - (1) Dates when major grading activities occur and the areas which were graded
  - (2) Dates and details concerning the installation of structural controls
  - (3) Dates when Construction Activities cease in an area
  - (4) Dates when stabilization measures are initiated
  - (5) Dates when an area is stabilized, either temporarily or permanently
  - (6) Dates of rainfall and the amount of rainfall
  - (7) Dates and descriptions of the character and amount of any spills of Hazardous Substances or Oil
  - (8) Records of reports filed with regulatory agencies if reportable quantities of Hazardous Substances or Oil spilled





- J. SWPPP MODIFICATIONS: The inspection report should also identify if any revisions to the SWPPP are warranted due to unexpected conditions. The SWPPP is meant to be a dynamic working guide that is to be kept current and amended whenever:
1. There is a change in design, construction, operation, or maintenance at the construction site that has or could have a significant effect on the discharge of pollutants to the Waters of the United States that has not been previously addressed in the SWPPP. In addition to modifying the SWPPP, the site map may also require an amendment.
  2. Inspections or investigations by site staff, or by local, state or federal officials, determine that the discharges the SWPPP is ineffective in eliminating or significantly minimizing pollutants in storm water discharges from the construction site. Modifications that are the result of an inspection must be initiated within 24 hours and completed within 48 hours.
  3. Based on the results of an inspection, it must be modified as necessary to include additional or modified BMPs designed to correct problems identified. Revisions to the SWPPP must be completed within seven (7) calendar days following the inspection.
  4. There is a release containing a Hazardous Substance or Oil in an amount equal or in excess of a reportable quantity established under either 40 CFR Part 110, 40 CFR Part 117 or 40 CFR Part 302 occurs during a 24-hour period. Revisions to the SWPPP must be completed within seven (7) calendar days of knowledge of the release.

Any such changes to the SWPPP must be made in writing on the Modification Report (Appendix M) within seven (7) days of the date such modification or amendment is made. Changes must also be drawn on the Progress Drawing.

- K. FINAL STABILIZATION AND TERMINATION OF PERMIT COVERAGE: A site can be considered finally stabilized when all soil disturbing activities have been completed and:
1. A uniform perennial vegetative cover with a density of 80% for the unpaved areas and areas not covered by permanent structures has been established or equivalent permanent stabilization measures have been established.
  2. The facility no longer discharges storm water associated with Construction Activities.
  3. A Notice of Termination (NOT) form filed by the Operator(s) with the NYSDEC. The NOT must be submitted within thirty (30) days of final stabilization.

The Operator's Project Manager must provide a completed copy of the NOT to the Contractor for inclusion in the SWPPP. This filing terminates coverage under the Construction General Permit and terminates the Contractor's responsibility to implement the SWPPP, but the requirements of the SWPPP, including periodic inspections, must be continued until the NOT is filed. Upon achieving this milestone, the Contractor shall also submit "Final Stabilization Certification/Notice of Termination Checklist" (Appendix N).





## II. PROJECT NAME AND LOCATION

Crown Point Solar Project  
Town of Crown Point  
Essex County  
73.428579 W, 43.958318 N

A general location map (Appendix B) with enough detail to identify the location of the construction site, direction of storm water flow, the receiving waters within one (1) mile of the site, surface waters and Wetlands, storm water discharge locations and other areas as required by *NYSDEC* is included in Appendix B.

## III. OPERATOR'S NAME AND ADDRESS

Yellow 4 LLC  
Chris Stroud  
125 Wolf Road, Suite 312  
Colonie, New York 12205

## IV. PROJECT DESCRIPTION

This SWPPP is for the Crown Point Solar Project installation for Yellow 4 LLC in the Town of Crown Point, NY. The entire property is 18.38± acres. This SWPPP addresses all of the proposed work to be done at the new Crown Point Solar project (Appendix C).

The total project disturbance area will not exceed 5.0 acres at any one time. The approximate start of construction is Spring 2021 with an expected end of construction by Fall 2021. General soil disturbing activities will include:

- Installation of solar racking
- Panel installation
- Trenching for wiring of panels
- Finalization of connection to the grid
- Vegetation clearing and grubbing
- Construction of entrance driveway
- Final grading





V. EXISTING SITE CONDITIONS

The project site tributary area is approximately 7.50± acres. The topography of the project site ranges from elevations of 100 feet to 182 feet. The site has slopes ranging from 0.5% to 115%. The project site consists of mostly forested areas and a small gravel driveway and a few barns/houses. The site drains south towards Putnam Creek.

VI. NAME OF RECEIVING WATERS

The site discharges west to an on-site wetlands and Putnam Creek.

VII. DESCRIPTION OF SOILS

Soil Types within the Subject Area

Symbol	Soil Name	Hydrologic Soil Group
DuE	Dunkirk silt loam, 25 to 45 percent slopes	C
HcD	Howard very cobbly loam, 15 to 25 percent slopes	A
HgB	Howard gravelly loam, 2 to 8 percent slopes	A
RmA	Rippowam fine sandy loam, 0 to 3 percent slopes	A/D

More information pertaining soils can be found in the Soil Map included in the Stormwater Management (Appendix R) section of this report.





VIII. EROSION AND SEDIMENT CONTROLS

- A. The project will utilize temporary and permanent erosion and sediment control practices to prevent sediment from leaving the project area. A list of the practices anticipated are as follows:

Temporary Structural					
	BMP	Notes		BMP	Notes
<input type="checkbox"/>	Inlet Protection		<input type="checkbox"/>	Brush Barrier	
<input checked="" type="checkbox"/>	Outlet Protection		<input type="checkbox"/>	Temporary Stream Crossing	
<input type="checkbox"/>	Perimeter Protection		<input type="checkbox"/>	Pipe Slope Drain	
<input checked="" type="checkbox"/>	Stabilized Construction Entrance/Exit		<input type="checkbox"/>	Wind Fence	
<input type="checkbox"/>	Stone Staging Area		<input type="checkbox"/>	Temporary Diversion Channels	
<input type="checkbox"/>	Temporary Sediment Basin		<input type="checkbox"/>	Temporary Diversion Berms	
<input type="checkbox"/>	Temporary Gravel and Riprap Sediment Trap		<input type="checkbox"/>	Other	
<input type="checkbox"/>	Temporary Rock Dam Sediment Trap		<input type="checkbox"/>	Other	
<input type="checkbox"/>	Check Dam		<input type="checkbox"/>	Other	
<input checked="" type="checkbox"/>	Sediment Fence		<input type="checkbox"/>	Other	
<input checked="" type="checkbox"/>	Temporary Seeding		<input type="checkbox"/>	Other	
<input checked="" type="checkbox"/>	Temporary Mulching		<input type="checkbox"/>	Other	
<input type="checkbox"/>	Rolled Erosion Control Product (RECP)		<input type="checkbox"/>	Other	
<input type="checkbox"/>	Slope Tracking (Soil Roughening)		<input type="checkbox"/>	Other	
<input type="checkbox"/>	Watering to Minimize Wind Erosion		<input type="checkbox"/>	Other	
Permanent Stabilization					
	BMP	Notes		BMP	Notes
<input type="checkbox"/>	RECP (3 horizontal to 1 vertical)		<input type="checkbox"/>	Vegetation Protection	
<input checked="" type="checkbox"/>	Permanent Seeding		<input type="checkbox"/>	Sod	
<input type="checkbox"/>	Permanent Planting (vegetative landscaping)		<input type="checkbox"/>	Other	
<input checked="" type="checkbox"/>	Mulching		<input type="checkbox"/>	Other	



Permanent Structural					
	BMP	Notes		BMP	Notes
<input checked="" type="checkbox"/>	Outlet Protection		<input type="checkbox"/>	Stormwater Channel	
<input type="checkbox"/>	Storm Drainage System		<input type="checkbox"/>	Retaining Wall	
<input type="checkbox"/>	Curb		<input type="checkbox"/>	Gradient Terrace	
<input type="checkbox"/>	Stormwater Pond		<input type="checkbox"/>	Stormwater Retention Pond	
<input type="checkbox"/>	Stormwater Infiltration		<input type="checkbox"/>	Stormwater Filtration	
<input type="checkbox"/>	Bio Swale		<input type="checkbox"/>	Bio Retention Basin	
<input checked="" type="checkbox"/>	Pervious pavement		<input type="checkbox"/>	Vortsentry VS70	
<input type="checkbox"/>	Other		<input type="checkbox"/>	Other	

**B. Sequence of Major Construction Activities**

The Contractor will be responsible for implementing the following Erosion and Sediment Control and Storm Water Management control measures. The Contractor may designate these tasks to certain subcontractors as he sees fit, but the ultimate responsibility for implementing these controls and ensuring their proper functioning remains with the Contractor. The order of activities will be as follows (refer to the Erosion and Sediment Control / SWPPP Plan Sheet C006):

**Construction Sequence**

1. Pre-construction meeting held to include project manager, operator's engineer, town representative, contractor, and sub-contractors prior to land disturbing activities.
2. Construct construction entrance/exit at locations designated on plans.
3. Install perimeter silt fence.
4. Have a qualified professional conduct an assessment of the site prior to the commencement of construction.
5. Begin clearing and grubbing operations. Clearing and grubbing operations shall be done only in areas where earth work will be performed and only in areas where construction is planned to commence within fourteen (14) days after clearing and grubbing.
6. Use the existing gravel road during construction. In addition, construct temporary gravel driveway to be utilized for the remainder of the project area.
7. Construct roadside swale and stormwater management area as per plans.
8. Strip topsoil and stockpile in a location acceptable to construction manager. When stockpile is complete, install a perimeter silt sock, seed surface with 100% perennial ryegrass mixture at a rate of 2-4 lbs. per 1000 square feet. Apply 90-100 lbs. per 1,000 square feet of mulch.
9. Commence earthwork cut and fills. The work shall be progressed to allow a reasonable transfer of cut and fill earth for rough grading and earth moving. The contractor will be given some latitude to vary from the following schedule in order to meet the field conditions encountered. Contractor shall review variations to SWPPP with Design Engineer and qualified professional prior to implementation.





10. Install perimeter fence.
11. Prior to installation of solar modules, supporting steel posts will be installed, generally pile driven to minimize ground disturbance. The solar modules will be mounted by hand to the steel posts and all necessary electrical, communications, and other connections will be made.
12. Construct concrete equipment pad for the installation of the inverter and transformer. Inverters shall be installed in pre-fabricated lockable containers or in an outdoor installation protected with weather-proof material to NEMA 3S protection degree. Minimum grading may be anticipated for the construction of the concrete equipment pad.
13. Install underground electrical conduit via open trench. Trench excavation/backfill areas should be stabilized progressively at the end of each workday with seed and straw mulch at a rate of 100% perennial rye grass at 2-4 lbs/1000 square feet mulched at 90-100 lbs/1000 square feet.
14. Once the underground electrical conduit is installed, the necessary interconnection line will be made to the existing electrical grid.
15. Remove temporary gravel construction driveway and construct the proposed gravel driveway after construction activities such as the installation of panels and perimeter fence. The sub-grade material, where the driveway is to be installed shall be decompacted per NYSDEC's "Deep-ripping and decompaction" manual, dated April 2008. Contractor shall avoid frequent heavy traffic on the limited use pervious gravel.
16. As roadway and access drives are brought to grade, they will be stabilized with crushed stone subbase at a depth specified on plans to prevent erosion as soon as practicable.
17. Stabilize all areas as soon as practicable, idle in excess of seven (7) days and in which construction will not commence within fourteen (14) days.
18. Remove temporary construction exits and perimeter silt sock once site has achieved 80% uniform stabilization.

#### C. Storm Water Management

Yellow 4 LLC will be responsible for all maintenance of the stormwater management facilities associated with the project.

According to the definition set forth in the SPDES General Permit, altering the hydrology from Pre to Post-Development conditions means that "the post-development peak flow rates has increased by more than 5% of the pre-development condition for the design storm of interest". The proposed solar farm project is considered as "Land clearing and grading for the purposes of creating vegetated open space, excluding projects that alter hydrology from pre to post-development" in Appendix B of the General Permit. The project will not alter the site's hydrology from Pre to Post-Development conditions and is therefore classified as a construction activity that requires the preparation of a SWPPP that only includes erosion and sediment controls. Detailed information is included in the Stormwater Management Report (Appendix R).

Due to the minimal disturbance onsite and the maintenance or improvement of the soil types, storm water treatment measures are only necessary for the gravel driveway. A dry swale is being used on the side of the driveway to treat the stormwater runoff from the gravel driveway. Detailed information related to the proposed stormwater management facilities is included in the Stormwater Management Report (Appendix R).



#### D. Post Construction Stormwater BMP Operation and Maintenance Plan

An Operations and Maintenance Plan is included to address the inspection, operation and maintenance of all post construction BMPs identified in this plan. The Contractor is responsible for proper installation, maintenance and functioning of all best management practices shown on the drawings until final stabilization is achieved. The Owner shall be responsible for the continued maintenance of the best management practices.

### IX. OTHER CONTROLS

#### A. Off-Site Vehicle Tracking

1. Dump trucks hauling material from the construction site will be covered with a tarpaulin. The job Contractor's Superintendent will be responsible for seeing that these procedures are followed.
2. Rock construction entrance to be installed as site conditions warrant or at the request of the engineer or inspector.

#### B. Excavation Spoil Materials

1. Excavation spoil materials may be generated during excavations including, but not limited to roadway and utilities installation. These materials must be properly managed to prevent them from contributing to storm water discharges. The materials generated from the development of this Project will be managed by the following method: Stockpiled on-site, the general site contractor to specify location and provide erosion control for excavated spoil materials or the material shall be hauled off-site and disposed of in an appropriate manner.

#### C. Dust Control

1. Minimizing wind erosion and controlling dust will be accomplished by one or more of the following methods
  - a) Covering 30% or more of the soil surface with a non-erodible material.
  - b) Roughening the soil to produce ridges perpendicular to the prevailing wind. Ridges should be about six (6) inches in height.
  - c) Frequent watering of excavation and fill areas.
  - d) Providing gravel or paving at entrance/exit drives, parking areas and transit paths.

#### D. Equipment Service Area

1. The Contractor shall identify an area on the Erosion and Sediment Control Plan for equipment cleaning, maintenance and repair. This area shall be protected by a temporary perimeter berm preventing all surface runoff from leaving the area, or equivalent measure, and shall be located no closer than 100' from any Waters of the United States or state, and shall be located no closer than 50' from any storm inlet. External washing of trucks and other construction vehicles must be confined to this area. No engine degreasing or asphalt equipment or tool washing is permitted.

#### E. Material Stockpiles

1. Stormwater runoff to and from material stockpiles shall be controlled to prevent materials from creating a diversion of surface water to disturbed soils or from entering the surface water. Topsoil stockpiles shall be surrounded with perimeter sediment control measures such as silt fence and be





covered with non-erosive material as soon as practicable but no longer than 14 days after completion of the pile. Non-erosive material may include temporary seeding with straw mulch and tackifier, mulch, or other material providing suitable cover.

F. Masonry Mixing Area

1. Non-stormwater discharges into storm drainage systems or waterways containing slurries from concrete or mortar mixing operations shall not be permitted. Masonry mixing areas shall be located a minimum distance of 100 linear feet from drainage ways, inlets and surface waters and all storm water runoff from these areas shall be contained by a berm or other measures. Run-on water to these areas will be diverted to prevent mixing of clean water and water contaminated with concrete slurry.

X. COMPLIANCE WITH OTHER STATE AND LOCAL REGULATIONS

- A. At a minimum, the Contractor will obtain copies of any and all local and state regulations which are applicable to Storm Water Management, Erosion and Sediment Control, and pollution minimization at this Project and will comply fully with such regulations. The Contractor will submit written evidence of such compliance if requested by the Operator or any agent of a regulatory body. The Contractor will comply with all conditions of the *NYSDEC* General Permit for Stormwater Discharges from Construction Activities including the conditions related to maintaining the SWPPP and evidence of compliance with the SWPPP at the Project and allowing regulatory personnel access to the Project and to records in order to determine compliance. The Contractor shall also comply with any additional or more stringent requirements imposed by the permit issued by an approved state storm water program, or with permits issued, or requirements imposed by the Town to which the Project discharges storm water. Requirements with which the Contractor must comply include installation of post-construction measures required by the State, County, or City.

XI. MATERIALS MANAGEMENT PLAN

A. Progress Drawing

1. A Progress Drawing consisting of a print of the Erosion and Sediment Control Plans shall be posted inside the job trailer wall. The Progress Drawing will be used to record the locations of the Job Trailer, Sanitary Waste Facilities, Solid Waste Facilities, Fuel Storage Area, Equipment Service Area, and Concrete Washout Pit. Any time any of these facilities are relocated on the site, a new location will be noted on the Progress Drawing and a Modification Report (Appendix M) will be prepared.

B. Materials Covered

1. The following materials or substances are expected to be present onsite during construction:

Concrete/Additives/Wastes	Cleaning solvents
Detergents	Petroleum based products
Paints/Solvents	Pesticides
Acids	Fertilizers
Solid and construction wastes	Sanitary wastes
Soil stabilization additives	



### C. Materials Management Practices

The following are the material management practices that will be used to reduce the risk of spills or other accidental exposure of materials and substances to stormwater runoff. The Contractor's Superintendent will be responsible for ensuring that these procedures are followed:

#### 1. Good Housekeeping

The following good housekeeping practices will be followed onsite during construction:

- a) An effort will be made to store only enough products required to do the job.
- b) All materials stored onsite will be stored in a neat, orderly manner and, if possible, under a roof or in a containment area. At a minimum, all containers will be stored with their lids on when not in use. Drip pans shall be provided under all dispensers.
- c) Products will be kept in their original containers with the original manufacturer's label in legible condition.
- d) Substances will not be mixed with one another unless recommended by the manufacturer.
- e) Whenever possible, all of a product will be used up before disposing of the container.
- f) Manufacturer's recommendations for proper use and disposal will be followed.
- g) The Contractor's Superintendent will be responsible for daily inspections to ensure proper use and disposal of materials.

#### 2. Hazardous Substances

These practices will be used to reduce the risks associated with Hazardous Substances. Safety Data Sheets (SDS's) for each product with hazardous properties that is used at the Project will be obtained and used for the proper management of potential wastes that may result from these products. An SDS will be posted in the immediate area where such product is stored and/or used and another copy of each SDS will be maintained in the job trailer at the Project. Each employee who must handle a Hazardous Substance will be instructed on the use of SDS sheets and the specific information in the applicable SDS for the product he/she is using, particularly regarding spill control techniques.

- a) Products will be kept in original containers with the original labels in legible condition.
- b) Original labels and SDS's will be procured and used for each product.
- c) If surplus product must be disposed manufacturer's and local/state/federal required methods for proper disposal must be followed.

#### 3. Hazardous Waste

It is imperative that all Hazardous Waste be properly identified and handled in accordance with all applicable Hazardous Waste Standards, including the storage, transport and disposal of the Hazardous Wastes. There are significant penalties for the improper handling of Hazardous Wastes. It is important that the Site Superintendent seeks appropriate assistance in making the determination of whether a substance or material is a Hazardous Waste. For example, Hazardous Waste may include certain Hazardous Substances, as well as pesticides, paints, paint solvents, cleaning solvents, pesticides, contaminated soils, and other materials, substances or chemicals that have been discarded (or are to be discarded) as being out-of-date, contaminated, or otherwise unusable, and can include the containers for those substances; other materials and substances can also be or become Hazardous Wastes, however. The Contractor's Superintendent is also responsible for ensuring that all site





personnel are instructed as to these Hazardous Waste requirements and also that the requirements are being followed.

#### 4. Product Specific Practices

The following product specific practices will be followed on the job site:

##### a) Petroleum Products

- (1) All onsite vehicles will be monitored for leaks and receive regular preventative maintenance to reduce the chance of leakage. Petroleum products will be stored in tightly sealed containers which are clearly labeled. Petroleum storage tanks shall be located at minimum 100 linear feet from drainage ways, inlets and surface waters. Maximum total aggregate above ground storage capacity (for the total permit area) shall not exceed 1,320 gallons (which includes both bulk and equipment operational storage volumes in fuel tanks 55 gallons and greater). Total aggregate petroleum storage exceeding 1,320 gallons shall require preparation, certification (using a Professional Engineer or providing a Self-Certified SPCC Plan if applicable) and implementation of a Spill Prevention Control and Countermeasures (SPCC) Plan. The SPCC Plan must be prepared and fully implemented prior to the commencement of work. The SPCC Plan, if needed, will be furnished by the Contractor. Any petroleum storage tanks stored onsite will be located within a containment area that is designed with an impervious surface between the tank and the ground. The secondary containment must be designed to provide a containment volume that is equal to 110% of the volume of the largest tank. Any mobile petroleum tank shall be parked in a vehicular service area surrounded by a berm that provides a containment volume that is equal to 110% of the volume of the largest tank. Containment must provide sufficient volume to contain expected precipitation and 110% volume of the largest tank. Accumulated rainwater or spills from containment areas are to be promptly pumped into a containment device and disposed of properly by a licensed Hazardous Waste transporter. Drip pans shall be provided for all dispensers. Any asphalt substances used onsite will be applied according to the manufacturer's recommendations. The location of any fuel tanks and/or equipment storage areas must be identified on the PROGRESS DRAWING by the Contractor once the locations have been determined.

##### b) Fertilizers

- (1) Fertilizers will be applied only in the minimum amounts recommended by the manufacturer. Once applied, fertilizer will be worked in the soil to limit exposure to storm water. Storage will be in a covered shed. The contents of any partially used bags of fertilizer will be transferred to a sealable plastic bin to avoid spills.

##### c) Paints, Paint Solvents, and Cleaning Solvents

- (1) All containers will be tightly sealed and stored when not in use. Excess paint and solvents will not be discharged to the storm sewer system but will be properly disposed of according to manufacturer's instructions or state and federal regulations.

##### d) Concrete Wastes

- (1) Concrete trucks will be allowed to wash out or discharge surplus concrete or drum wash water on the site, but only in specifically designated diked and impervious washouts which have been prepared to prevent contact between the concrete wash and storm water. Waste generated from concrete wash water shall not be allowed to flow into drainage ways, inlets, receiving waters or highway right of ways, or any location other than the designated concrete



washout. Waste concrete may be poured into forms to make riprap or other useful concrete products. Proper signage designating the "Concrete Washout" shall be placed near the facility. Concrete Washouts shall be located at minimum 100 linear feet from drainage ways, inlets and surface waters.

- (2) The hardened residue from the concrete wash out areas will be disposed of in the same manner as other non-hazardous construction waste materials or may be broken up and used on site as deemed appropriate by the Contractor. Maintenance of the washout is to include removal of hardened concrete. The Facility shall have sufficient volume to contain all the concrete waste resulting from washout and a minimum freeboard of 12 inches. Facility shall not be filled beyond 95% capacity and shall be cleaned out once 75% full unless a new facility is constructed. The Contractor's Superintendent will be responsible for seeing that these procedures are followed.
  - (3) Saw-cut Portland Cement Concrete (PCC) slurry shall not be allowed to enter storm drains or Watercourses. Saw-cut residue should not be left on the surface of pavement or be allowed to flow over and off pavement. Residue from saw-cutting and grinding shall be collected by vacuum and disposed of in the concrete washout facility.
  - (4) The Project may require the use of multiple concrete wash out areas. These concrete wash out areas are to be made available to all trades and subcontractors working on the Project. The Contractor may designate certain wash out areas for particular trades or subcontractors, but the Contractor is responsible for the management of all concrete washout areas on the Project. All concrete wash out areas will be located in an area where the likelihood of the area contributing to storm water discharges is negligible. If required, additional BMPs must be implemented to prevent concrete wastes from contributing to storm water discharges. The location of concrete wash out area(s) must be identified on the PROGRESS DRAWING by the Contractor once the locations have been determined.
- e) Solid and Construction Wastes
- (1) All waste materials will be collected and stored in an appropriately covered container and/or securely contained metal dumpster rented from a local waste management company which must be a licensed solid waste management company. The dumpster will comply with all local and state solid waste management regulations.
  - (2) All trash and construction debris from the site will be deposited in the dumpster. The dumpster will be emptied a minimum of once per week or more often if necessary. Once building construction has commenced, the dumpster will be emptied a minimum of once per week or when 95% full, or more often if necessary, to prevent over-flow and the trash will be hauled to a landfill. No construction waste materials will be buried on site. All personnel will be instructed regarding the correct procedures for waste disposal.
  - (3) All waste dumpsters and roll-off containers will be located in an area where the likelihood of the containers contributing to storm water discharges is negligible. Solid waste containers shall be located no less than 50 feet from any storm inlet, drainage way, or surface water. If required, additional BMPs must be implemented, such as gravel bags, wattles, dikes, berms, and fences around the base to prevent wastes from contributing to storm water discharges. The location of waste dumpsters and roll-off containers must be identified on the PROGRESS DRAWING by the Contractor once the locations have been determined.
- f) Sanitary Wastes





- (1) A minimum of one portable sanitary unit will be provided for every ten (10) workers on the site. All sanitary waste will be collected from the portable units a minimum of one time per week by a licensed portable facility provider in complete compliance with local and state regulations.
  - (2) All sanitary waste units will be located in an area where the likelihood of the unit contributing to storm water discharges is negligible. Additional containment BMPs must be implemented, such as gravel bags or specially designed plastic skid containers around the base, to prevent wastes from contributing to storm water discharges. The location of sanitary waste units must be identified on the PROGRESS DRAWING by the contractor once the locations have been determined.
- g) Contaminated Soils
- (1) Any contaminated soils (resulting from spills of Hazardous Substances or Oil or discovered during the course of construction) which may result from Construction Activities will be contained and cleaned up in accordance with applicable state and federal regulations. Contaminated soils not resulting from Construction Activities, or which pre-existed Construction Activities, but which are discovered by virtue of Construction Activities, should be reported in the same manner as spills, but with sufficient information to indicate that the discovery of an existing condition is being reported. If there is a release that occurs by virtue of the discovery of existing contamination, this should be reported as a spill, if it otherwise meets the requirements for a reportable spill.

#### D. Spill Prevention and Response Procedures

The Contractor will train all personnel in the proper handling and cleanup of spilled Hazardous Substances or Oil. No spilled Hazardous Substances or Oil will be allowed to come in contact with storm water discharges. If such contact occurs, the storm water discharge will be contained on site until appropriate measures in compliance with state and federal regulations are taken to dispose of such contaminated storm water. It shall be the responsibility of the Contractor's Superintendent to be properly trained, and to train all personnel in spill prevention and clean up procedures.

1. In order to prevent or minimize the potential for a spill of Hazardous Substances or Oil to come into contact with storm water, the following steps will be implemented:
  - a) All Hazardous Substances or Oil (such as pesticides, petroleum products, fertilizers, detergents, construction chemicals, acids, paints, paint solvents, cleaning solvents, additives for soil stabilization, concrete curing compounds and additives, etc.) will be stored in a secure location, with their lids on, preferably under cover, when not in use.
  - b) The minimum practical quantity of all such materials will be kept at the Project.
  - c) A spill control and containment kit (containing, for example, absorbent materials, acid neutralizing powder, brooms, dust pans, mops, rags, gloves, goggles, plastic and metal trash containers, etc.) will be provided at the storage site.
  - d) Manufacturer's recommended methods for spill cleanup will be clearly posted and site personnel will be trained regarding these procedures and the location of the information and cleanup supplies.
  - e) It is the Contractors responsibility to ensure that all Hazardous Waste discovered or generated at the Project site is disposed of properly by a licensed hazardous material disposal company. The



Contractor is responsible for not exceeding Hazardous Waste storage requirements mandated by the EPA or state and local authority.

2. In the event of a spill of Hazardous Substances or Oil, the following procedures must be followed:
  - a) All measures must be taken to contain and abate the spill and to prevent the discharge of the Hazardous Substance or Oil to storm water or off-site. (The spill area must be kept well ventilated and personnel must wear appropriate protective clothing to prevent injury from contact with the Hazardous Substances.
  - b) If the release is equal to or in excess of a reportable quantity, the SWPPP must be modified within seven (7) calendar days of knowledge of the discharge to provide a description of the release, the circumstances leading to the release, and the date of the release. The SWPPP must identify measures to prevent the recurrence of such releases and to respond to such releases. The form in Appendix O must be completed in accordance with this requirement.

## XII. CONTROL OF NON-STORM WATER DISCHARGES

- A. Certain types of discharges are allowable under the NYSDEC General Permit for Stormwater Discharges from Construction Activities, and it is the intent of this SWPPP to allow such discharges. These types of discharges will be allowed under the conditions that no pollutants will be allowed to come in contact with the water prior to or after its discharge. The control measures which have been outlined previously in this SWPPP will be strictly followed to ensure that no contamination of these non-storm water discharges takes place. The following non-storm water discharges are allowed by the NYSDEC and may occur at the Project:
  1. Discharges from fire-fighting activities;
  2. Fire hydrant flushings;
  3. Waters used to wash vehicles where detergents are not used;
  4. Water used to control dust;
  5. Potable water including uncontaminated water line flushings;
  6. Routine external building wash down that does not use detergents;
  7. Pavement wash waters where spills or leaks of toxic or hazardous materials have not occurred (unless all spilled material has been removed) and where detergents are not used;
  8. Uncontaminated air conditioning or compressor condensate;
  9. Uncontaminated ground water or spring water;
  10. Foundation or footing drains where flows are not contaminated with process materials such as solvents;
  11. Uncontaminated excavation dewatering;
  12. Landscape irrigation





XIII. HISTORICAL PROPERTIES

- A. A review of potential adverse impact to cultural, historic and archaeological resources was conducted. There are no places or properties which are listed or would be eligible for listing on the State or National Register of Historic Places that will be impacted by this construction. The New York State Historic Preservation Office response letter indicating no effect can be found in Appendix S.

XIV. INDUSTRIAL ACTIVITIES

- A. There are no discharges planned from industrial activities as part of this project.

XV. ENHANCED PHOSPHORUS REMOVAL STANDARDS

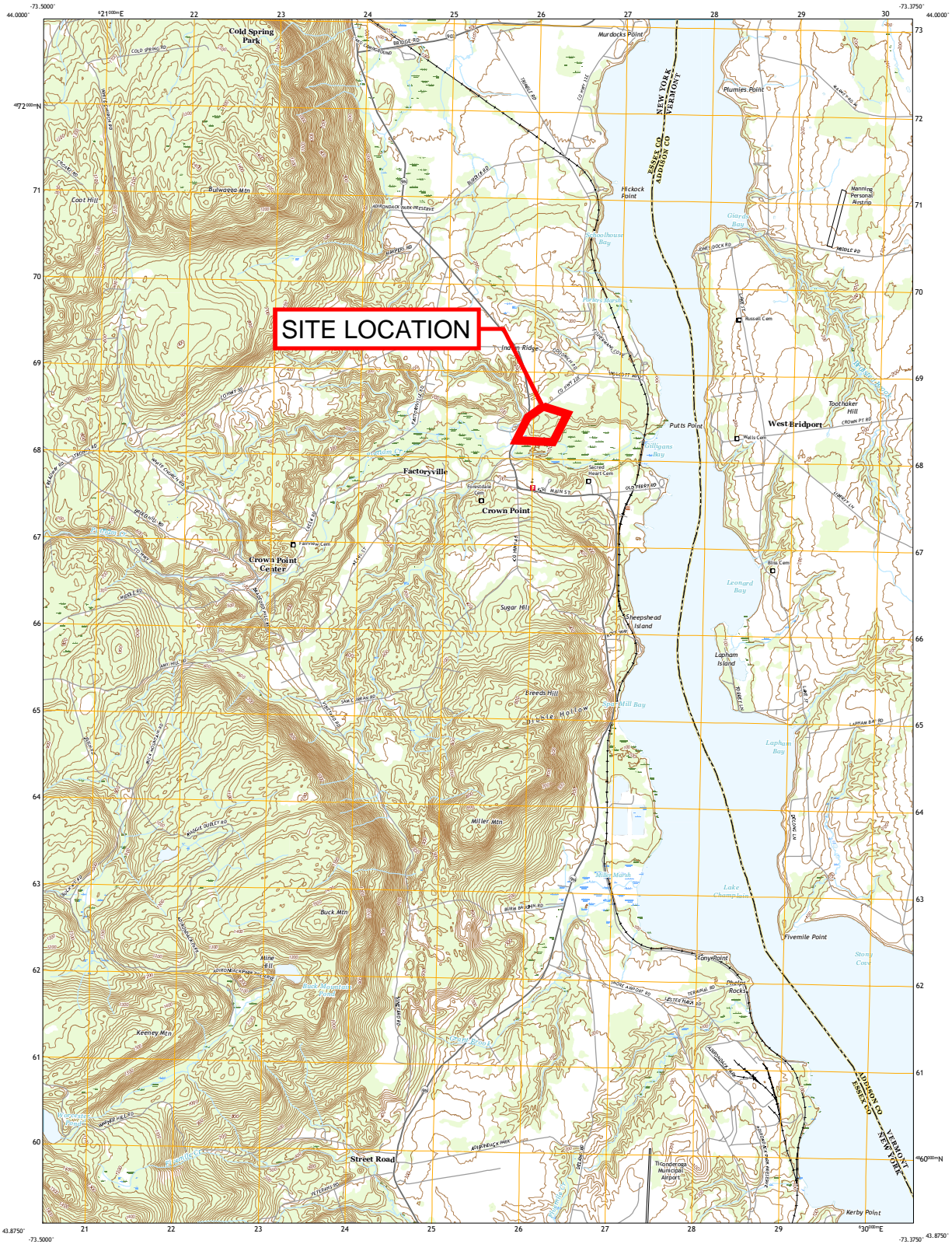
- A. This project is not required to provide enhanced phosphorus removal practices



# Appendix B

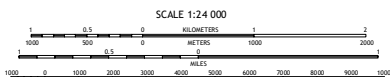
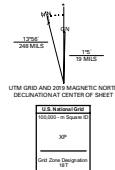
## Site Location Map





Produced by the United States Geological Survey  
North American Datum of 1983 (NAD83)  
World Geodetic System of 1984 (WGS84) Projection and  
1 000 meter grid (Universal Transverse Mercator, Zone 18T)  
This map is not a legal document. Boundaries may be  
generalized for this map scale. Private lands with government  
reservations may not be shown. Obtain permission before  
entering private lands.

Imagery: .....NAP August 2016 - December 2017  
Roads: .....U.S. Census Bureau, 2016 - 2017  
Names: .....National Hydrography Dataset, 1989 - 2019  
Contourlines: .....National Elevation Dataset, 2017  
Boundaries: .....Multiple sources; see metadata file 2017 - 2018  
Wetlands: .....FWS National Wetlands Inventory 1986 - 2010



1	2	3
4	5	6
7	8	9

ALL OTHER QUADRANGLES

**ROAD CLASSIFICATION**

Expressway	Local Connector
Secondary Hwy	Local Road
Route	encl
Interstate Route	US Route
	State Route

**CROWN POINT, NY, VT**  
2019





# Appendix C

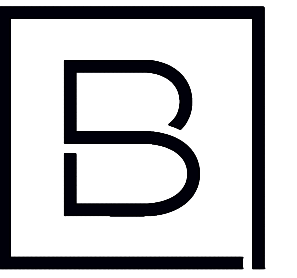
## Erosion and Sedimentation Control Plan(s) and Details



# PRELIMINARY DEVELOPMENT PLANS FOR PROPOSED

# CROW POINT SOLAR PROJECT

## 12 LAKE ROAD CROWN POINT, NEW YORK



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**YELLOW 10 LLC**

**CROWN POINT  
SOLAR PROJECT**

12 LAKE ROAD  
CROWN POINT, NY 12928

Date Revised	Description
6/15/2021	UPDATED PER APA COMMENTS

**PROJECT CONTACTS**

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PHONE: 518.556.3631

**OWNER**

BERT BARBER  
CROWN POINT, NY 12928

**APPLICANT**

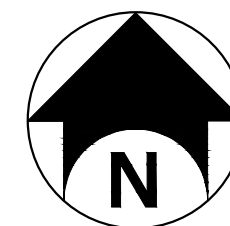
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**ELECTRICAL ENGINEER**

LABELLA ASSOCIATES  
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ROCHESTER, NY 14614  
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PHONE: 585.454.6110



SITE LOCATION MAP  
1"=1000'



**DRAWING INDEX**

DRAWING NO.	DRAWING TITLE	SHEET NO.
C000	COVER SHEET	1
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<b>ECR</b>	<b>ECR</b>
Designer	Reviewer
<b>WD</b>	<b>ECR</b>
Date Issued	Project Number
<b>03/22/2021</b>	<b>14859.03</b>

Sheet Name

**COVER SHEET**

Drawing Number

**C000**



SEQUENCE OF CONSTRUCTION:

- PRE-CONSTRUCTION MEETING HELD TO INCLUDE PROJECT MANAGER, OPERATOR'S ENGINEER, CONTRACTOR, AND SUB-CONTRACTORS PRIOR TO LAND DISTURBING ACTIVITIES.
- CONSTRUCT CONSTRUCTION ENTRANCE/EXIT AT LOCATIONS DESIGNATED ON PLANS.
- INSTALL PERIMETER SILT FENCE.
- HAVE A QUALIFIED PROFESSIONAL CONDUCT AN ASSESSMENT OF THE SITE PRIOR TO THE COMMENCEMENT OF CONSTRUCTION.
- BEGIN CLEARING AND GRUBBING OPERATIONS. CLEARING AND GRUBBING SHALL BE DONE ONLY IN AREAS WHERE EARTHWORK WILL BE PERFORMED AND ONLY IN AREAS WHERE CONSTRUCTION IS PLANNED TO COMMENCE WITHIN 14 DAYS AFTER CLEARING AND GRUBBING.
- USE THE EXISTING GRAVEL ROAD DURING CONSTRUCTION.
- STRIP TOPSOIL AND STOCKPILE IN A LOCATION ACCEPTABLE TO CONSTRUCTION MANAGER. WHEN STOCKPILE IS COMPLETE, INSTALL PERIMETER SILT FENCE. SEED SURFACE WITH 100% PERENNIAL RYEGRASS MIXTURE AT A RATE OF 2-4 LBS. PER 1000 SF. APPLY 90-100 LBS PER 1000 SF OF MULCH.
- COMMENCE EARTHWORK CUT AND FILLS. THE WORK SHALL BE PROGRESSED TO ALLOW A REASONABLE TRANSFER OF CUT AND FILL EARTH FOR ROUGH GRADING AND EARTH MOVING. THE CONTRACTOR WILL BE GIVEN SOME LATITUDE TO VARY FROM THE FOLLOWING SCHEDULE IN ORDER TO MEET THE FIELD CONDITIONS ENCOUNTERED. CONTRACTOR SHALL REVIEW VARIATIONS TO SWPPP WITH DESIGN ENGINEER AND QUALIFIED PROFESSIONAL PRIOR TO IMPLEMENTATION.
- REMOVE THE EXISTING GRAVEL DRIVEWAY AND CONSTRUCT THE PROPOSED GRAVEL DRIVEWAY AFTER CONSTRUCTION ACTIVITIES SUCH AS THE INSTALLATION OF THE PANELS AND PERIMETER FENCE. THE SUB-GRADE MATERIAL WHERE THE DRIVEWAY IS TO BE INSTALLED SHALL BE DECOMPACTED PER NYSDEC'S "DEEP-RIPPING AND DECOMPACTION" MANUAL, DATED APRIL 2008. CONTRACTOR SHALL AVOID FREQUENT HEAVY TRAFFIC ON THE LIMITED USE PVIOUS GRAVEL.
- AS ROADWAY AND ACCESS DRIVES ARE BROUGHT TO GRADE, THEY WILL BE STABILIZED WITH CRUSHED STONE SUBBASE AT A DEPTH SPECIFIED ON PLANS TO PREVENT EROSION AS SOON AS PRACTICABLE.
- STABILIZE ALL AREAS AS SOON AS PRACTICABLE. IDLE IN EXCESS OF 7 DAYS AND IN WHICH CONSTRUCTION WILL NOT RECOMMENCE WITHIN 14 DAYS.
- INSTALL UTILITIES. TRENCH EXCAVATION/BACKFILL AREAS SHOULD BE STABILIZED PROGRESSIVELY AT THE END OF EACH WORKDAY WITH SEED AND STRAW MULCH AT A RATE OF 100% PERENNIAL RYE GRASS AT 2-4 LBS/1000 SF MULCHED AT 90-100 LBS/1000 SF.
- STABILIZE ALL AREAS IDLE IN EXCESS OF 7 DAYS IN WHICH CONSTRUCTION WILL NOT RECOMMENCE WITHIN 14 DAYS.
- REMOVE TEMPORARY CONSTRUCTION EXITS AND PERIMETER SILT FENCE ONCE SITE HAS ACHIEVED 80% UNIFORM STABILIZATION.

GENERAL NOTES:

- THE UNDERGROUND STRUCTURES AND UTILITIES SHOWN ON THIS MAP HAVE BEEN PLOTTED FROM AVAILABLE SURVEYS AND RECORD MAPS. THEY ARE NOT CERTIFIED TO THE ACCURACY OF THEIR LOCATION AND/OR COMPLETENESS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THE LOCATION AND EXTENT OF ALL UNDERGROUND STRUCTURES AND UTILITIES PRIOR TO ANY DIGGING OR CONSTRUCTION ACTIVITIES IN THEIR VICINITY. THE CONTRACTOR SHALL HAVE ALL EXISTING UTILITIES FIELD STAKED BEFORE STARTING WORK BY CALLING 1-800-962-7962.
- THE CONTRACTOR SHALL PERFORM ALL WORK IN COMPLIANCE WITH TITLE 29 OF FEDERAL REGULATIONS, PART 1926, SAFETY AND HEALTH REGULATIONS FOR CONSTRUCTION (OSHA).
- HIGHWAY DRAINAGE ALONG ALL ROADS AND PRIVATE DRIVES SHALL BE KEPT CLEAN OF MUD, DEBRIS ETC. AT ALL TIMES.
- THE CONTRACTOR SHALL CONSULT THE DESIGN ENGINEER BEFORE DEVIATING FROM THESE PLANS.
- IN ALL TRENCH EXCAVATIONS, CONTRACTOR MUST LAY THE TRENCH SIDE SLOPES BACK TO A SAFE SLOPE, USE A TRENCH SHIELD OR PROVIDE SHEETING AND BRACING.
- IF SUSPICIOUS AND/OR HAZARDOUS MATERIAL IS ENCOUNTERED DURING DEMOLITION/CONSTRUCTION, ALL WORK SHALL STOP AND THE ESSEX COUNTY DEPARTMENT OF HEALTH AND THE NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION SHALL BE NOTIFIED IMMEDIATELY. WORK SHALL NOT RESUME UNTIL THE DEVELOPER HAS OUTLINED APPROPRIATE ACTION FOR DEALING WITH THE WASTE MATERIAL AND THE DEVELOPMENT PLANS ARE MODIFIED AS MAY BE NECESSARY.
- EXCAVATED WASTE MATERIAL REMOVED FROM THE SITE SHALL BE PLACED AT A LOCATION ACCEPTABLE TO THE NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION.
- AREAS DISTURBED OR DAMAGED AS PART OF THIS PROJECTS CONSTRUCTION THAT ARE OUTSIDE OF THE PRIMARY WORK AREA SHALL BE RESTORED, AT THE CONTRACTORS EXPENSE, TO THE SATISFACTION OF THE OWNER'S REPRESENTATIVE.
- UNLESS COVERED BY THE CONTRACT SPECIFICATIONS OR AS NOTED ON THE PLANS, ALL WORK SHALL CONFORM TO THE NEW YORK STATE DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS DATED JANUARY 1, 2020 AND ANY SUBSEQUENT APPENDICES.

WASTE/HAZARDOUS MATERIAL PRACTICES:

- WHENEVER POSSIBLE COVERED TRASH CONTAINERS SHOULD BE USED.
- DAILY SITE CLEANUP IS REQUIRED TO REDUCE DEBRIS AND POLLUTANTS IN THE ENVIRONMENT.
- CONTRACTOR SHALL PROVIDE A SAFE STORAGE SPACE FOR ALL PAINTS, STAINS AND SOLVENTS INSIDE A COVERED STORAGE AREA.
- ALL FUELS, OILS, AND GREASE MUST BE KEPT IN CONTAINERS AT ALL TIMES.

EROSION & SEDIMENT CONTROL NOTES:

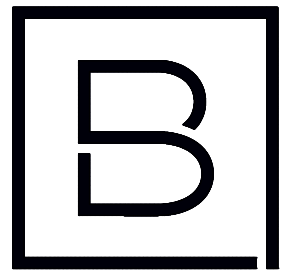
- INSTALL EROSION CONTROL MEASURES AS INDICATED ON THE PLAN PRIOR TO THE START OF ANY EXCAVATION WORK. EROSION CONTROL MEASURES WILL BE IMPLEMENTED IN ACCORDANCE WITH THE NEW YORK STATE GUIDELINES FOR URBAN EROSION SEDIMENT CONTROL MANUAL, NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION, AND THE GOVERNING MUNICIPAL REQUIREMENTS.
- REMOVE AND STOCKPILE TOPSOIL AS DIRECTED BY THE CONSTRUCTION MANAGER REPLACE TOPSOIL TO A MINIMUM 4" DEPTH WITH TOPSOIL OR AMENDED SOIL. ALL DISTURBED AREAS TO BE SEEDED TO PROMOTE VEGETATION AS SOON AS PRACTICABLE.
- IF THE SEASONS PROHIBITS TEMPORARY SEEDING, THE DISTURBED AREAS WILL BE MULCHED WITH STRAW HAY OR EQUIVALENT AND ANCHORED IN ACCORDANCE WITH THE "STANDARDS", NETTING OR LIQUID MULCH BINDER.
- CONTRACTOR SHALL BE RESPONSIBLE FOR THE MAINTENANCE AND REMOVAL OF TEMPORARY SEDIMENTATION CONTROLS. EROSION CONTROL MEASURES SHALL NOT BE REMOVED BEFORE 80% UNIFORM VEGETATIVE COVER HAS BEEN ACHIEVED.
- ALL EROSION CONTROL MEASURES ARE TO BE REPLACED WHENEVER THEY BECOME CLOGGED OR INOPERABLE AND SHALL BE REPLACED AT A MINIMUM OF EVERY 3 MONTHS.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR RESTORATION OF TOPSOIL OR AMENDED TO ALL DISTURBED AREAS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO MAINTAIN EROSION CONTROL MEASURES AT ALL TIMES.
- THE CONTRACTOR SHALL DESIGNATE A MEMBER OF HIS/HER FIRM TO BE RESPONSIBLE TO MONITOR EROSION CONTROL, EROSION CONTROL STRUCTURES, TREE PROTECTION AND PRESERVATION THROUGHOUT CONSTRUCTION.
- ALL DISTURBED AREAS SHALL BE FINISH GRADED TO PROMOTE VEGETATION ON ALL EXPOSED AREAS AS SOON AS PRACTICABLE. STABILIZATION PRACTICES (TEMPORARY/PERMANENT SEEDING, MULCHING, GEOTEXTILES, ETC.) MUST BE IMPLEMENTED WITHIN SEVEN (7) DAYS WHERE CONSTRUCTION ACTIVITIES HAVE TEMPORARILY OR PERMANENTLY CEASED, AND NOT EXPECTED TO RESUME WITHIN FOURTEEN (14) DAYS.
- PAVED ROADWAYS MUST BE KEPT CLEAN AT ALL TIMES. ALL CONSTRUCTION DEBRIS AND SEDIMENT SPOILS, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHT-OF-WAYS MUST BE REMOVED IMMEDIATELY.
- DUST SHALL BE CONTROLLED BY WATERING.
- ADJOINING PROPERTY SHALL BE PROTECTED FROM EXCAVATION AND FILLING OPERATIONS ON THE PROPOSED SITE.
- SLOPE TRACKING SHALL BE IMPLEMENTED ON ALL SLOPE 1 ON 3 OR GREATER AT THE END OF EACH WORK DAY AND PRIOR TO FINAL SLOPE GRADING AND STABILIZATION.

STORM WATER POLLUTION PREVENTION PLAN NOTES:

- THE CONTRACTOR SHALL PROVIDE A QUALIFIED INSPECTOR TO INSPECT THE PROJECT AT THE END OF EACH WORK WEEK AND PROVIDE A REPORT AT LEAST ONCE PER WEEK.
- EROSION CONTROL MEASURES WILL BE IMPLEMENTED IN ACCORDANCE WITH THE NEW YORK STATE GUIDELINES FOR URBAN EROSION SEDIMENT CONTROL MANUAL, ESSEX COUNTY HEALTH DEPARTMENT, AND THE TOWN OF CROWN POINTS REQUIREMENTS.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING THE BEST MANAGEMENT PRACTICES (BMP'S) UNTIL GROUND COVER IS ESTABLISHED.
- REMOVE AND STOCKPILE TOPSOIL AS DIRECTED BY THE CONSTRUCTION MANAGER. REPLACE TOPSOIL TO A MINIMUM 4" DEPTH. ALL DISTURBED AREAS TO BE HYDROSEED AS DIRECTED BY THE CONSTRUCTION MANAGER TO PROMOTE VEGETATION AS SOON AS PRACTICABLE.
- IF THE SEASONS PROHIBITS TEMPORARY SEEDING, THE DISTURBED AREAS WILL BE MULCHED WITH STRAW HAY OR EQUIVALENT AND ANCHORED IN ACCORDANCE WITH THE "STANDARDS", NETTING OR LIQUID MULCH BINDER.
- CONTRACTOR SHALL BE RESPONSIBLE FOR THE MAINTENANCE AND REMOVAL OF TEMPORARY SEDIMENTATION CONTROLS. EROSION CONTROL MEASURES SHALL NOT BE REMOVED BEFORE 80% UNIFORM VEGETATION HAS BEEN ACHIEVED.
- ALL EROSION CONTROL MEASURES ARE TO BE REPLACED WHENEVER THEY BECOME CLOGGED OR INOPERABLE AND SHALL BE REPLACED WHEN THEY HAVE REACHED THE DESIGN LIFE INDICATED IN THE NYS GUIDELINES FOR URBAN EROSION SEDIMENT CONTROL DESIGN MANUAL OR EVERY THREE MONTHS.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR RESTORATION OF TOPSOIL TO ALL DISTURBED AREAS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO MAINTAIN EROSION CONTROL MEASURES AT ALL TIMES.
- THE CONTRACTOR SHALL DESIGNATE A MEMBER OF HIS/HER FIRM TO BE RESPONSIBLE TO MONITOR EROSION CONTROL AND EROSION CONTROL STRUCTURES THROUGHOUT CONSTRUCTION.
- ALL DISTURBED AREAS SHALL BE FINISH GRADED TO PROMOTE VEGETATION ON ALL EXPOSED AREAS AS SOON AS PRACTICABLE. STABILIZATION PRACTICES (TEMPORARY/PERMANENT SEEDING, MULCHING, GEOTEXTILES, ETC.) MUST BE IMPLEMENTED WITHIN SEVEN (7) DAYS WHERE CONSTRUCTION ACTIVITIES HAVE TEMPORARILY OR PERMANENTLY CEASED, AND NOT EXPECTED TO RESUME WITHIN FOURTEEN (14) DAYS.
- PAVED ROADWAYS MUST BE KEPT CLEAN AT ALL TIMES. ALL CONSTRUCTION DEBRIS AND SEDIMENT SPOILS, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHT-OF-WAYS MUST BE REMOVED IMMEDIATELY.
- DUST SHALL BE CONTROLLED BY WATERING.
- ADJOINING PROPERTIES SHALL BE PROTECTED FROM EXCAVATION AND FILLING OPERATIONS ON THE PROPOSED SITE.
- EROSION CONTROL MEASURES SHOULD BE RELOCATED INWARD AS PERIMETER SLOPE CONSTRUCTION PROGRESSES AND RECONSTRUCTED TO THE NYS STANDARDS & SPECIFICATION AT THE END OF EACH DAY.
- PERIMETER AREAS SHALL BE TEMPORARILY STABILIZED WITH SEED AND MULCH PROGRESSIVELY AT MINIMUM AT THE END OF EACH WEEK WITH 100% PERENNIAL RYEGRASS MIX AT A RATE OF 2-4 LBS PER 1000 SF AND MULCH 90-100 LBS PER 1000 SF OF WEED FREE STRAW.
- SLOPE TRACKING SHALL BE IMPLEMENTED ON ALL SLOPE 1 ON 3 OR GREATER AT THE END OF EACH WORK DAY AND PRIOR TO FINAL SLOPE GRADING AND STABILIZATION.

SITE STABILIZATION:

- WHEN FINAL GRADE IS ACHIEVED DURING NON-GERMINATING MONTHS, THE AREA SHOULD BE MULCHED UNTIL THE BEGINNING OF THE NEXT PLANTING SEASON.
- MULCHES SHOULD BE APPLIED AT THE RATES SHOWN IN THE MULCH APPLICATION RATES TABLE. VERY LITTLE BARE GROUND SHOULD BE VISIBLE THROUGH THE MULCH.
- STRAW AND HAY MULCH SHOULD BE ANCHORED OR TACKIFIED IMMEDIATELY AFTER APPLICATION TO PREVENT BEING WINDBLOWN. A TRACTOR-DRAWN IMPLEMENTS MAY BE USED TO "CRIMP" THE STRAW OR HAY INTO THE SOIL - ABOUT 3 INCHES. THIS METHOD SHOULD BE LIMITED TO SLOPES NO STEEPER THAN 3H:1V. THE MACHINERY SHOULD BE OPERATED ALONG THE CONTOUR. NOTE: CRIMPING OF HAY OR STRAW BY RUNNING OVER IT WITH TRACKED MACHINERY IS NOT RECOMMENDED.
- BEFORE SEEDING IS APPLIED THE CONTRACTOR SHALL SPREAD SOIL TO PREVENT PONDING AND CONFIRM THAT SOIL WILL SUSTAIN THE SEED GERMINATION AND ESTABLISHMENT OF VEGETATION.
- GRADED AREAS SHOULD BE SCARIFIED OR OTHERWISE LOOSENEED TO A DEPTH OF 3 TO 5 INCHES TO PERMIT BONDING OF THE TOPSOIL TO THE SURFACE AREAS AND TO PROVIDE A ROUGHENED SURFACE TO PREVENT TOPSOIL FROM SLIDING DOWN SLOPE. COMPACTED SOILS SHOULD BE SCARIFIED TO A DEPTH OF 6 TO 12 INCHES, ALONG CONTOUR WHEREVER POSSIBLE, PRIOR TO SEEDING.
- TOPSOIL OR AMENDED SOIL SHOULD BE UNIFORMLY DISTRIBUTED ACROSS THE DISTURBED AREA TO A MINIMUM DEPTH OF 6 INCHES. SPREADING SHOULD BE DONE IN SUCH A MANNER THAT SODDING OR SEEDING CAN PROCEED WITH A MINIMUM OF ADDITIONAL PREPARATION OR TILLAGE. IRREGULARITIES IN THE SURFACE RESULTING FROM TOPSOIL PLACEMENT SHOULD BE CORRECTED IN ORDER TO PREVENT FORMATION OF DEPRESSIONS.
- TOPSOIL SHOULD NOT BE PLACED WHILE THE TOPSOIL OR SUBSOIL IS IN A FROZEN OR MUDDY CONDITION, WHEN THE SUBSOIL IS EXCESSIVELY WET, OR IN A CONDITION THAT MAY OTHERWISE BE DETRIMENTAL TO PROPER GRADING AND SEEDBED PREPARATION.
- WHEN USED AS A MULCH REPLACEMENT, THE APPLICATION RATE (THICKNESS) OF THE COMPOST SHOULD BE ½" TO ¾". COMPOST SHOULD BE PLACED EVENLY AND SHOULD PROVIDE 100% SOIL COVERAGE. NO SOIL SHOULD BE VISIBLE.
- POLYMERIC AND GUM TACKIFIERS MIXED AND APPLIED ACCORDING TO MANUFACTURER'S RECOMMENDATIONS MAY BE USED TO TACK MULCH. AVOID APPLICATION DURING RAIN AND ON WINDY DAYS. A 24-HOUR CURING PERIOD AND A SOIL TEMPERATURE HIGHER THAN 45° F ARE TYPICALLY REQUIRED. APPLICATION SHOULD GENERALLY BE HEAVIEST AT EDGES OF SEEDED AREAS AND AT CRESTS OF RIDGES AND BANKS TO PREVENT LOSS BY WIND. THE REMAINDER OF THE AREA SHOULD HAVE BINDER APPLIED UNIFORMLY. BINDERS MAY BE APPLIED AFTER MULCH IS SPREAD OR SPRAYED INTO THE MULCH AS IT IS BEING BLOWN ONTO THE SOIL. APPLYING STRAW AND BINDER TOGETHER IS GENERALLY MORE EFFECTIVE.
- SYNTHETIC BINDERS, OR CHEMICAL BINDERS, MAY BE USED AS RECOMMENDED BY THE MANUFACTURER TO ANCHOR MULCH PROVIDED SUFFICIENT DOCUMENTATION IS PROVIDED TO SHOW THEY ARE NON-TOXIC TO NATIVE PLANT AND ANIMAL SPECIES.
- MULCH ON SLOPES OF 8% OR STEEPER SHOULD BE HELD IN PLACE WITH NETTING. LIGHTWEIGHT PLASTIC, FIBER, OR PAPER NETS MAY BE STAPLED OVER THE MULCH ACCORDING TO MANUFACTURER'S RECOMMENDATIONS.
- SHREDDED PAPER HYDROMULCH SHOULD NOT BE USED ON SLOPES STEEPER THAN 5%. WOOD FIBER HYDROMULCH MAY BE APPLIED ON STEEPER SLOPES PROVIDED A TACKIFIER IS USED. THE APPLICATION RATE FOR ANY HYDROMULCH SHOULD BE 2,000 LB/ACRE AT A MINIMUM.
- LIME, FERTILIZER, SEED, AND MULCH DISTURBED AREAS PER THE EROSION AND SEDIMENT CONTROL PLANS. IN AREAS OF STEEP SLOPES OR OBVIOUS AREAS WHERE POTENTIAL EROSION MAY OCCUR, AN EROSION CONTROL MAT OR FLEXIBLE GROWTH MEDIUM (FGM) SHALL BE USED. FGM SHALL BE APPLIED PER MANUFACTURER SPECIFICATIONS.
- ONCE A SECTION OF THE ALIGNMENT HAS BEEN STABILIZED, NO CONSTRUCTION TRAFFIC SHALL OCCUR TO REMOVE ANY BMP'S UNTIL THE SECTION HAS ACHIEVED 80% PERENNIAL VEGETATIVE COVER. AN AREA SHALL BE CONSIDERED TO HAVE ACHIEVED FINAL STABILIZATION WHEN IT HAS A MINIMUM 80% PERENNIAL VEGETATIVE COVER OR OTHER PERMANENT NONVEGETATIVE COVER WITH A DENSITY SUFFICIENT TO RESIST ACCELERATED EROSION AND SUBSURFACE CHARACTERISTICS SUFFICIENT TO RESIST SLIDING OR OTHER MOVEMENTS.



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## YELLOW 10 LLC

## CROWN POINT SOLAR PROJECT

12 LAKE ROAD  
CROWN POINT, NY 12928

Date Revised	Description
6/15/2021	UPDATED PER APA COMMENTS



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Project Manager	Discipline Lead
<b>ECR</b>	<b>ECR</b>
Designer	Reviewer
<b>WD</b>	<b>ECR</b>
Date Issued	Project Number
<b>03/22/2021</b>	<b>14859.03</b>

Sheet Name

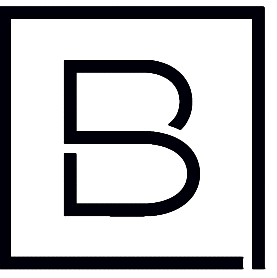
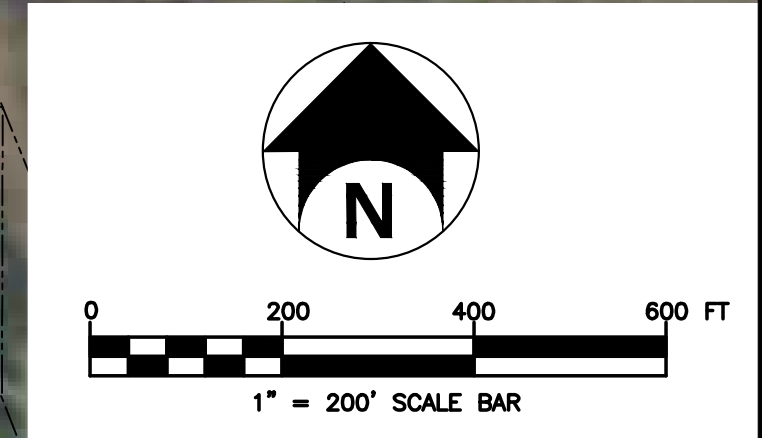
## GENERAL NOTES

Drawing Number

# C001



NUMBER	TAX ID	PARCEL OWNER
1	117.19-2-20.000	PAIGE DOLBACK



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<b>ECR</b>	<b>ECR</b>
Designer	Reviewer
<b>WD</b>	<b>ECR</b>
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<b>03/22/2021</b>	<b>14859.03</b>

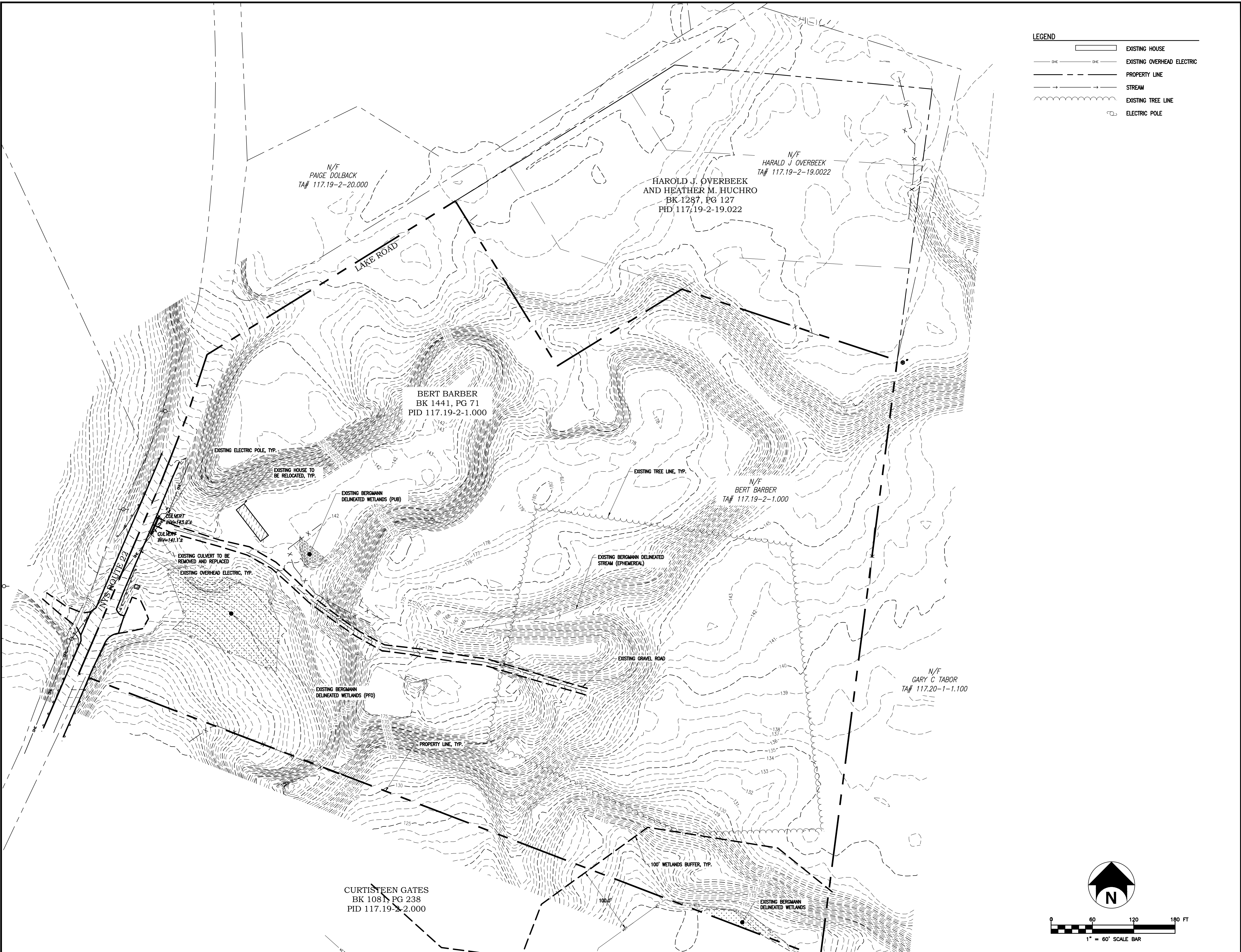
Sheet Name

**AREA PARCEL PLAN**

Drawing Number

**C002**





**LEGEND**

	EXISTING HOUSE
	EXISTING OVERHEAD ELECTRIC
	PROPERTY LINE
	STREAM
	EXISTING TREE LINE
	ELECTRIC POLE



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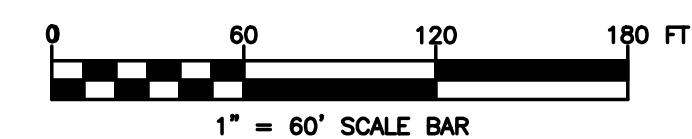
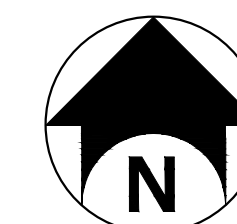
Project Manager	Discipline Lead
ECR	ECR
Designer	Reviewer
WD	ECR
Date Issued	Project Number
03/22/2021	14859.03

Sheet Name

**EXISTING CONDITIONS PLAN**

Drawing Number

**C003**



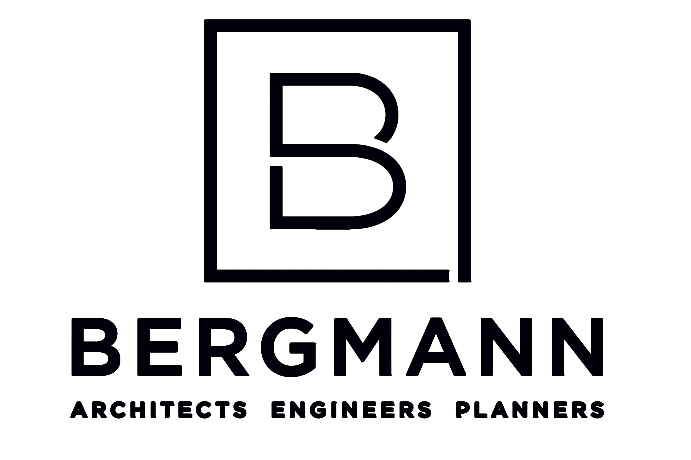




SITE PLAN DATA TABLE	
SITE IS LOCATED IN THE "OH" OUTSIDE HAMLET ZONING DISTRICT.	
PROPOSED USE: SOLAR ENERGY SYSTEM	
PARCEL 117.19-2-1.000	
TOWN OF CROWN POINT, COUNTY OF ESSEX	
STATE OF NEW YORK	
APPLICANT: YELLOW 4 LLC 125 WOLF ROAD, SUITE 312 COLONIE, NY 12205 (518) 390-4004	OWNER(S) OF RECORD: BURT BARBER
PLANS PREPARED BY: BERGMANN 2 WINNERS CIRCLE, SUITE 102 ALBANY, NY 12205 (518) 862-0325	

LEGEND	
	PROPOSED SOLAR PANEL
	PROPOSED PERIMETER FENCE
	PROPOSED UNDERGROUND ELECTRIC
	PROPOSED OVERHEAD ELECTRIC
	STREAM
	PROPOSED GRAVEL DRIVE
	PROPOSED LEASE AREA BOUNDARY
	PROPERTY LINE
	PROPOSED TREELINE
	EXISTING TREELINE
	EXISTING OVERHEAD ELECTRIC
	100' WETLAND BUFFER
	PALUSTRINE FORESTED WETLAND (PFO)
	PALUSTRINE UNCONSOLIDATED BOTTOM WETLAND (PUB)
	EXISTING UTILITY POLE
	PROPOSED UTILITY POLE

ARRAY INFORMATION	
CROWN POINT	
SYSTEM SIZE	1.82 MW-DC
MODULES	ZNehine solar, ZXMG-NH144-445/M(2094A1038A35), 445W, 4,080 UNITS- POST TO POST SPACING: 13 FT



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Albany, NY 12205  
www.bergmannpc.com  
office: 518.862.0325

## YELLOW 10 LLC

# CROWN POINT SOLAR PROJECT

12 LAKE ROAD  
CROWN POINT, NY 12928

Date Revised	Description
6/15/2021	UPDATED PER APA COMMENTS



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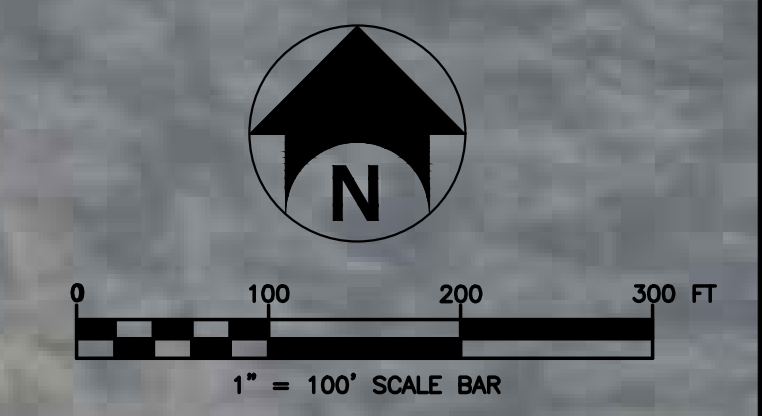
Project Manager	Discipline Lead
ECR	ECR
Designer	Reviewer
WD	ECR
Date Issued	Project Number
03/22/2021	14859.03

Sheet Name

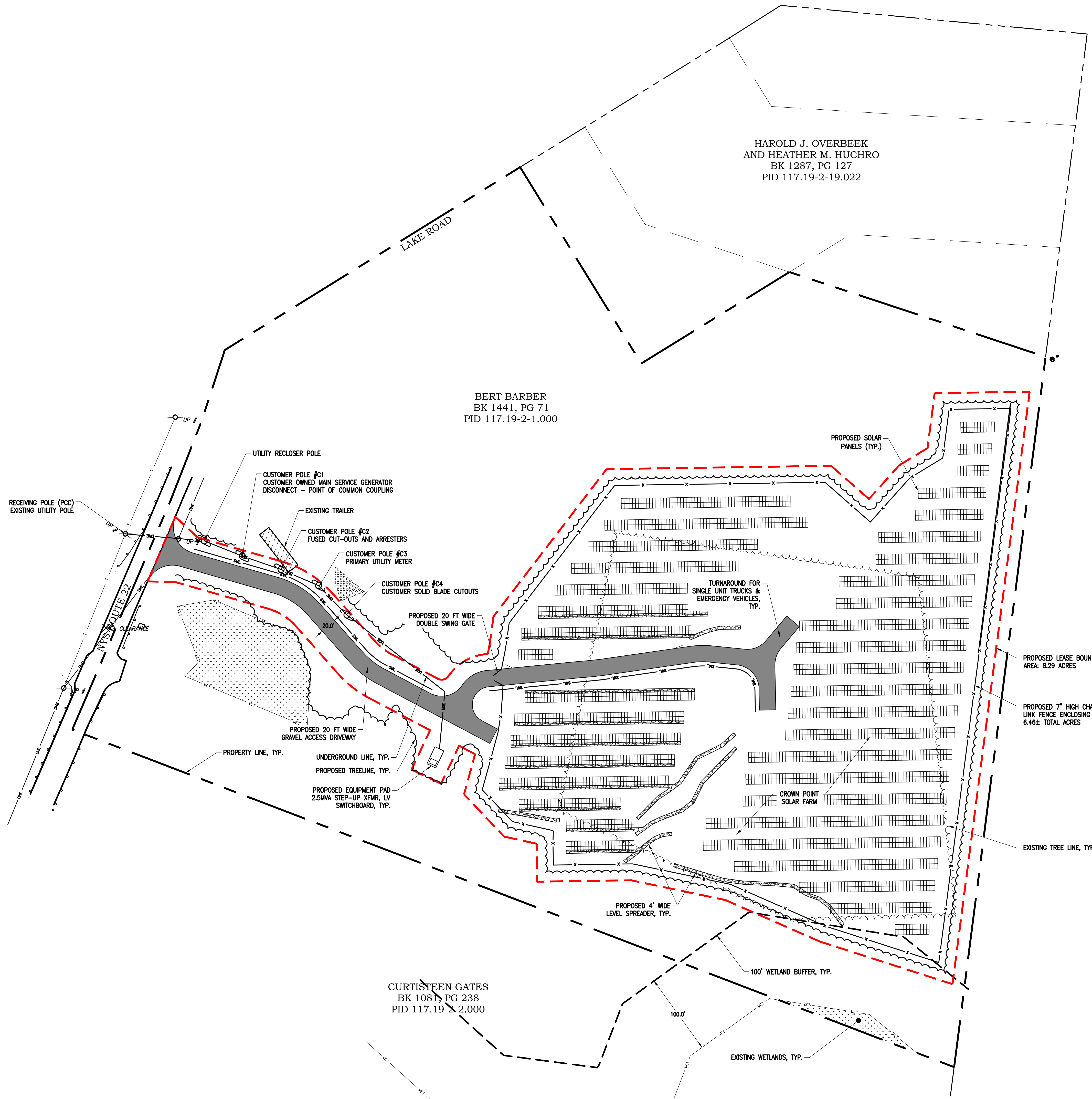
## OVERALL SITE PLAN

Drawing Number

# C004







SITE PLAN DATA TABLE	
SITE IS LOCATED IN THE "OH" OUTSIDE HAMLET ZONING DISTRICT.	
PROPOSED USE: SOLAR ENERGY SYSTEM	
PARCEL 117.19-2-1.000	
TOWN OF CROWN POINT, COUNTY OF ESSEX	
STATE OF NEW YORK	
APPLICANT: YELLOW 4 LLC 125 WOLF ROAD, SUITE 312 COLONIE, NY 12205 (518) 390-4004	OWNER(S) OF RECORD: BURT BARBER
PLANS PREPARED BY: BERGMANN 2 WINNERS CIRCLE, SUITE 102 ALBANY, NY 12205 (518) 862-0325	

LEGEND	
[Grid Pattern]	PROPOSED SOLAR PANEL
[Dashed Line]	PROPOSED PERIMETER FENCE
[Solid Line]	PROPOSED UNDERGROUND ELECTRIC
[Dashed Line]	PROPOSED OVERHEAD ELECTRIC
[Wavy Line]	STREAM
[Grey Area]	PROPOSED GRAVEL DRIVE
[Red Dashed Line]	PROPOSED LEASE AREA BOUNDARY
[Black Dashed Line]	PROPERTY LINE
[Wavy Line]	PROPOSED TREELINE
[Wavy Line]	EXISTING TREELINE
[Dashed Line]	100' WETLAND BUFFER
[Dashed Line]	EXISTING OVERHEAD ELECTRIC
[Stippled Area]	PALUSTRINE FORESTED WETLAND (PFO)
[Stippled Area]	PALUSTRINE UNCONSOLIDATED BOTTOM WETLAND (PUB)
[Circle]	EXISTING UTILITY POLE
[Square]	PROPOSED UTILITY POLE

ARRAY INFORMATION	
CROWN POINT	
SYSTEM SIZE	1.82 MW-DC
MODULES	ZNshine solar, ZXM6-NH144-445/M(2094A1038A35), 445W, 4,080 UNITS- POST TO POST SPACING: 13 FT

GARY C. TABOR  
BK 1115, PG 116  
PID 117.20-1-1.100



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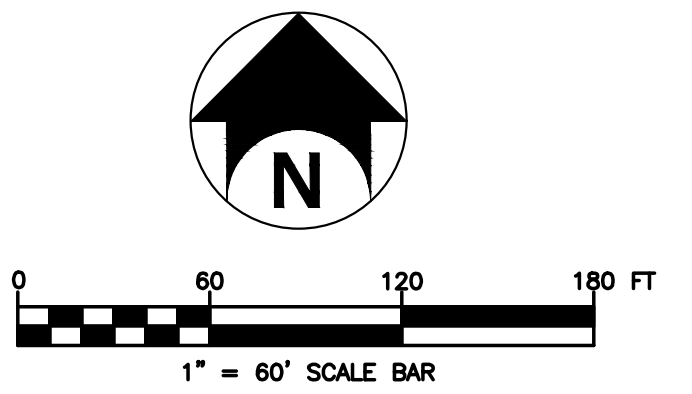
Project Manager	Discipline Lead
ECR	ECR
Designer	Reviewer
WD	ECR
Date Issued	Project Number
03/22/2021	14859.03

Sheet Name

### SITE PLAN

Drawing Number

### C005





**GRADING & EROSION & SEDIMENT CONTROL LEGEND**

	PROPOSED STABILIZED CONSTRUCTION ENTRANCE
	APPROXIMATE LIMITS OF DISTURBANCE
	DRIVEWAY SECTION ALIGNMENT
	PROPOSED SILT FENCE
	PROPOSED MAJOR CONTOUR
	PROPOSED MINOR CONTOUR
	EXISTING MAJOR CONTOUR
	EXISTING MINOR CONTOUR

BERT BARBER  
BK 1441, PG 71  
PID 117.19-2-1.000

CURTISTEEN GATES  
BK 1081, PG 238  
PID 117.19-2-2.000



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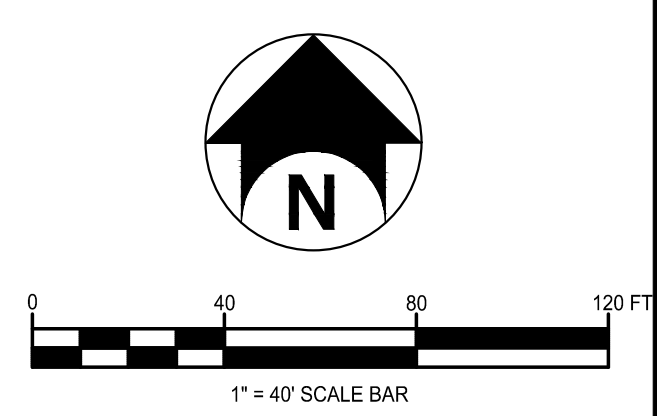
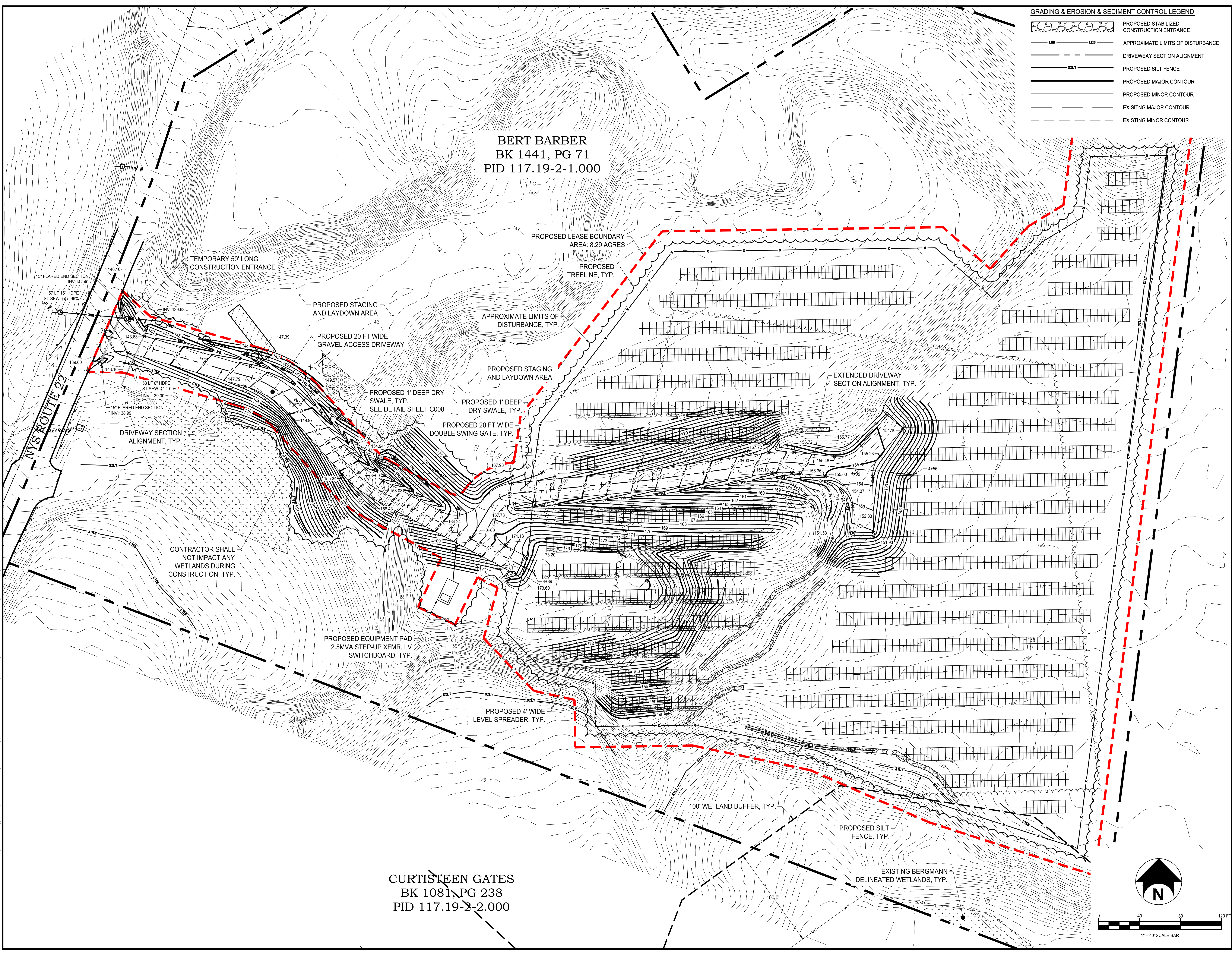
Project Manager <b>ECR</b>	Discipline Lead <b>ECR</b>
Designer <b>WD</b>	Reviewer <b>ECR</b>
Date Issued <b>03/22/2021</b>	Project Number <b>14859.03</b>

Sheet Name

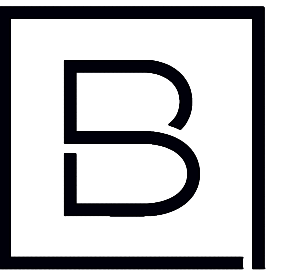
**GRADING & EROSION CONTROL PLAN**

Drawing Number

**C006**







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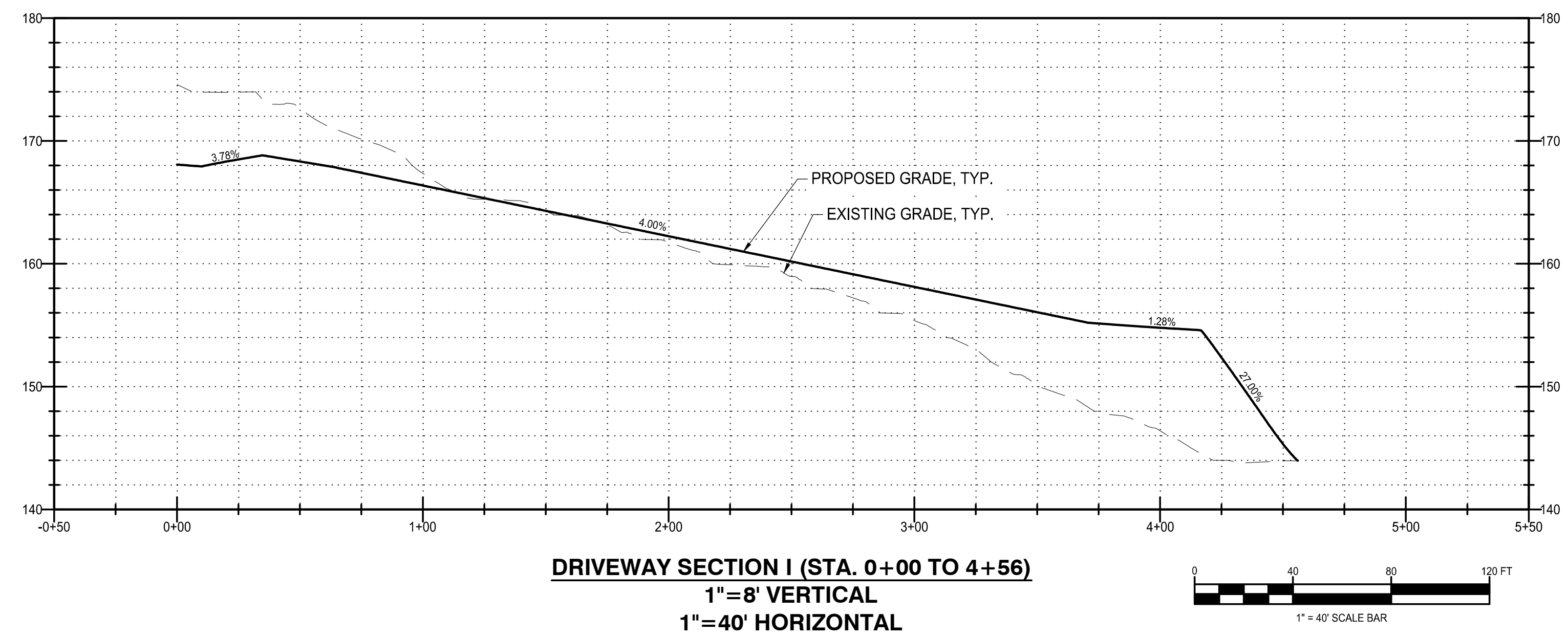
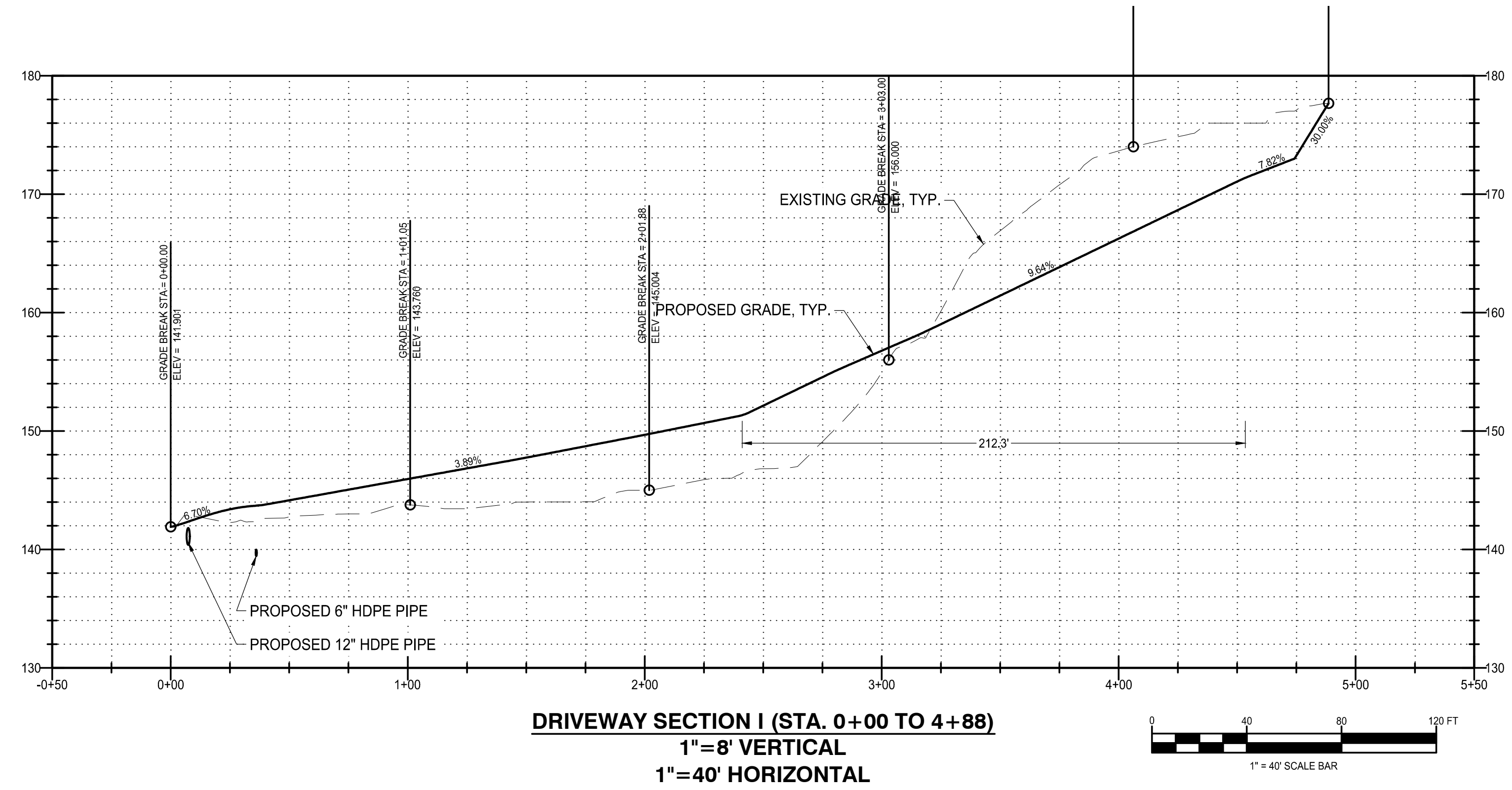
Project Manager	Discipline Lead
<b>ECR</b>	<b>ECR</b>
Designer	Reviewer
<b>WD</b>	<b>ECR</b>
Date Issued	Project Number
<b>03/22/2021</b>	<b>14859.03</b>

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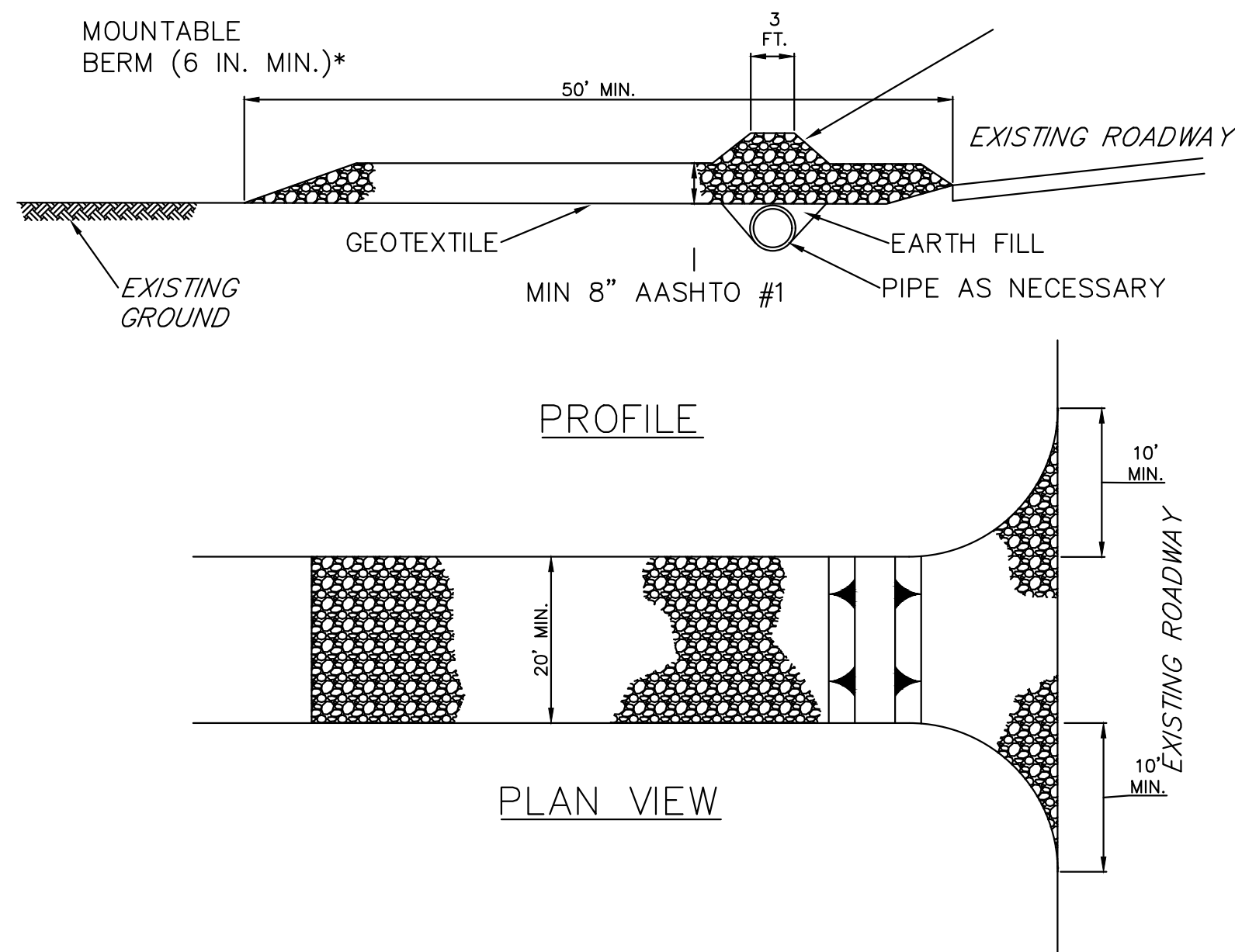
**GRADING PLAN DETAILS**

Drawing Number

**C007**







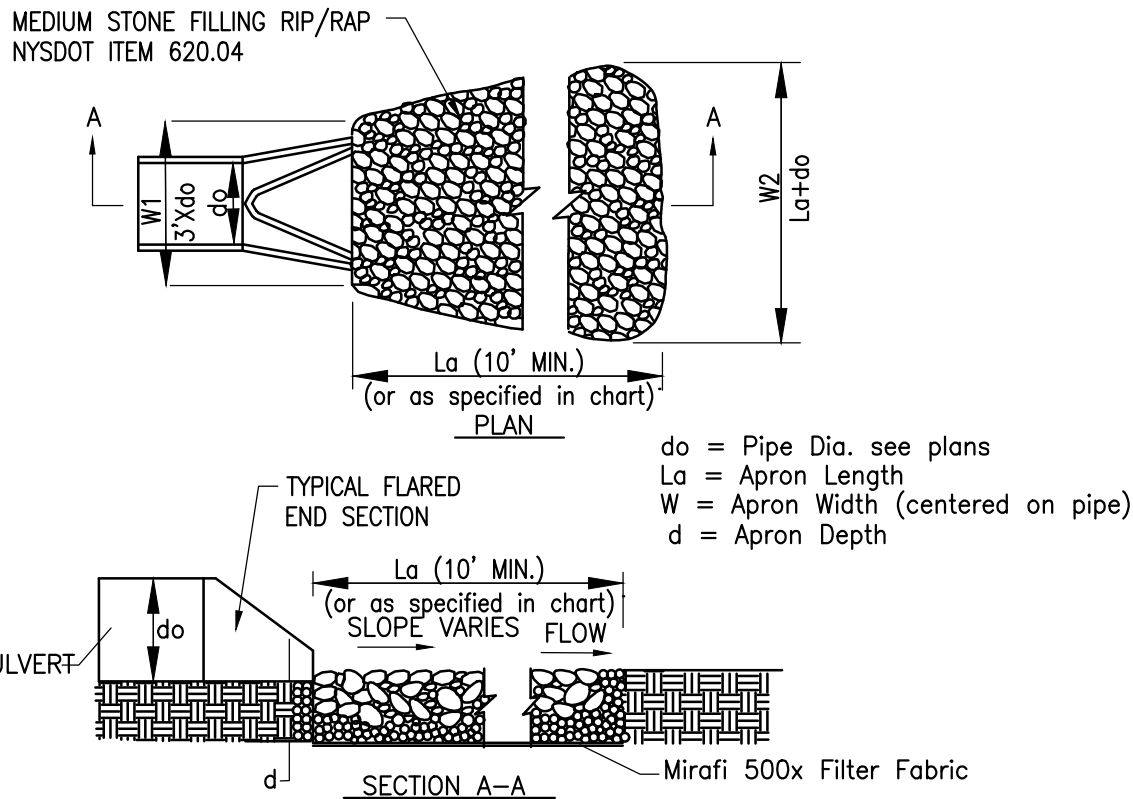
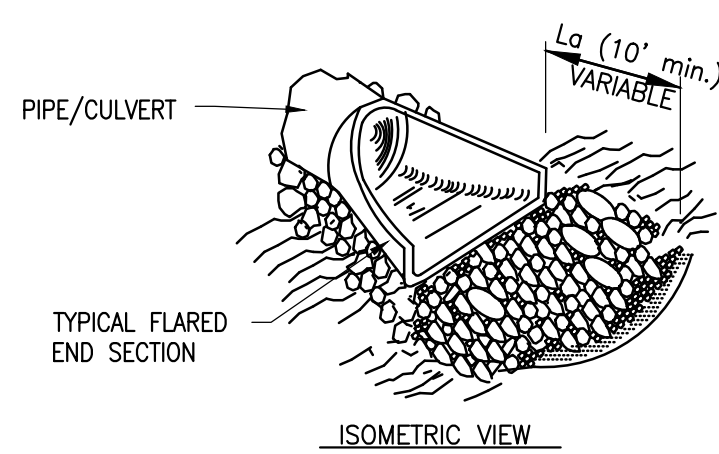
\* MOUNTABLE BERM USED TO PROVIDE PROPER COVER FOR PIPE

**NOTES:**

1. REMOVE TOPSOIL PRIOR TO INSTALLATION OF ROCK CONSTRUCTION ENTRANCE. EXTEND ROCK OVER FULL WIDTH OF ENTRANCE.
2. RUNOFF SHALL BE DIVERTED FROM ROADWAY TO A SUITABLE SEDIMENT REMOVAL BMP PRIOR TO ENTERING ROCK CONSTRUCTION ENTRANCE.
3. MOUNTABLE BERM SHALL BE INSTALLED WHEREVER OPTIONAL CULVERT PIPE IS USED AND PROPER PIPE COVER AS SPECIFIED BY MANUFACTURER IS NOT OTHERWISE PROVIDED. PIPE SHALL BE SIZED APPROPRIATELY FOR SIZE OF DITCH BEING CROSSED.
4. MAINTENANCE: ROCK CONSTRUCTION ENTRANCE THICKNESS SHALL BE CONSTANTLY MAINTAINED TO THE SPECIFIED DIMENSIONS BY ADDING ROCK. A STOCKPILE SHALL BE MAINTAINED ON SITE FOR THIS PURPOSE. ALL SEDIMENT DEPOSITED ON PAVED ROADWAYS SHALL BE REMOVED AND RETURNED TO THE CONSTRUCTION SITE IMMEDIATELY. IF EXCESSIVE AMOUNTS OF SEDIMENT ARE BEING DEPOSITED ON ROADWAY, EXTEND LENGTH OF ROCK CONSTRUCTION ENTRANCE BY 50 FOOT INCREMENTS UNTIL CONDITION IS ALLEVIATED OR INSTALL WASH RACK. WASHING THE ROADWAY OR SWEEPING THE DEPOSITS INTO ROADWAY DITCHES, SEWERS, CULVERTS, OR OTHER DRAINAGE COURSES IS NOT ACCEPTABLE.

**STABILIZED CONSTRUCTION ENTRANCE**

N.T.S.



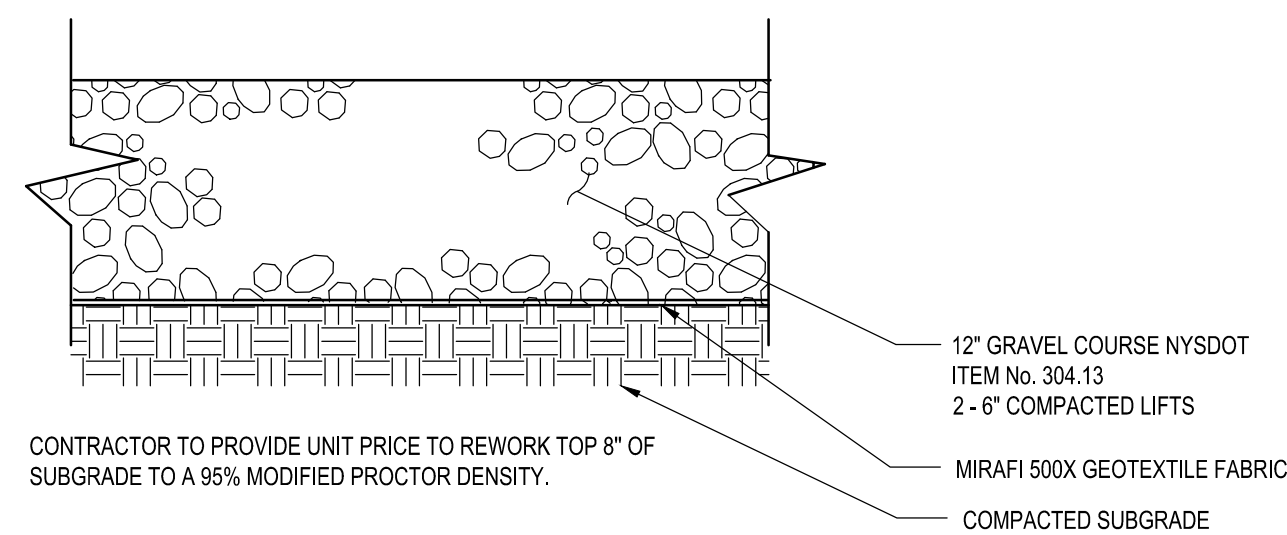
PIPE DIA.	W1-MINIMUM	W2-MINIMUM	La-MINIMUM	D-MINIMUM
12"	3'	15'	14'	13.5"
18"	4.5'	15.5'	14'	13.5"
24"	6'	15'	13'	13.5"

**NOTES:**

1. d = 1.5 TIMES THE MAXIMUM STONE DIAMETER BUT NO LESS THAN 6".
2. INSTALL FILTER MIRAFI 500X OR APPROVED EQUAL FILTER FABRIC BETWEEN RIP-RAP AND SUBGRADE.

**OUTLET PROTECTION RIP-RAP APRON**

N.T.S.

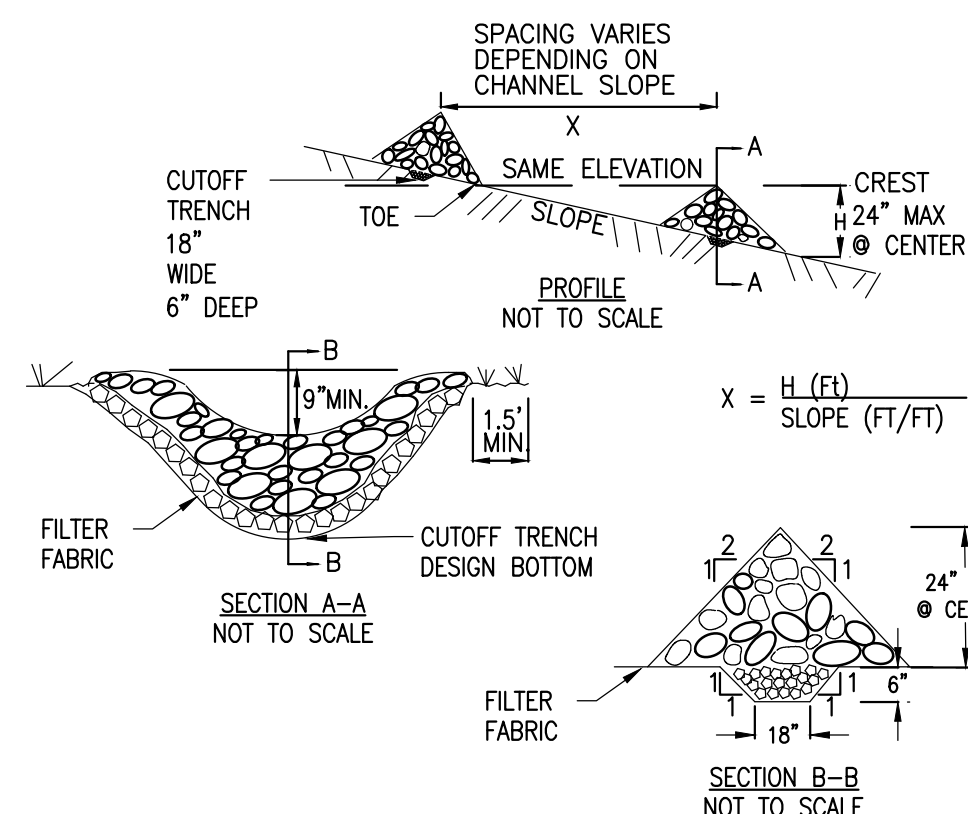


CONTRACTOR TO PROVIDE UNIT PRICE TO REWORK TOP 8\"/>

NOTE:  
ITEM 304.13 SHALL HAVE NO MORE THAN 7 PERCENT BY WEIGHT FINER THAN NO. 200 SIEVE

**TYPICAL GRAVEL PAVEMENT SECTION**

N.T.S.

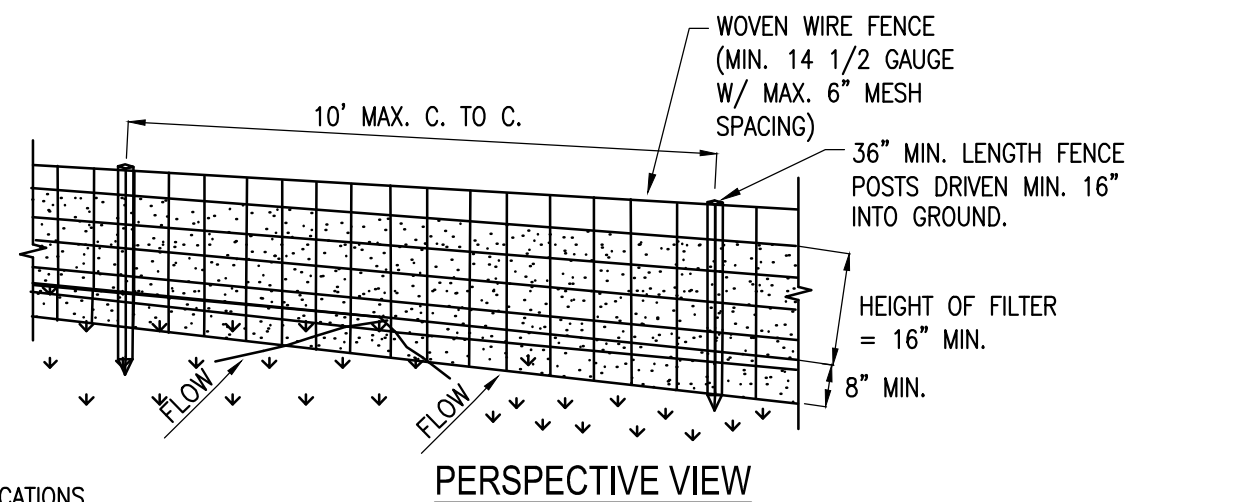


**CONSTRUCTION SPECIFICATIONS**

1. STONE WILL BE PLACED ON A FILTER FABRIC FOUNDATION TO THE LINES, GRADES AND LOCATIONS SHOWN IN THE PLAN.
2. SET SPACING OF CHECK DAMS TO ASSUME THAT THE ELEVATIONS OF THE CREST OF THE DOWNSTREAM DAM IS AT THE SAME ELEVATION OF THE TOE OF THE UPSTREAM DAM.
3. EXTEND THE STONE A MINIMUM OF 1.5 FEET BEYOND THE DITCH BANKS TO PREVENT CUTTING AROUND THE DAM.
4. PROTECT THE CHANNEL DOWNSTREAM OF THE LOWEST CHECK DAM FROM SCOUR AND EROSION WITH STONE OR LINER AS APPROPRIATE.
5. ENSURE THAT CHANNEL APPURTENANCES SUCH AS CULVERT ENTRANCES BELOW CHECK DAMS ARE NOT SUBJECT TO DAMAGE OR BLOCKAGE FROM DISPLACED STONE.
6. MAXIMUM DRAINAGE AREA 2 ACRES.

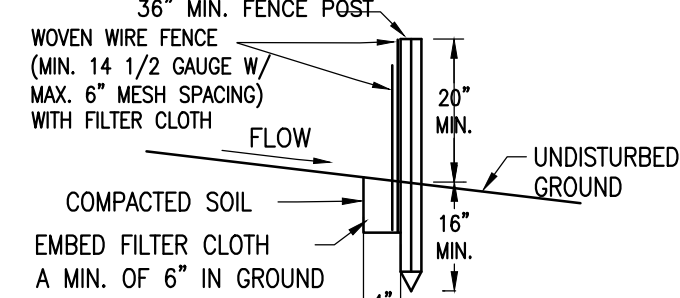
**LIGHT STONE CHECK DAM**

N.T.S.



**CONSTRUCTION SPECIFICATIONS**

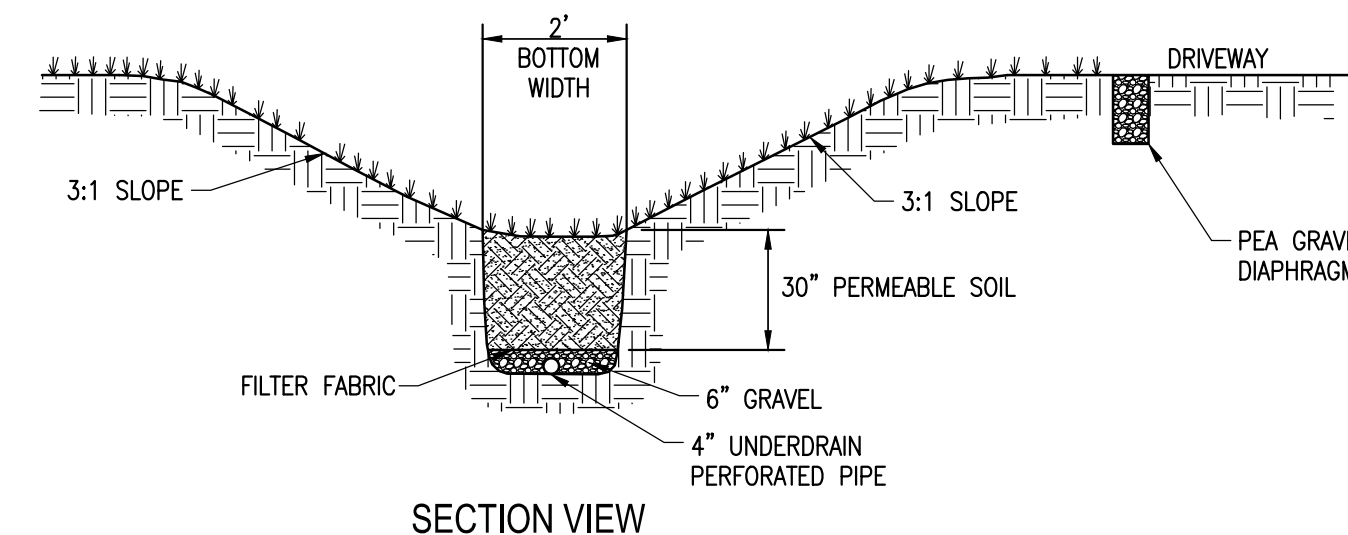
1. WOVEN WIRE FENCE TO BE FASTENED SECURELY TO FENCE POSTS WITH WIRE TIES OR STAPLES. POSTS SHALL BE STEEL EITHER "I" OR "U" TYPE OR HARDWOOD.
2. FILTER CLOTH TO BE TO BE FASTENED SECURELY TO WOVEN WIRE FENCE WITH TIES SPACED EVERY 24\"/>



**SECTION VIEW**

**SILT FENCE INSTALLATION DETAIL**

N.T.S.

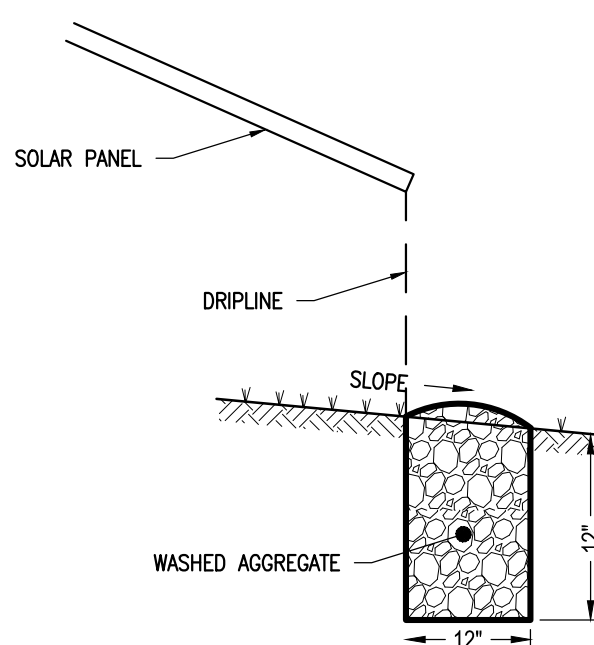
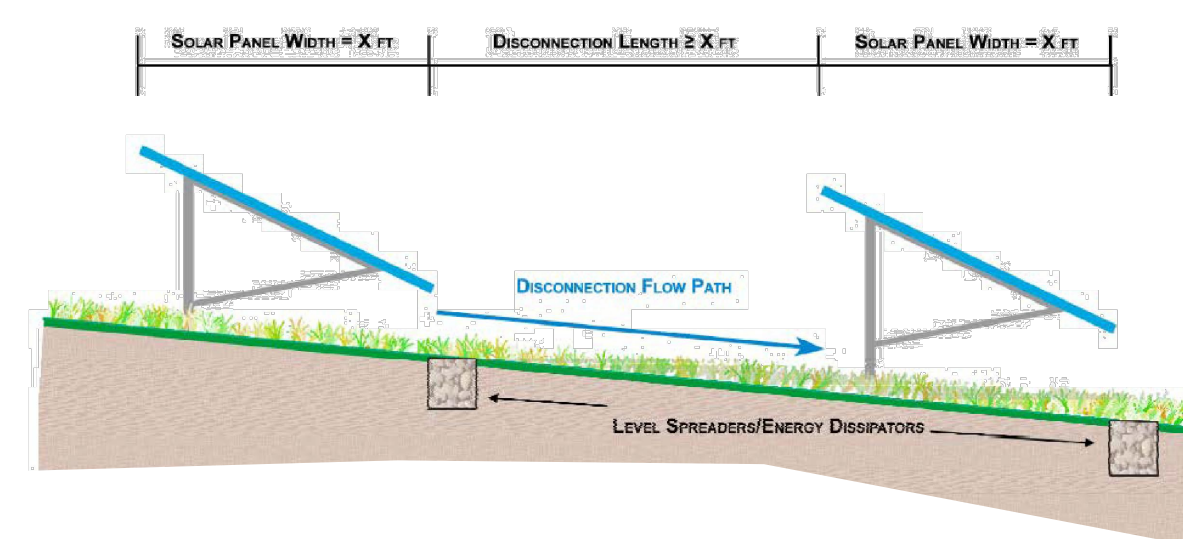


**SECTION VIEW**

**DRY SWALE DETAIL**

N.T.S.

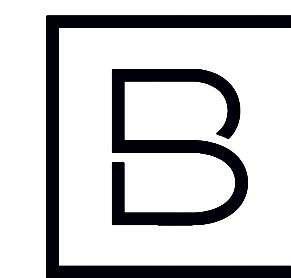
**Figure 2**  
Solar Panel Installation with Slopes > 5% and ≤ 10%



**SIDE VIEW**

**SOLAR PANEL INSTALLATION WITH LEVEL SPREADERS**

N.T.S.



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Date Issued	Project Number
<b>03/22/2021</b>	<b>14859.03</b>

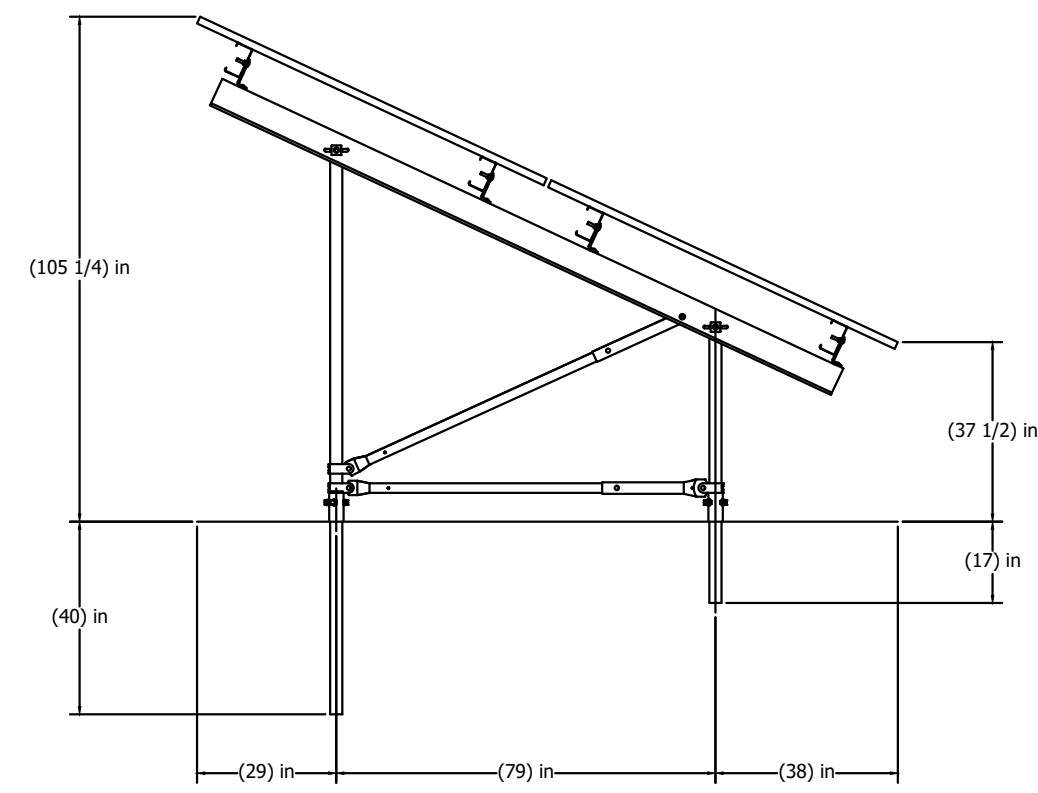
Sheet Name

**DETAILS I**

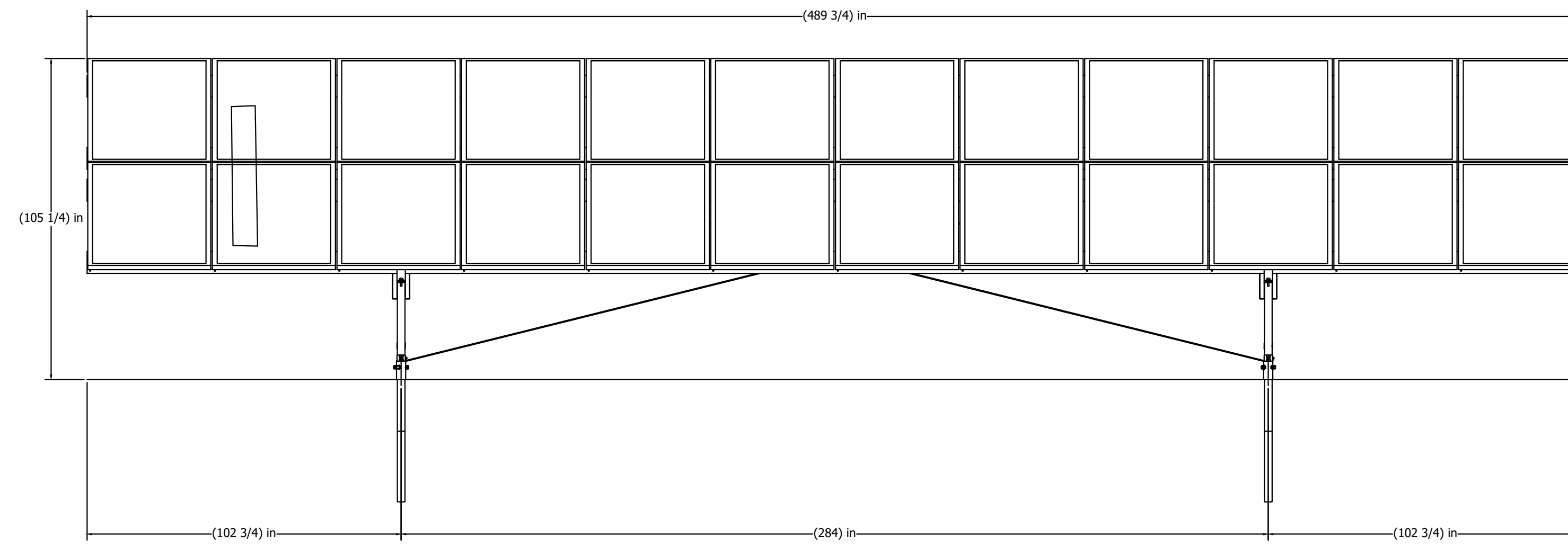
Drawing Number

**C008**

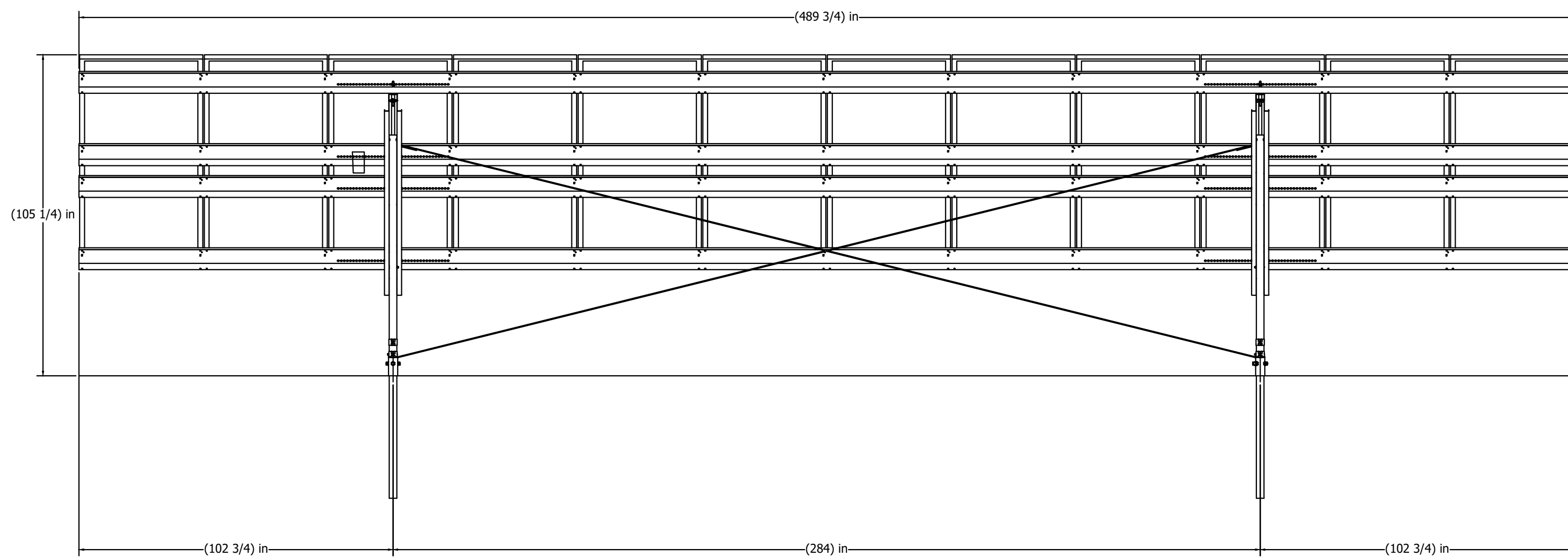




SIDE ELEVATION VIEW



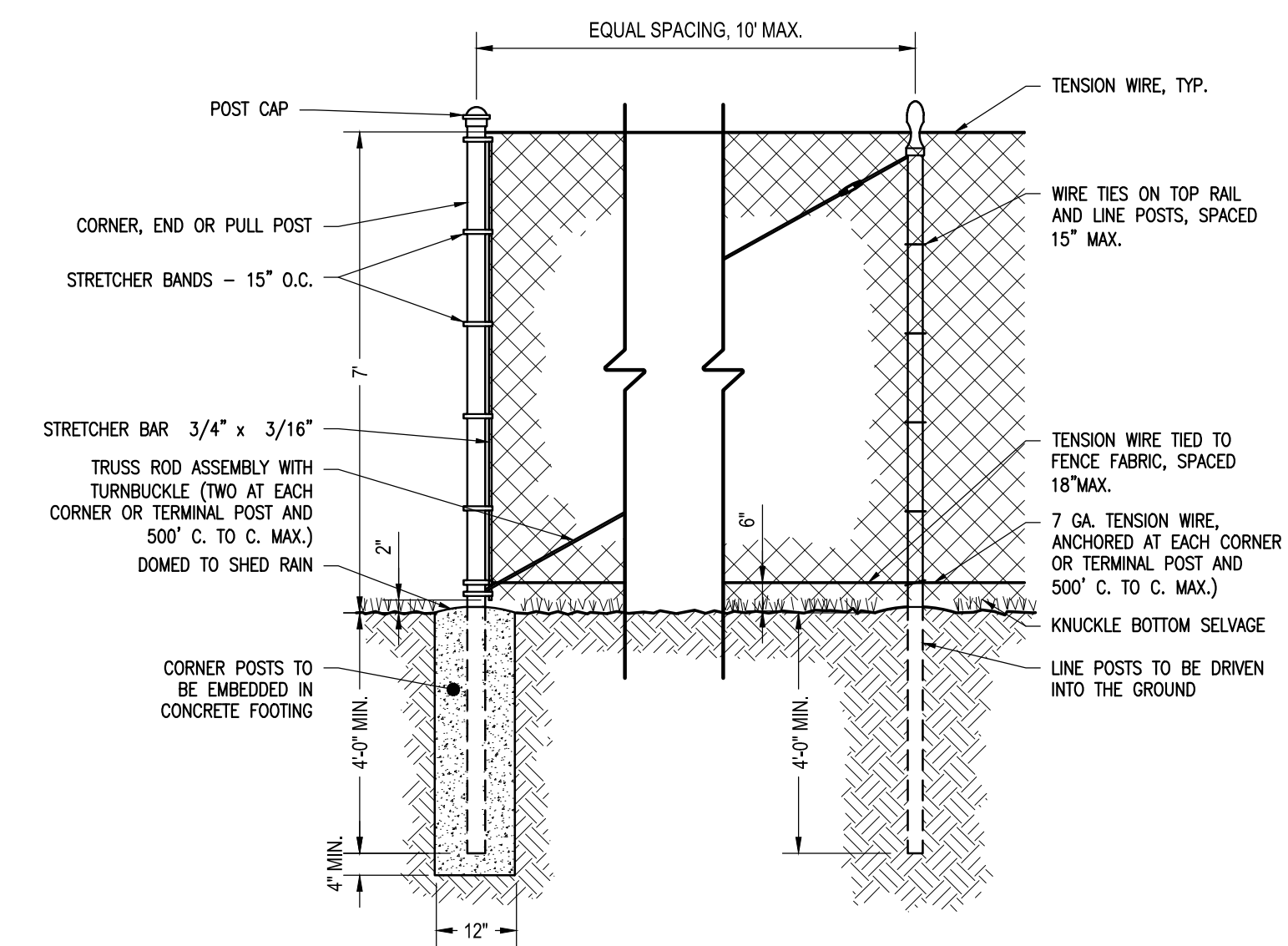
FRONT ELEVATION VIEW



REAR ELEVATION VIEW

- NOTES:
1. TYPICAL INSTALLATION DIMENSIONS MAY BE ADJUSTED TO SUIT FIELD CONDITIONS.
  2. FINAL DESIGN AND ENGINEERING PLANS TO BE PROVIDED BY THE RACKING MANUFACTURER.

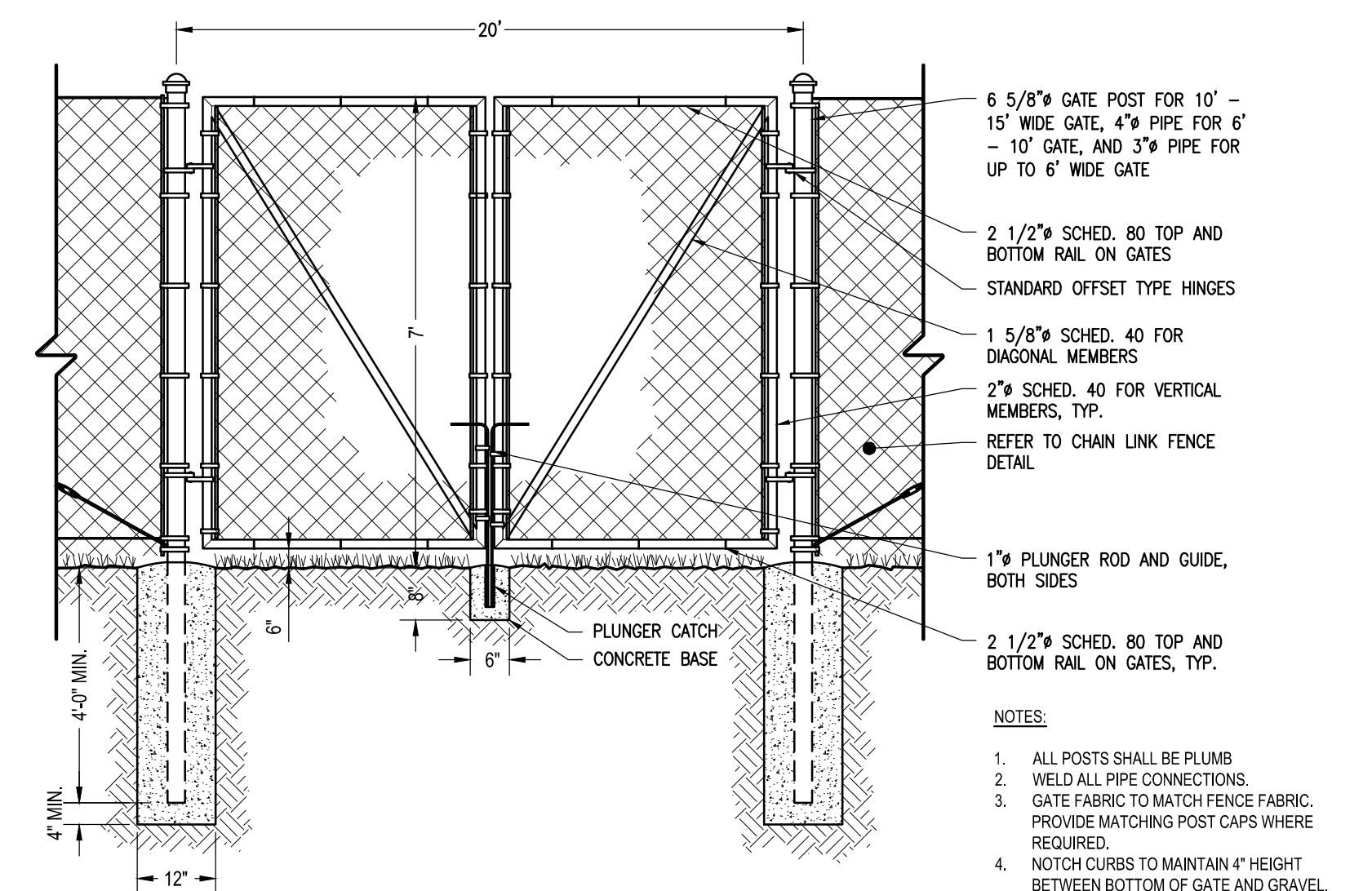
SOLAR ARRAY DETAIL  
N.T.S.



- NOTES:
1. ALL POSTS SHALL BE PLUMB
  2. WIRE TIES SHALL BE PLACED 15" ON CENTER ALONG TOP RAIL AND LINE POSTS.
  3. LINE POSTS SHALL BE DRIVEN INTO THE GROUND.
  4. CORNER POSTS SHALL BE EMBEDDED IN 12" DIAMETER CONCRETE FOOTING.

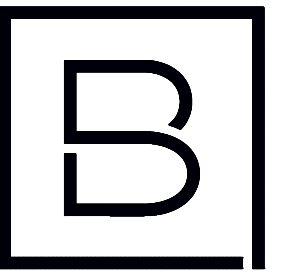
USE	NOM. OD.
LINE POSTS	2 1/2"
CORNER, END, GATE, & PULL POSTS	3"
RAILS	1 5/8"
GATE FRAMES	2"

CHAIN-LINK FENCE DETAIL  
N.T.S.



- NOTES:
1. ALL POSTS SHALL BE PLUMB
  2. WELD ALL PIPE CONNECTIONS
  3. GATE FABRIC TO MATCH FENCE FABRIC. PROVIDE MATCHING POST CAPS WHERE REQUIRED.
  4. NOTCH CURBS TO MAINTAIN 4" HEIGHT BETWEEN BOTTOM OF GATE AND GRAVEL. PROVIDE EMBEDDED METAL SLEEVE AND HOLD OPEN FOR EACH LEAF OF GATE.
  5. CONTRACTOR SHALL INSTALL A KNOX BOX NEXT TO GATE FOR FIRE DEPARTMENT ACCESS

CHAIN-LINK FENCE GATE DETAIL  
N.T.S.



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<b>ECR</b>	<b>ECR</b>
Designer	Reviewer
<b>HB</b>	<b>ECR</b>
Date Issued	Project Number
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Sheet Name

**DETAILS II**

Drawing Number

**C009**



UPLAND SEED MIX		
LOW-GROWING WILDFLOWER & GRASS MIX - ERNMX #156		
SEEDING RATE: 20 LB PER ACRE WITH A COVER CROP OF GRAIN RYE AT 30 LB PER ACRE		
SCIENTIFIC NAME	COMMON NAME	% OF MIX
FESTUCA OVINA	SHEEP FESCUE, VARIETY NOT STATED	63.60%
LOLIUM MULTIFLORUM (L. PERENNE VAR. ITALICUM)	ANNUAL RYEGRASS	17%
LINUM PERENNE SSP. LEWISII	PERENNIAL BLUE FLAX	8%
RUDBECKIA HIRTA	BLACKEYED SUSAN, COASTAL PLAIN NC ECOTYPE	2%
COREOPSIS LANCEOLATA	LANCELEAF COREOPSIS, COASTAL PLAIN NC ECOTYPE	2%
CHRYSANTHEMUM MAXIMUM	SHASTA DAISY	1%
CHAMAECRISTA FASCICULATA (CASSIA F.)	PARTRIDGE PEA, PA ECOTYPE	1%
PAPAVER RHOEAS, SHIRLEY MIX	CORN POPPY/SHIRLEY MIX	1%
ASTER OBLONGIFOLIUS (SYMPHYOTRICHUM OBLONGIFOLIUM)	AROMATIC ASTER, PA ECOTYPE	0.5%
EUPATORIUM COELESTINUM (CONOCLINIUM C.)	MISTFLOWER, VA ECOTYPE	0.5%
MONARDA PUNCTATA, COASTAL PLAIN SC ECOTYPE	SPOTTED BEEBALM, COASTAL PLAIN SC ECOTYPE	0.5%
ASCLEPIAS TUBEROSA	BUTTERFLY MILKWEED	0.3%
PYCNANTHEMUM TENUIFOLIUM	SLENDER MOUNTAINMINT	0.1%
COMPANY INFORMATION		
ERNST CONSERVATION SEEDS, INC.		
ADDRESS: 8884 MERCER PIKE, MEADVILLE, PA 16335		
PHONE: (800) 873-3321		
WEB: HTTP://WWW.ERNSTSEED.COM		

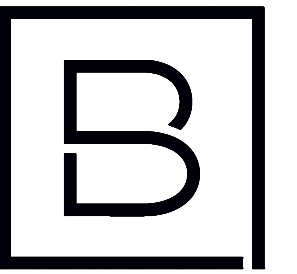
\*OR APPROVED EQUIVALENT

SOIL AMENDMENT APPLICATION RATE EQUIVALENTS					
SOIL AMENDMENT	PER ACRE	PER 1,000 SQ. FT.	PER 1,000 SQ. YD.	NOTES	
TEMPORARY SEEDING	AGRICULTURAL LIME	6 TONS	240 LB.	2,480 LB.	OR AS PER SOIL TEST: MAY NOT BE REQUIRED IN AGRICULTURAL FIELDS
	10-10-20 FERTILIZER	1,000 L.B.	25 LB.	210 LB.	
TEMPORARY SEEDING	AGRICULTURAL LIME	1 TON	40 LB.	410 LB.	TYPICALLY NOT REQUIRED FOR TOPSOIL STOCKPILES
	10-10-20 FERTILIZER	500 LB.	12.5 LB.	100 LB.	
COMPOST STANDARDS					
ORGANIC MATTER CONTENT		80% - 100% (DRY WEIGHT BASIS)			
ORGANIC PORTION		FIBROUS AND ELONGATED			
pH		5.5 - 8.0			
MOISTURE CONTENT		35% - 55%			
PARTICLE SIZE		98% PASS THROUGH 1" SCREEN			
SOLUBLE SALT CONCENTRATION		5.0 dS/m (mmhos/cm) MAXIMUM			
MULCH APPLICATION RATES					
MULCH TYPE	APPLICATION RATE (MIN.)			NOTES	
	PER ACRE	PER 1,000 SQ. FT.	PER 1,000 SQ. YD.		
STRAW	3 TONS	140 LB.	1,240 LB.	EITHER WHEAT OR OAT STRAW, FREE OF WEEDS, NOT CHOPPED OR FINELY BROKEN	
HAY	3 TONS	140 LB.	1,240 LB.	TIMOTHY, MIXED CLOVER AND TIMOTHY, OR OTHER NATIVE FORAGE GRASSES	
WOOD CELLULOSE	1,500 LB.	35 LB.	310 LB.	DO NOT USE ALONE IN WINTER, DURING HOT AND DRY WEATHER OR ON STEEP SLOPES (> 3:1)	
WOOD	1,000 LB. CELLULOSE	25 LB.	210 LB.	WHEN USED OVER STRAW OR HAY	
WOOD CHIPS	4 - 6 TONS	185 - 275 LB.	1,650 - 2,500 LB.	MAY PREVENT GERMINATION OF GRASSES AND LEGUMES	

NOTES:

- WHEN FINAL GRADE IS ACHIEVED DURING NON-GERMINATING MONTHS, THE AREA SHOULD BE TEMPORARILY STABILIZED UNTIL THE BEGINNING OF THE NEXT PLANTING SEASON.
- MULCHES SHOULD BE APPLIED AT THE RATES SHOWN IN THE MULCH APPLICATION RATES TABLE. VERY LITTLE BARE GROUND SHOULD BE VISIBLE THROUGH THE MULCH.
- STRAW AND HAY MULCH SHOULD BE ANCHORED OR TACKIFIED IMMEDIATELY AFTER APPLICATION TO PREVENT BEING WINDBLOWN.
- TOPSOIL SHOULD BE UNIFORMLY DISTRIBUTED ACROSS THE DISTURBED AREA TO A DEPTH OF 4 INCHES MINIMUM. SPREADING SHOULD BE DONE IN SUCH A MANNER THAT SEEDING CAN PROCEED WITH A MINIMUM OF ADDITIONAL PREPARATION OR TILLAGE.
- TOPSOIL SHOULD NOT BE PLACED WHILE THE TOPSOIL OF SUBSOIL IS IN A FROZEN OR MUDDY CONDITION, WHEN THE SUBSOIL IS EXCESSIVELY WET, OR IN A CONDITION THAT MAY OTHERWISE BE DETRIMENTAL TO PROPER GRADING AND SEEDBED PREPARATION.
- WHEN USED AS A MULCH REPLACEMENT, THE APPLICATION RATE (THICKNESS) OF THE COMPOST SHOULD BE 1/2" TO 3/4". COMPOST SHOULD BE PLACED EVENLY AND SHOULD PROVIDE 100% SOIL COVERAGE. NO SOIL SHOULD BE VISIBLE.
- BLANKETING SHALL BE USED ON ALL SLOPES 3H:1V OR STEEPER OR AS NOTED ON THE PLANS.
- PERMANENT STABILIZATION SHALL BE INSTALLED IMMEDIATELY UPON COMPLETION OF EARTH DISTURBANCE.

SITE STABILIZATION - SEED MIX  
N.T.S.



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Designer	Reviewer
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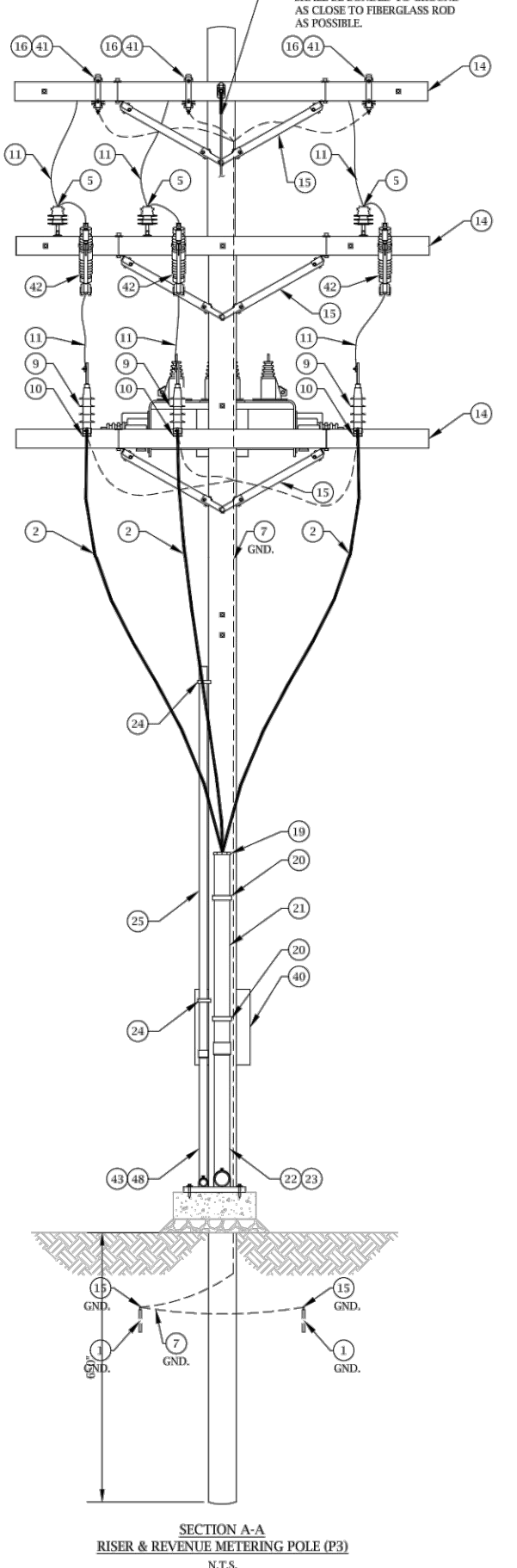
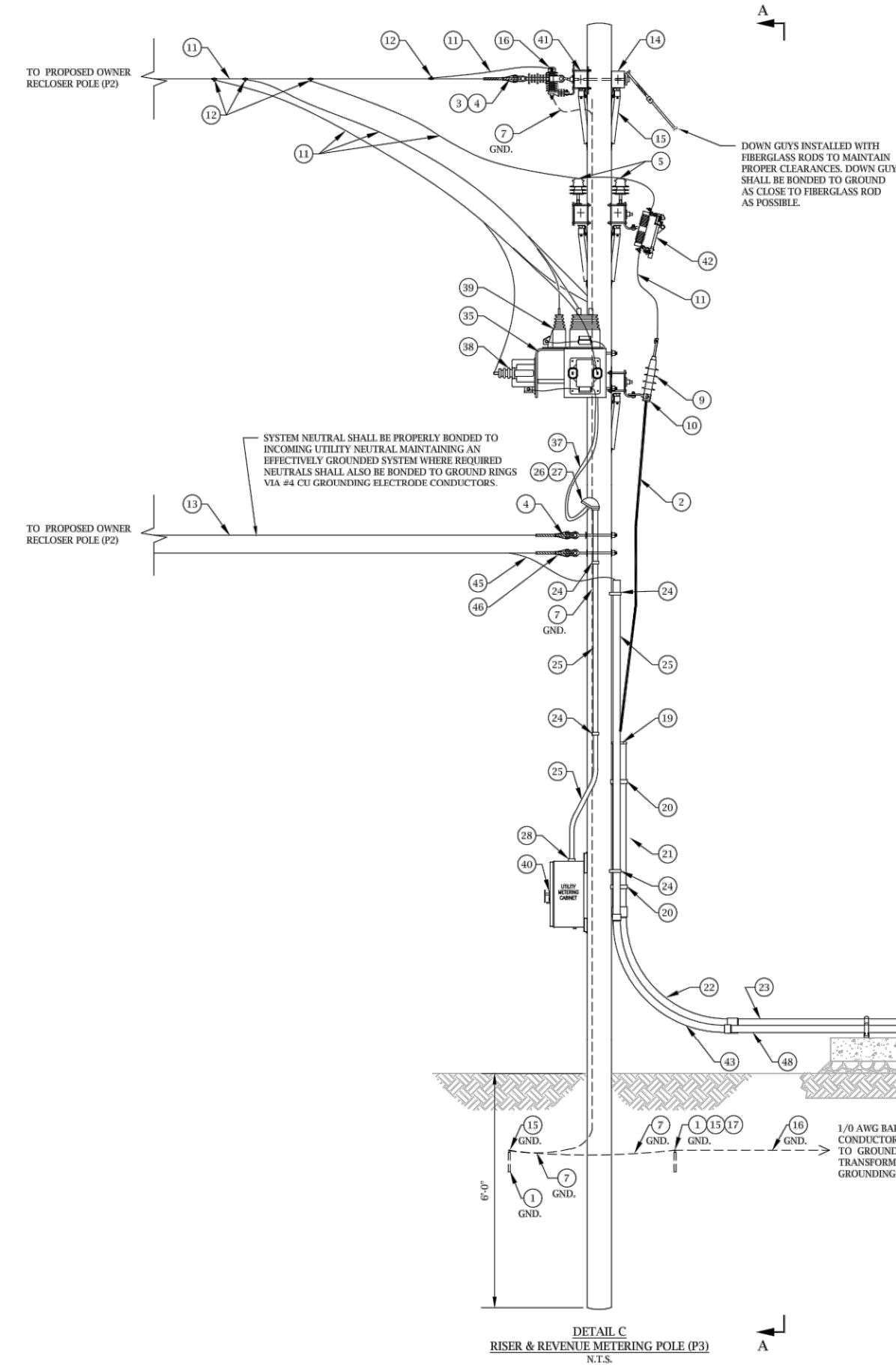
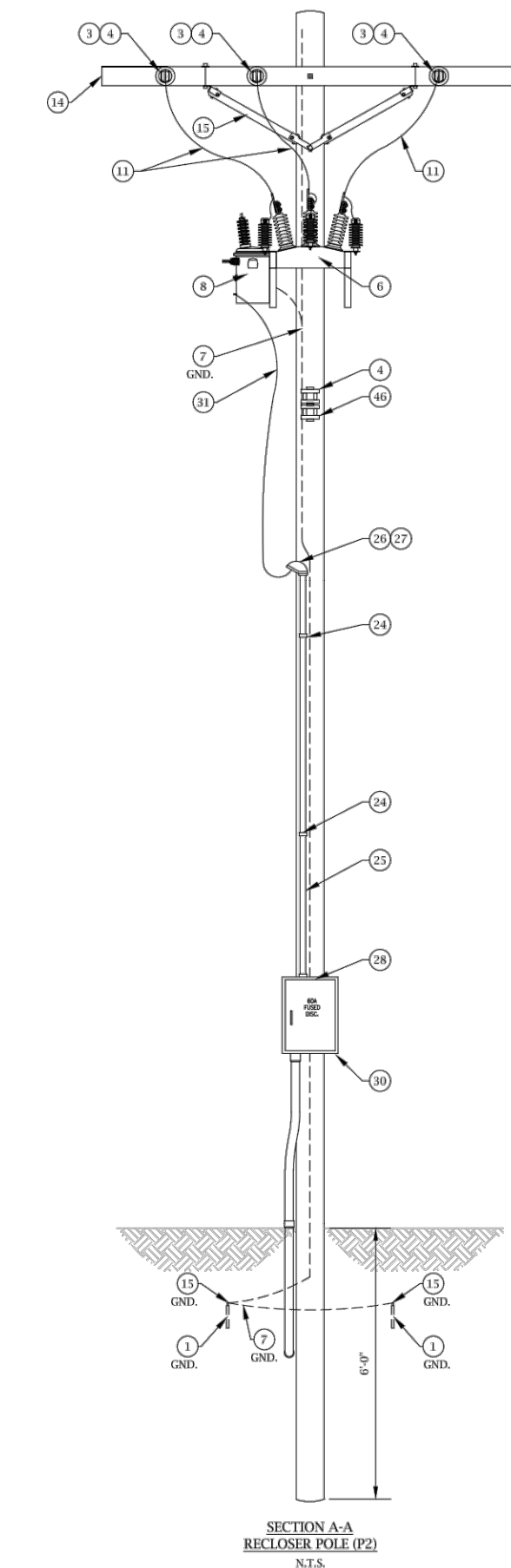
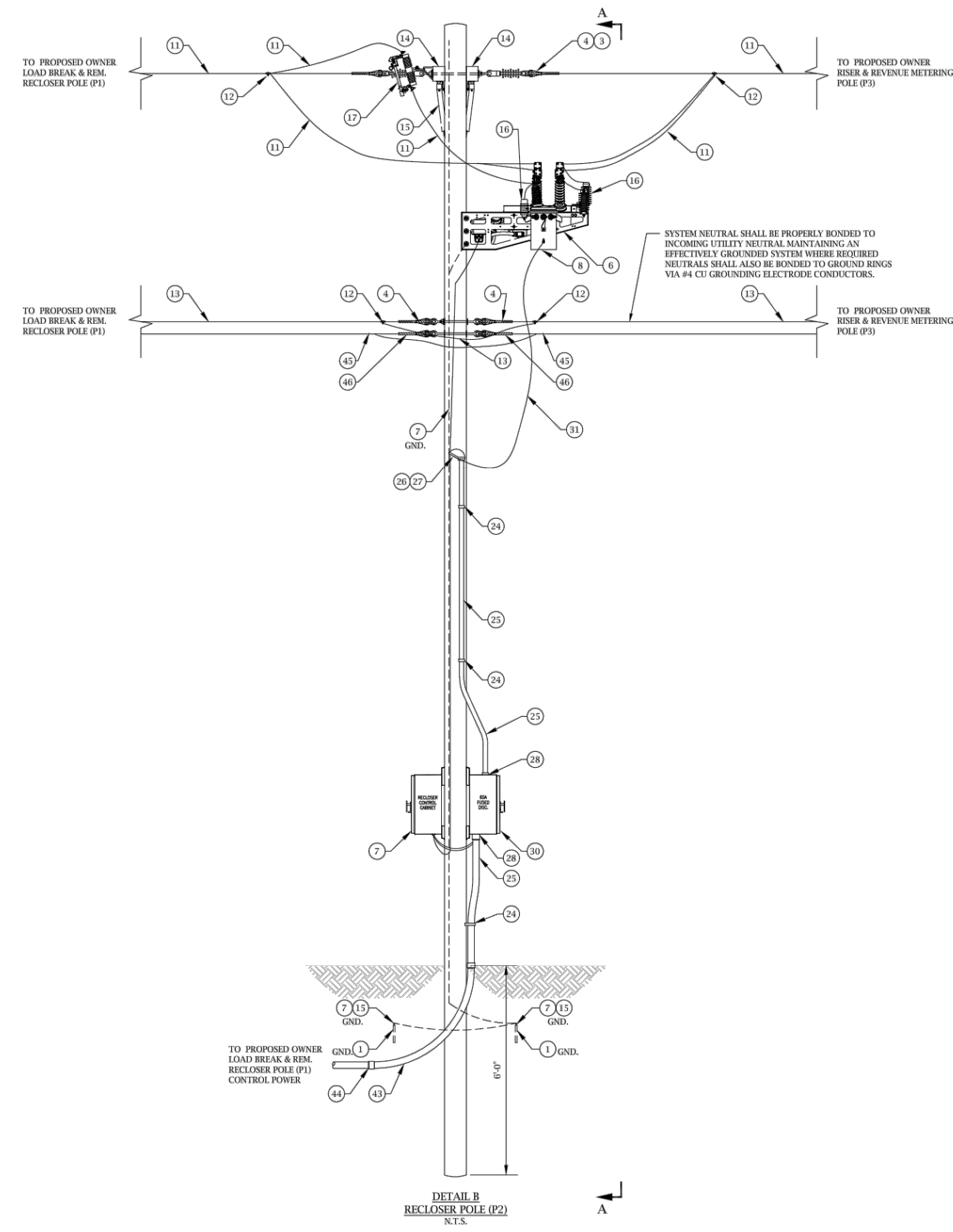
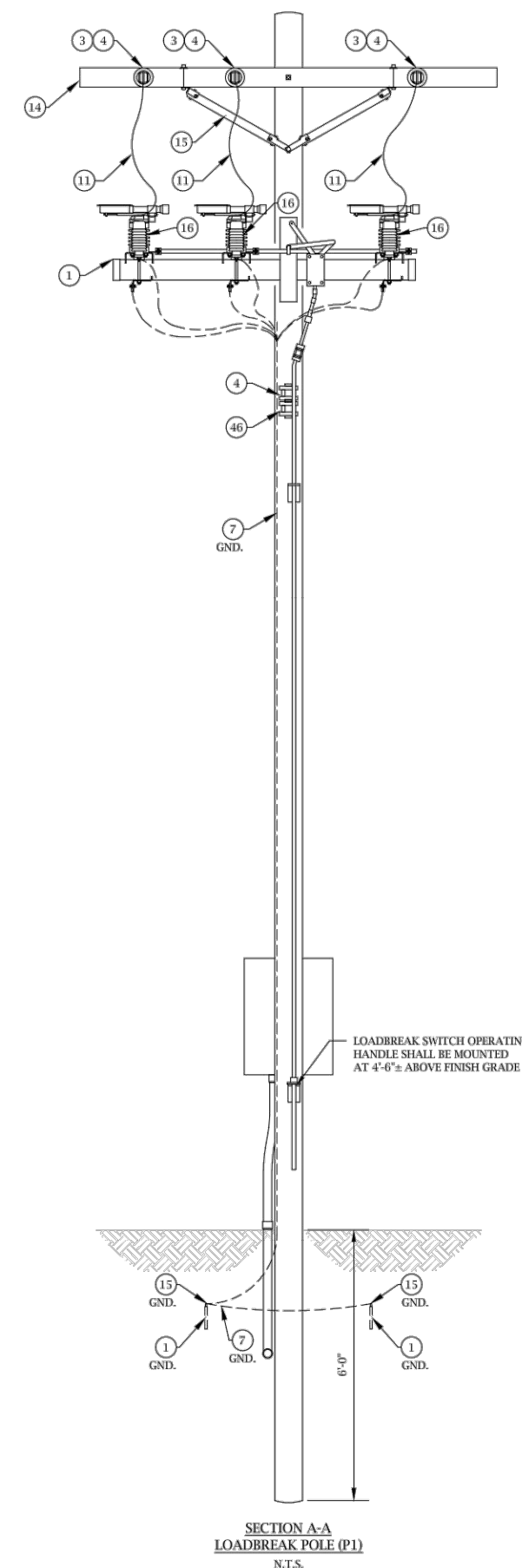
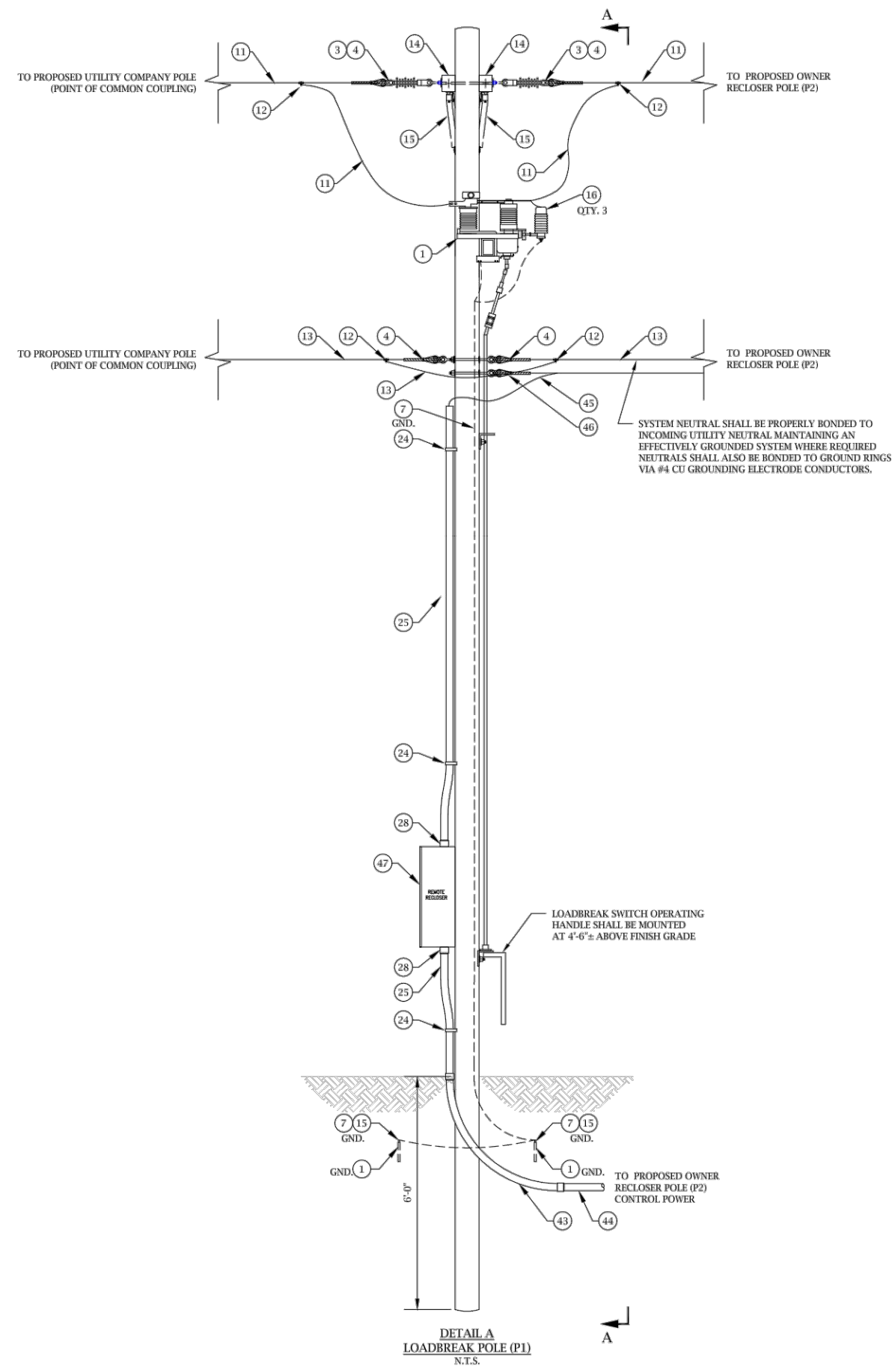
Sheet Name

**DETAILS III**

Drawing Number

**C010**

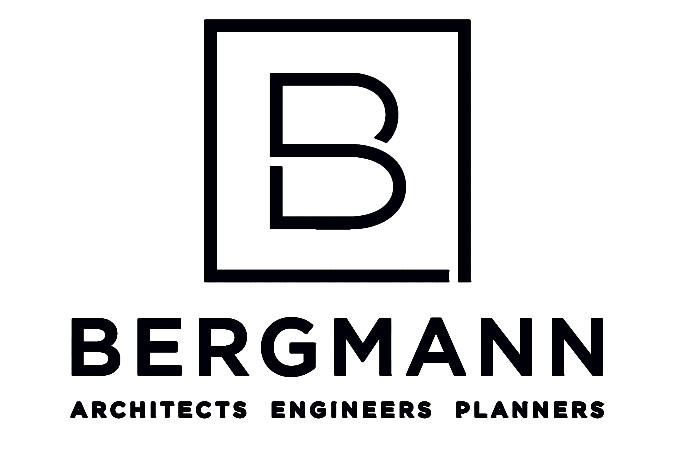




POLE SCHEDULE				
POLE NO.	POLE DETAIL	HEIGHT	CLASS	DESCRIPTION
P1	A	45'	2	LOADBREAK & REM. RECLOSER POLE
P2	B	45'	2	RECLOSER POLE
P3	C	45'	2	RISER & REVENUE METERING POLE

POLE LINE MATERIAL LIST				
ITEM NO.	MANUFACTURER	CATALOGUE NO.	DESCRIPTION	NOTES
1	COOPER	M1141TR2BHRV	15.5KV 900A GANG OPERATED DISCONNECT SWITCH WITH MANUAL OPERATOR	17
2	KRONITE	141-23-3081	15KV 13.9% #4/0 AWG CU JACKETED FULL NEUTRAL CABLE	
3	HENDRIX	DHNS-15	15KV HEADEND INSULATOR	
4	HENDRIX	CG-0119	PRE-FORM DEADEND GRIP	
5	HENDRIX	HP-15	TIE TOP PIN INSULATOR	
6	TAVRIDA	OSM23-AL2630_ISO_S	3 PHASE 15KV, 630A, 150KV BL. TAVRIDA RECLOSER	7
7	---	---	3 PH. 15KV, 800A, RECLOSER CONTROL CABINET W/ SEL-651R	
8	---	---	1 PH. 2KVA WPMR, 7620V TO 120V	
9	3M	7654-S-4	15KV - #4/0 AWG OUTDOOR TERM. W/ SC9092 CONN.	
10	3M	MB-4	CABLE SUPPORT MOUNTING BRACKET	
11	HENDRIX	---	15KV #4/0 AL COVERED CONDUCTOR	
12	BLACKBURN	PAA12	#4/0 AWG PAR. GROOVE CONNECTOR	
13	HENDRIX	---	ALUMA WELD ALUMINUM NEUTRAL CONDUCTOR OR #4/0 AL	
14	HUGHES BROS.	---	3 1/2" x 4 1/2" X 8" WOODEN CROSSARM	
15	HUGHES BROS.	---	26" FLAT STEEL CROSSARM BRACE	
16	OHIO BRASS	PDV-65 OPTIMA	10KV - 8.4KV MCOV DISTRIBUTION CLASS ARRESTER	15
17	S & C	89031810	15KV, 100A FUSED CUTOUTS	
18	N/A	N/A	NOT APPLICABLE	
19	CROUSE HINDS	---	4" BONDING BUSHING	
20	CROUSE HINDS	---	4" CONDUIT CLAMP	
21	WHEATLAND TUBE	---	4" RIGID STEEL CONDUIT	
22	WHEATLAND TUBE	---	4" RIGID STEEL CONDUIT 90° BEND W/ 36° RAD	
23	---	---	4" FIBER CONDUIT	
24	CROUSE HINDS	---	2" CONDUIT CLAMP	
25	WHEATLAND TUBE	---	2" RIGID STEEL CONDUIT	
26	---	---	2" WEATHERHEAD	
27	CROUSE HINDS	---	2" BONDING BUSHING	
28	EATON	HUB6	2" RGS THREADED CONDUIT HUB	
29	N/A	N/A	NOT APPLICABLE	
30	---	---	FUSED DISTRIBUTION PANEL, NEMA 3R	
31	N/A	N/A	3/C#10 CU CONTROL POWER CABLE (SUNLIGHT RESISTANT)	
32	N/A	N/A	NOT APPLICABLE	
33	N/A	N/A	NOT APPLICABLE	
34	N/A	N/A	NOT APPLICABLE	
35	ALUMA - FORM	PRM-6	POLE CLUSTER MOUNT - FOR PRIMARY METERING - (3) C.T.'S & (3) P.T.'S	
36	N/A	N/A	NOT APPLICABLE	
37	---	---	METERING CABLE (BY UTILITY)	
38	---	---	METERING C.T. (BY UTILITY)	
39	---	---	METERING P.T. (BY UTILITY)	
40	---	---	METERING CABINET (BY UTILITY)	
41	OHIO BRASS	724	724 MOUNTING HARDWARE FOR PDV-65 OPTIMA ARRESTER (ITEM 16)	
42	CHANCE / HUBBELL	CP710133PB	15KV, 300A SOLID HEAD DISCONNECT	19
43	WHEATLAND TUBE	---	2" PVC CONDUIT 90° SWEEP, 36° RAD.	
44	---	---	2" PVC CONDUIT - SCHEDULE 40	
45	---	---	DIELECTRIC FIBER OPTIC CABLE	
46	---	---	PRE-FORM DEADEND GRIP FOR FIBER OPTIC CABLE	
47	INACCESS	MSU-F-16-AD-0-2-0-ED	REMOTE RECIPIENT COMMUNICATION MODULE	
48	---	---	2" FIBER CONDUIT	

- GENERAL NOTES:**
- UTILITY'S POLES ARE SHOWN AS CONCEPTUAL AND ARE FOR DIAGRAMMATIC PURPOSES ONLY. ACTUAL EQUIPMENT AND CONFIGURATION WILL BE DETERMINED BY THE UTILITY.
  - MANUFACTURER AND CATALOG NUMBERS ARE FOR REFERENCE ONLY. ENGINEER APPROVED EQUALS WILL BE ACCEPTED.
  - CONTRACTOR SHALL FURNISH AND INSTALL ALL MISC. CONNECTORS TO PROVIDE A COMPLETE AND OPERABLE SYSTEM.
  - CONTRACTOR SHALL PROVIDE ALL POLE LINE AND MISC. HARDWARE FOR INSTALLING EQUIPMENT. ALL POLE LINE HARDWARE SHALL BE RATED FOR 10K LBS MINIMUM.
  - ALL EQUIPMENT AND MATERIALS SHALL BE LISTED FOR THE PURPOSE AND INSTALLED IN ACCORDANCE WITH THE CURRENT VERSION OF THE NEW YORK ELECTRICAL CODE AND NATIONAL ELECTRIC SAFETY CODE.
  - RECLOSER MANUFACTURER SHALL PROVIDE SINGLE PHASE 2KVA CONTROL POWER TRANSFORMER (7620V/120V) ON CIRCUIT RECLOSER ASSEMBLY FOR CONTROL POWER. TRANSFORMER SHALL BE EQUIPPED WITH SURGE ARRESTOR.
  - RECLOSER SHALL BE A TAVRIDA RECLOSER WITH AN SEL-651R CONTROLLER AND BE EQUIPPED WITH THREE (3) 600:1 CURRENT TRANSFORMERS THAT ARE NOT IN SERVICE AND SIX (6) LOW ENERGY VOLTAGE SENSING DEVICES ON LINE/UTILITY AND LOAD SIDE. LOW ENERGY VOLTAGE SENSORS SHALL BE CAPABLE OF MEETING INDUSTRY STANDARDS FOR RELAYING ACCURACY.
  - CONTRACTOR SHALL BE RESPONSIBLE FOR FURNISHING AND INSTALLING ALL NECESSARY MATERIAL, HARDWARE, EQUIPMENT ETC. COMMON WITHIN THE INDUSTRY TO PROVIDE THE CUSTOMER WITH A COMPLETE AND OPERABLE SYSTEM AS INTENDED BY THESE CONTRACT DOCUMENTS.
  - CONTRACTOR SHALL LEAVE 50 FEET OF COILED CONDUCTOR PER PHASE FOR UTILITY CONNECTION.
  - CONTRACTOR SHALL INSTALL AND MAKE ALL ELECTRICAL AND COMMUNICATION CONNECTIONS AS SHOWN ON THESE CONTRACT DOCUMENTS.
  - ALL CONDUIT RISERS SHALL BE RIGID STEEL CONDUIT AND EXTEND ABOVE GRADE A MINIMUM OF 8 FEET. EXPOSED CONDUIT SEALS SHALL BE SEALED TO PREVENT INGRESS OF MOISTURE.
  - ALL UTILITY POLES SHALL CONFORM TO ANSI O5.1, AWPA C4, ANSI C2 AND ANY OTHER APPLICABLE CODES AND STANDARDS.
  - ALL DOWN GUY'S SHALL BE 3/8" STEEL MINIMUM. ANCHORS SHALL BE GALVANIZED SQUARE SHAF HELICAL WITH A MINIMUM DIAMETER OF 8 INCHES. INSTALLATION OF HELICAL ANCHORS SHALL BE BY EITHER ELECTRICAL OR HYDRAULIC ROTARY TYPE TORQUE MOTOR.
  - ALL WORK SHALL BE INSTALLED IN A NEAT AND WORKMAN LIKE MANNER AND IN ACCORDANCE WITH THE CURRENT VERSION OF THE NEC AND ALL LOCAL APPLICABLE CODES AND STANDARDS.
  - LIGHTNING ARRESTERS INSTALLED ON RISER POLES SHALL BE RATED FOR RISER INSTALLATIONS.
  - ALL CONDUCTOR CLEARANCES SHALL COMPLY WITH NEC AND NESC REQUIREMENTS.
  - CONTRACTOR SHALL ALIGN AND ADJUST THE GANG OPERATED DISCONNECT SWITCH AS NEEDED TO ENSURE THAT THE SWITCH OPERATES PER THE MANUFACTURERS INSTALLATION AND OPERATION INSTRUCTIONS.
  - RECLOSER AND GANG OPERATED DISCONNECT SWITCH SHALL BE OPENED AND LOCKED OUT PRIOR TO ANY WORK INVOLVING EXPOSED ELECTRICAL CIRCUIT PARTS.
  - ALL SINGLE PHASE DISCONNECTS SHALL BE LEFT CLOSED UNTIL THE GANG OPERATED DISCONNECT SWITCH AND RECLOSER HAVE BEEN OPENED AND LOCKED OUT.



2 Winners Circle, Suite 102  
Albany, NY 12205  
www.bergmannpc.com  
office: 518.862.0325

# YELLOW 10 LLC

## CROWN POINT SOLAR PROJECT

12 LAKE ROAD  
CROWN POINT, NY 12928

Date Revised	Description
6/15/2021	UPDATED PER APA COMMENTS



NOT FOR CONSTRUCTION

Copyright © Bergmann Associates, Architects, Engineers, Landscape Architects & Surveyors, D.P.C.

Project Manager	Discipline Lead
ECR	ECR
Designer	Reviewer
HB	ECR
Date Issued	Project Number
02/02/2021	14859.03

Sheet Name

### DETAILS IV

Drawing Number

# C011





# Appendix D

## Notice of Intent (NOI)

# NOI for coverage under Stormwater General Permit for Construction Activity



**Alternate ID** Crown Point Solar Project   **Submission** HP7-EW65-9NRVR   **Revision 1**   **Form Version 1.29**

## Review

This step allows you to review the form to confirm the form is populated completely and accurately, prior to certification and submission.

Please note: Any work you perform filling out a form will not be accessible by NYSDEC staff or the public until you actually submit the form in the 'Certify & Submit' step.

### OWNER/OPERATOR INFORMATION

**Owner/Operator Name (Company/Private Owner/Municipality/Agency/Institution, etc.)**

Yellow 4 LLC

**Owner/Operator Contact Person Last Name (NOT CONSULTANT)**

Stroud

**Owner/Operator Contact Person First Name**

Chris

**Owner/Operator Mailing Address**

125 Wolf Road, Suite 312

**City**

Colonie

**State**

NY

**Zip**

12205

**Phone**

518 390 4004

**Email**

c.stroud@solrealgroup.com



**Federal Tax ID***None Specified***PROJECT LOCATION****Project/Site Name**

Crown Point Solar Project

**Street Address (Not P.O. Box)**

12 Lake Road

**Side of Street**

East

**City/Town/Village (THAT ISSUES BUILDING PERMIT)**

Crown Point

**State**

NY

**Zip**

12928

**County**

ESSEX

**DEC Region**

5

**Name of Nearest Cross Street**

Adirondack Park

**Distance to Nearest Cross Street (Feet)**

140

**Project In Relation to Cross Street**

North

**Tax Map Numbers Section-Block-Parcel**

117.19-2-1.000

**Tax Map Numbers***None Specified*

**1. Coordinates**

Provide the Geographic Coordinates for the project site. The two methods are:

- Navigate to the project location on the map (below) and click to place a marker and obtain the XY coordinates.
- The "Find Me" button will provide the lat/long for the person filling out this form. Then pan the map to the correct location and click the map to place a marker and obtain the XY coordinates.

**Navigate to your location and click on the map to get the X,Y coordinates**

Latitude	Longitude
43.958318	-73.428579

**PROJECT DETAILS****2. What is the nature of this project?**

Redevelopment with increase in impervious area

**3. Select the predominant land use for both pre and post development conditions.****Pre-Development Existing Landuse**

Pasture/Open Land

**Post-Development Future Land Use**

Other

**Please Describe**

Solar Farm

**3a. If Single Family Subdivision was selected in question 3, enter the number of subdivision lots.**

*None Specified*

4. In accordance with the larger common plan of development or sale, enter the total project site acreage, the acreage to be disturbed and the future impervious area (acreage) within the disturbed area.

\*\*\* ROUND TO THE NEAREST TENTH OF AN ACRE. \*\*\*

**Total Site Area (acres)**

18.38

**Total Area to be Disturbed (acres)**

7.90

**Existing Impervious Area to be Disturbed (acres)**

0.16

**Future Impervious Area Within Disturbed Area (acres)**

0.4720



**5. Do you plan to disturb more than 5 acres of soil at any one time?**

No

## 6. Indicate the percentage (%) of each Hydrologic Soil Group(HSG) at the site.

**A (%)**

100

**B (%)**

0

**C (%)**

0

**D (%)**

0

**7. Is this a phased project?**

Yes

**8. Enter the planned start and end dates of the disturbance activities.****Start Date**

6/15/2021

**End Date**

12/15/2021

**9. Identify the nearest surface waterbody(ies) to which construction site runoff will discharge.**

Putnam Creek

**9a. Type of waterbody identified in question 9?**

Stream/Creek Off Site

**Other Waterbody Type Off Site Description***None Specified***9b. If "wetland" was selected in 9A, how was the wetland identified?***None Specified***10. Has the surface waterbody(ies in question 9 been identified as a 303(d) segment in Appendix E of GP-0-20-001?**

No

**11. Is this project located in one of the Watersheds identified in Appendix C of GP-0-20-001?**

No

**12. Is the project located in one of the watershed areas associated with AA and AA-S classified waters?**

Yes

**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?**

No

**If Yes, what is the acreage to be disturbed?**

*None Specified*

**14. Will the project disturb soils within a State regulated wetland or the protected 100 foot adjacent area?**

No

**15. Does the site runoff enter a separate storm sewer system (including roadside drains, swales, ditches, culverts, etc)?**

Yes

**16. What is the name of the municipality/entity that owns the separate storm sewer system?**

Town of Crown Point

**17. Does any runoff from the site enter a sewer classified as a Combined Sewer?**

No

**18. Will future use of this site be an agricultural property as defined by the NYS Agriculture and Markets Law?**

No

**19. Is this property owned by a state authority, state agency, federal government or local government?**

No

**20. Is this a remediation project being done under a Department approved work plan? (i.e. CERCLA, RCRA, Voluntary Cleanup Agreement, etc.)**

No

**REQUIRED SWPPP COMPONENTS**

**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

**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

**If you answered No in question 22, skip question 23 and the Post-construction Criteria and Post-construction SMP Identification sections.**



**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

**24. The Stormwater Pollution Prevention Plan (SWPPP) was prepared by:**

Professional Engineer (P.E.)

**SWPPP Preparer**

Bergmann

**Contact Name (Last, Space, First)**

Redding, Eric

**Mailing Address**

2 Winners Circle, Suite 102

**City**

Albany

**State**

NY

**Zip**

12205

**Phone**

518 556 3631

**Email**

eredding@bergmannpc.com

**Download SWPPP Preparer Certification Form**

Please take the following steps to prepare and upload your preparer certification form:

- 1) Click on the link below to download a blank certification form
- 2) The certified SWPPP preparer should sign this form
- 3) Scan the signed form
- 4) Upload the scanned document

[Download SWPPP Preparer Certification Form](#)

**Please upload the SWPPP Preparer Certification**

*No files uploaded*

**Comment**

*None Specified*

At least one file is required.

## EROSION & SEDIMENT CONTROL CRITERIA

**25. Has a construction sequence schedule for the planned management practices been prepared?**

Yes

**26. Select all of the erosion and sediment control practices that will be employed on the project site:**

### Temporary Structural

Check Dams \_\_\_\_\_

Silt Fence \_\_\_\_\_

Stabilized Construction Entrance \_\_\_\_\_

### Biotechnical

None

### Vegetative Measures

Mulching \_\_\_\_\_

Seeding \_\_\_\_\_

### Permanent Structural

Land Grading \_\_\_\_\_

Rock Outlet Protection \_\_\_\_\_

### Other

*None Specified*

## POST-CONSTRUCTION CRITERIA

**\* 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 Area \_\_\_\_\_

Preservation of Buffers \_\_\_\_\_

Reduction of Clearing and Grading \_\_\_\_\_

Locating Development in Less Sensitive Areas \_\_\_\_\_

Sidewalk Reduction \_\_\_\_\_

Driveway Reduction \_\_\_\_\_

Cul-de-sac Reduction \_\_\_\_\_

Parking Reduction \_\_\_\_\_

Building Footprint 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).



**28. Provide the total Water Quality Volume (WQv) required for this project (based on final site plan/layout). (Acre-feet)**

0.044

**29. Post-construction SMP Identification**

Use the Post-construction SMP Identification section to identify the RR techniques (Area Reduction), RR techniques (Volume Reduction) and Standard SMPs with RRv Capacity that were used to reduce the Total WQv Required (#28).

Identify the SMPs to be used by providing 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 the Post-Construction SMP Identification section 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.

**30. Indicate the Total RRv provided by the RR techniques (Area/Volume Reduction) and Standard SMPs with RRv capacity identified in question 29. (acre-feet)**

0.014

**31. Is the Total RRv provided (#30) greater than or equal to the total WQv required (#28)?**

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)] (acre-feet)**

0.013

**32a. Is the Total RRv provided (#30) greater than or equal to the Minimum RRv Required (#32)?**

Yes

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; therefore, NOI can not be processed. SWPPP preparer must modify design to meet sizing criteria.

**33. SMPs**

Use the Post-construction SMP Identification section to identify the Standard SMPs and, if applicable, the Alternative SMPs to be used to treat the remaining total WQv (=Total WQv Required in #28 - Total RRv Provided in #30).

Also, provide the total impervious area that contributes runoff to each practice selected.

NOTE: Use the Post-construction SMP Identification section 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. (acre-feet)**

0.030

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 - 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).**

0.044

**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

If Yes, go to question 36.

If No, sizing criteria has not been met; therefore, 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)**

*None Specified*

**CPv Provided (acre-feet)**

*None Specified*

**36a. The need to provide channel protection has been waived because:**

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.**

**Overbank Flood Control Criteria (Qp)**

**Pre-Development (CFS)**

0.03

**Post-Development (CFS)**

0.03

**Total Extreme Flood Control Criteria (Qf)**

**Pre-Development (CFS)**

2.18



**Post-Development (CFS)**

2.73

**37a. The need to meet the Qp and Qf criteria has been waived because:**

*None Specified*

**38. Has a long term Operation and Maintenance Plan for the post-construction stormwater management practice(s) been developed?**

Yes

**If Yes, Identify the entity responsible for the long term Operation and Maintenance**

Yellow 4 LLC

**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.**

*None Specified*

**POST-CONSTRUCTION SMP IDENTIFICATION**

**Runoff Reduction (RR) Techniques, Standard Stormwater Management Practices (SMPs) and Alternative SMPs**

Identify the Post-construction SMPs to be used by providing 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.

**RR Techniques (Area Reduction)**

Round to the nearest tenth

**Total Contributing Acres for Conservation of Natural Area (RR-1)**

*None Specified*

**Total Contributing Impervious Acres for Conservation of Natural Area (RR-1)**

*None Specified*

**Total Contributing Acres for Sheetflow to Riparian Buffers/Filter Strips (RR-2)**

*None Specified*

**Total Contributing Impervious Acres for Sheetflow to Riparian Buffers/Filter Strips (RR-2)**

*None Specified*

**Total Contributing Acres for Tree Planting/Tree Pit (RR-3)**

*None Specified*

**Total Contributing Impervious Acres for Tree Planting/Tree Pit (RR-3)**

*None Specified*

**Total Contributing Acres for Disconnection of Rooftop Runoff (RR-4)**

*None Specified*

**RR Techniques (Volume Reduction)**

**Total Contributing Impervious Acres for Disconnection of Rooftop Runoff (RR-4)**

*None Specified*

**Total Contributing Impervious Acres for Vegetated Swale (RR-5)**

*None Specified*

**Total Contributing Impervious Acres for Rain Garden (RR-6)**

*None Specified*

**Total Contributing Impervious Acres for Stormwater Planter (RR-7)**

*None Specified*

**Total Contributing Impervious Acres for Rain Barrel/Cistern (RR-8)**

*None Specified*

**Total Contributing Impervious Acres for Porous Pavement (RR-9)**

*None Specified*

**Total Contributing Impervious Acres for Green Roof (RR-10)**

*None Specified*

**Standard SMPs with RRv Capacity**

**Total Contributing Impervious Acres for Infiltration Trench (I-1)**

*None Specified*

**Total Contributing Impervious Acres for Infiltration Basin (I-2)**

*None Specified*

**Total Contributing Impervious Acres for Dry Well (I-3)**

*None Specified*

**Total Contributing Impervious Acres for Underground Infiltration System (I-4)**

*None Specified*

**Total Contributing Impervious Acres for Bioretention (F-5)**

*None Specified*

**Total Contributing Impervious Acres for Dry Swale (O-1)**

0.42

**Standard SMPs**



**Total Contributing Impervious Acres for Micropool Extended Detention (P-1)**

*None Specified*

**Total Contributing Impervious Acres for Wet Pond (P-2)**

*None Specified*

**Total Contributing Impervious Acres for Wet Extended Detention (P-3)**

*None Specified*

**Total Contributing Impervious Acres for Multiple Pond System (P-4)**

*None Specified*

**Total Contributing Impervious Acres for Pocket Pond (P-5)**

*None Specified*

**Total Contributing Impervious Acres for Surface Sand Filter (F-1)**

*None Specified*

**Total Contributing Impervious Acres for Underground Sand Filter (F-2)**

*None Specified*

**Total Contributing Impervious Acres for Perimeter Sand Filter (F-3)**

*None Specified*

**Total Contributing Impervious Acres for Organic Filter (F-4)**

*None Specified*

**Total Contributing Impervious Acres for Shallow Wetland (W-1)**

*None Specified*

**Total Contributing Impervious Acres for Extended Detention Wetland (W-2)**

*None Specified*

**Total Contributing Impervious Acres for Pond/Wetland System (W-3)**

*None Specified*

**Total Contributing Impervious Acres for Pocket Wetland (W-4)**

*None Specified*

**Total Contributing Impervious Acres for Wet Swale (O-2)**

*None Specified*

**Alternative SMPs (DO NOT INCLUDE PRACTICES BEING USED FOR PRETREATMENT ONLY)**

**Total Contributing Impervious Area for Hydrodynamic**

*None Specified*

**Total Contributing Impervious Area for Wet Vault**

*None Specified*

**Total Contributing Impervious Area for Media Filter**

*None Specified*

**"Other" Alternative SMP?**

*None Specified*

**Total Contributing Impervious Area for "Other"**

*None Specified*

**Provide the name and manufacturer of the alternative SMPs (i.e. proprietary practice(s)) being used for WQv treatment.**

**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.**

**Manufacturer of Alternative SMP**

*None Specified*

**Name of Alternative SMP**

*None Specified*

**OTHER PERMITS**

**40. Identify other DEC permits, existing and new, that are required for this project/facility.**

*None*

**If SPDES Multi-Sector GP, then give permit ID**

*None Specified*

**If Other, then identify**

*None Specified*

**41. Does this project require a US Army Corps of Engineers Wetland Permit?**

*No*

**If "Yes," then indicate Size of Impact, in acres, to the nearest tenth**

*None Specified*

**42. 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.**

*None Specified*

**MS4 SWPPP ACCEPTANCE**



**43. Is this project subject to the requirements of a regulated, traditional land use control MS4?**

No

**If No, skip question 44**

**44. Has the "MS4 SWPPP Acceptance" form been signed by the principal executive officer or ranking elected official and submitted along with this NOI?**

*None Specified*

**MS4 SWPPP Acceptance Form Download**

Download form from the link below. Complete, sign, and upload.

MS4 SWPPP Acceptance Form

**MS4 Acceptance Form Upload**

*No files uploaded*

**Comment**

*None Specified*

**OWNER/OPERATOR CERTIFICATION**

The owner/operator must download, sign, and upload the certification form in order to complete this application.

**Owner/Operator Certification Form Download**

Download the certification form by clicking the link below. Complete, sign, scan, and upload the form.

Owner/Operator Certification Form (PDF, 45KB)

**Upload Owner/Operator Certification Form**

*No files uploaded*

**Comment**

*None Specified*

At least one file is required.



Appendix E  
**NYS DEC SPDES General Permit for Stormwater  
Discharges from Construction Activity  
(GP-0-20-001)**





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

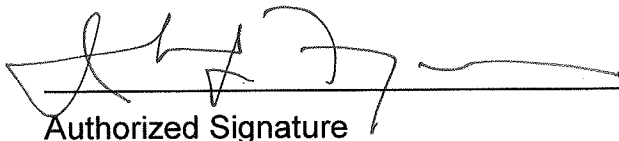
Issued Pursuant to Article 17, Titles 7, 8 and Article 70  
of the Environmental Conservation Law

Effective Date: January 29, 2020

Expiration Date: January 28, 2025

John J. Ferguson

Chief Permit Administrator



Authorized Signature

1-23-20

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**

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## 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

*Discharges* 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 discharges*;
  - (ii) Control stormwater *discharges*, 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 *discharges* from the site;
  - (vi) Provide and maintain *natural buffers* around surface waters, direct stormwater to vegetated areas and maximize stormwater infiltration to reduce *pollutant discharges*, 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.** *Discharges* from *dewatering* activities, including *discharges* 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 *discharges* 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 *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.



### 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 *discharges* 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 *discharges* 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 *discharges* 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 *discharges* 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 *discharges*; 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 *discharges* 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 **not** authorized by this permit:

1. *Discharges* after *construction activities* have been completed and the site has undergone *final stabilization*;
2. *Discharges* 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 *discharges* 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 *discharges* 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. *Discharges 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, 4<sup>th</sup> 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 all 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 not 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 not 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*, in writing, 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 *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.

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



- I. 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; and all areas of disturbance have achieved *final stabilization*; and all temporary, structural erosion and sediment control measures have been removed; and 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 sources*. 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 sources*, 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**

<p><b>The following construction activities that involve soil disturbances of one (1) or more acres of land, but less than five (5) acres:</b></p> <ul style="list-style-type: none"><li>• Single family home <u>not</u> located in one of the watersheds listed in Appendix C or <u>not directly discharging</u> to one of the 303(d) segments listed in Appendix E</li><li>• Single family residential subdivisions with 25% or less impervious cover at total site build-out and <u>not</u> located in one of the watersheds listed in Appendix C and <u>not</u> directly discharging to one of the 303(d) segments listed in Appendix E</li><li>• Construction of a barn or other <i>agricultural building</i>, silo, stock yard or pen.</li></ul>
<p><b>The following construction activities that involve soil disturbances between five thousand (5000) square feet and one (1) acre of land:</b></p> <p>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.</p>
<p><b>The following construction activities that involve soil disturbances of one (1) or more acres of land:</b></p> <ul style="list-style-type: none"><li>• Installation of underground, linear utilities; such as gas lines, fiber-optic cable, cable TV, electric, telephone, sewer mains, and water mains</li><li>• Environmental enhancement projects, such as wetland mitigation projects, stormwater retrofits and stream restoration projects</li><li>• Pond construction</li><li>• Linear bike paths running through areas with vegetative cover, including bike paths surfaced with an impervious cover</li><li>• Cross-country ski trails and walking/hiking trails</li><li>• Sidewalk, bike path or walking path projects, surfaced with an impervious cover, that are not part of residential, commercial or institutional development;</li><li>• 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.</li><li>• Slope stabilization projects</li><li>• Slope flattening that changes the grade of the site, but does not significantly change the runoff characteristics</li></ul>

**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:

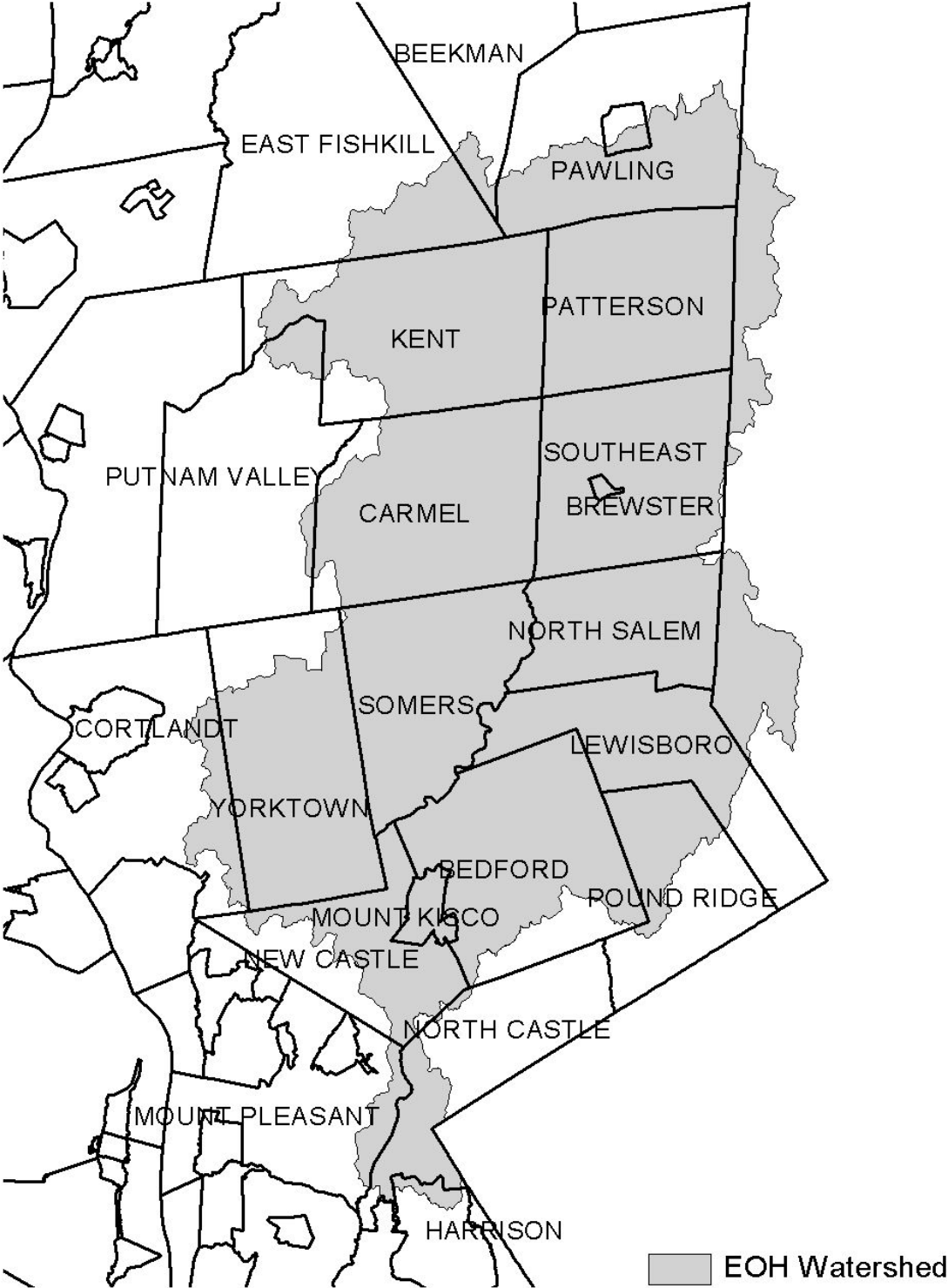
- Parking lot construction or reconstruction, including parking lots constructed as part of the construction activities listed in Table 1
- Athletic fields (natural grass) that include the construction or reconstruction of impervious area (>5% of disturbed area) or *alter the hydrology from pre to post 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* or *alter the hydrology from pre to post development* conditions, and 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**

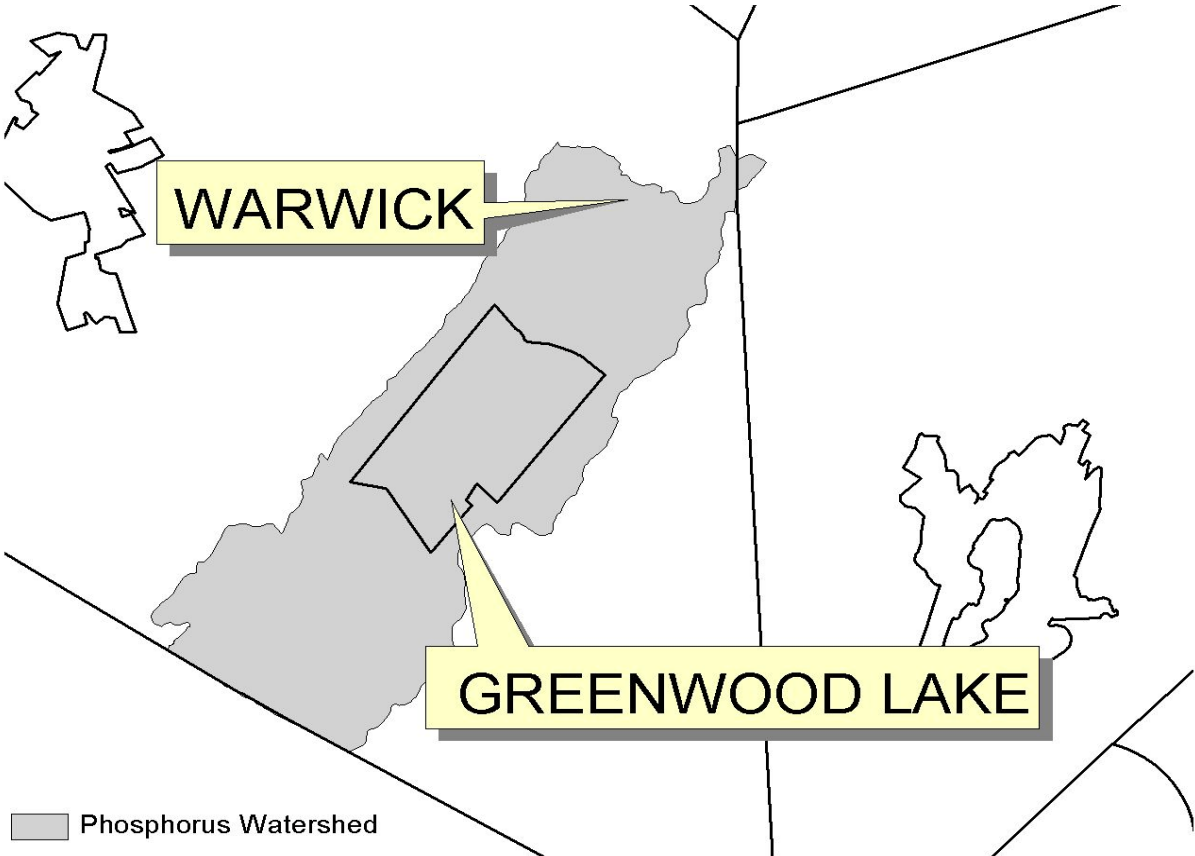




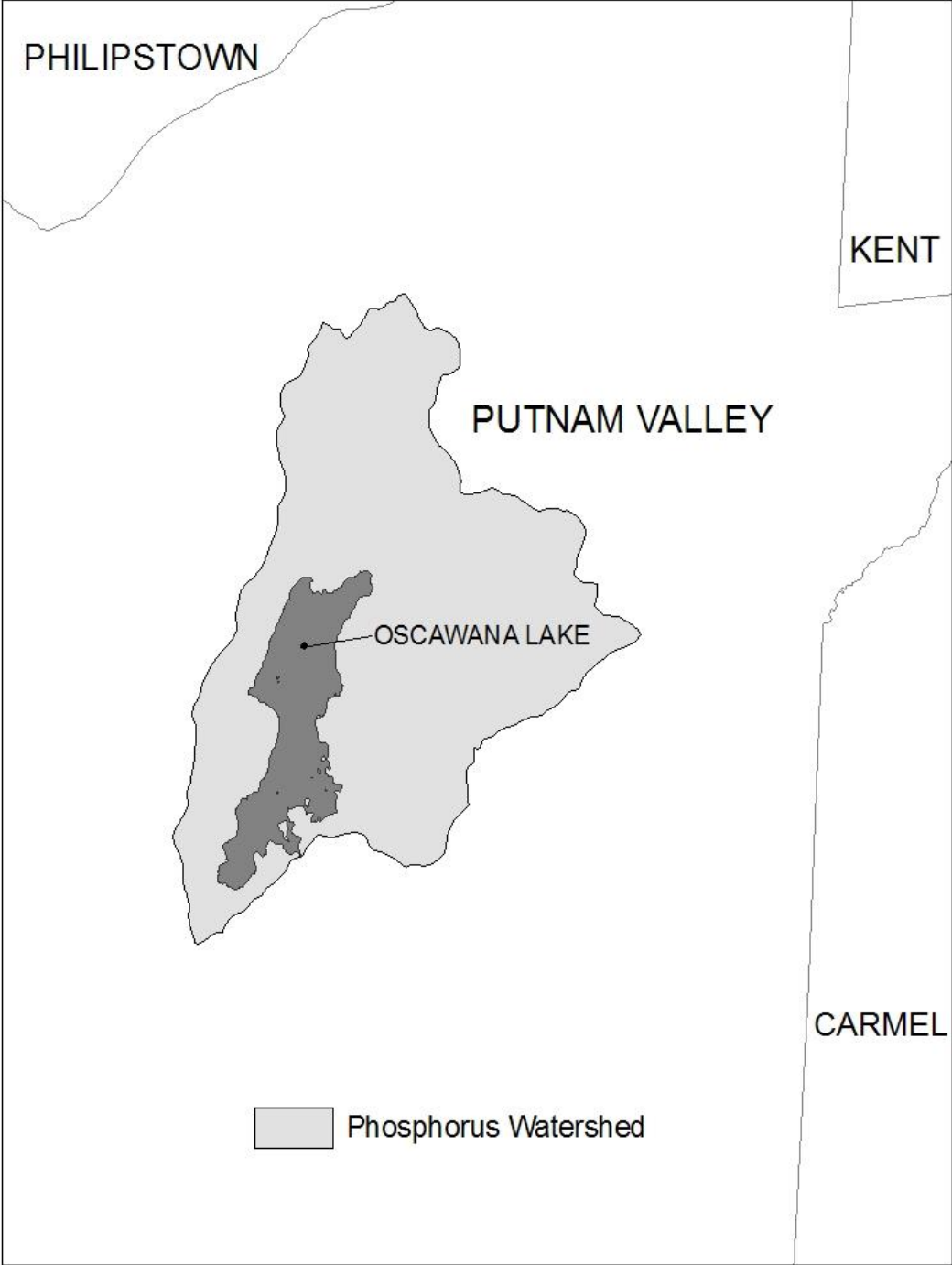
**Figure 2 - Onondaga Lake Watershed**



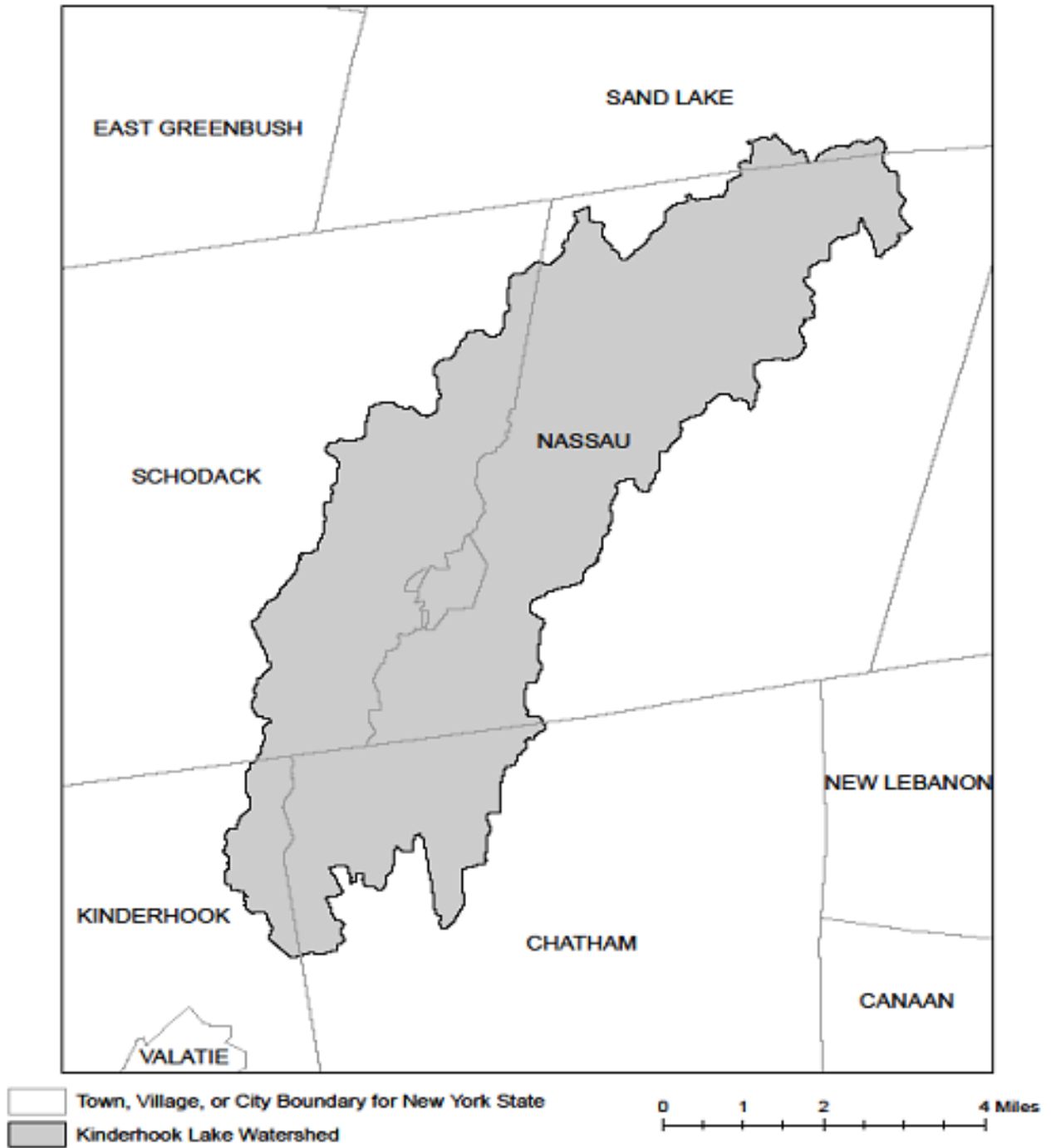
**Figure 3 - Greenwood Lake Watershed**



**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

<u>Region</u>	<u>COVERING THE FOLLOWING COUNTIES:</u>	<u>DIVISION OF ENVIRONMENTAL PERMITS (DEP) PERMIT ADMINISTRATORS</u>	<u>DIVISION OF WATER (DOW) WATER (SPDES) PROGRAM</u>
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 E-1


## Solar Panel Construction Stormwater Permitting/SWPPP Guidance

# NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Division of Water, Bureau of Water Permits  
625 Broadway, Albany, New York 12233-3505  
P: (518) 402-8111 | F: (518) 402-9029  
www.dec.ny.gov

## MEMORANDUM

**TO:** Regional Water Engineers

**FROM:** Robert Wither, Chief, South Permit Section 

**SUBJECT:** Solar Panel Construction Stormwater Permitting/SWPPP Guidance

**DATE:** April 5, 2018

### Issue

The Department is seeing an increase in the number of solar panel construction projects across New York State. This has resulted in an increase in the number of questions on Construction General Permit (CGP) and Stormwater Pollution Prevention Plan (SWPPP) requirements from design professionals because the current CGP (GP-0-15-002) does not include a specific reference to the SWPPP requirements for solar panel projects in Tables 1 and 2 of Appendix B. To address this issue, the Division of Water (DOW) has developed the following guidance on CGP/SWPPP requirements for the different types of solar panel projects.

### Scenario 1

The DOW considers solar panel projects designed and constructed in accordance with the following criteria to be a “*Land clearing and grading for the purposes of creating vegetated open space (i.e. recreational parks, lawns, meadows, fields)*” type project as listed in Table 1, Appendix B of the CGP. Therefore, the SWPPP for this type of project will typically just need to address erosion and sediment controls.

1. Solar panels are constructed on post or rack systems and elevated off the ground surface,
2. The panels are spaced apart so that rain water can flow off the down gradient side of the panel and continue as sheet flow across the ground surface\*,
3. For solar panels constructed on slopes, the individual rows of solar panels are generally installed along the contour so rain water sheet flows down slope\*,
4. The ground surface below the panels consist of a well-established vegetative cover (see “Final Stabilization” definition in Appendix A of the CGP),
5. The project does not include the construction of any traditional impervious areas (i.e. buildings, substation pads, gravel access roads or parking areas, etc.),
6. Construction of the solar panels will not alter the hydrology from pre-to post development conditions (see Appendix A of the CGP, for definition of “Alter the hydrology...”). Note: The design professional shall perform the necessary site assessment/hydrology analysis to make this determination.

\*Refer to Maryland's "Stormwater Design Guidance- Solar Panel Installations" attached for guidance on panel installation.

\*\*See notes below for additional criteria.

## **Scenario 2**

If the design and construction of the solar panels meets all the criteria above, except for item 6, the project will fall under the "*All other construction activities that include the construction or reconstruction of impervious area or alter the hydrology from pre-to post development conditions, and are not listed in Table 1*" project type as listed in Table 2, Appendix B of the CGP. Therefore, the SWPPP for this type of project must address post-construction stormwater practices designed in accordance with the sizing criteria in Chapter 4 of the NYS Stormwater Management Design Manual, dated January 2015 (Note: Chapter 10 for projects in NYC EOH Watershed). The Water Quality Volume (WQv)/Runoff Reduction Volume (RRv) sizing criteria can be addressed by designing and constructing the solar panels in accordance with the criteria in items 1 – 4 above, however, the quantity control sizing criteria (Cpv, Qp and Qf) from Chapter 4 (or 10) of the Design Manual must still be addressed, unless one of the waiver criteria from Chapter 4 can be applied. \*\*See notes below for additional criteria.

## **\*\* Notes**

- **Item 1:** For solar panel projects where the panels are mounted directly to the ground (i.e. no space below panel to allow for infiltration of runoff), the SWPPP must address post-construction stormwater management controls designed in accordance with the sizing criteria in Chapter 4 of the NYS Stormwater Management Design Manual, dated January 2015 (Note: Chapter 10 for projects in NYC EOH Watershed).

- **Item 5:** For solar panel projects that include the construction of traditional impervious areas (i.e. buildings, substation pads, gravel access roads or parking areas, etc.), the SWPPP must address post-construction stormwater management controls for those areas of the project. This applies to both Scenario 1 and 2 above.

cc: Carol Lamb-Lafay, BWP  
Dave Gasper, BWP



## Stormwater Design Guidance – Solar Panel Installations

Revisions to Maryland's stormwater management regulations in 2010 require that environmental site design (ESD) be used to the maximum extent practicable (MEP) to mimic natural hydrology, reduce runoff to reflect forested wooded conditions, and minimize the impact of land development on water resources. This applies to any residential, commercial, industrial, or institutional development where more than 5,000 square feet of land area is disturbed. Consequently, stormwater management must be addressed even when permeable features like solar panel installations exceed 5,000 square feet of land disturbance.

Depending on local soil conditions and proposed imperviousness, the amount of rainfall that stormwater requirements are based on varies from 1.0 to 2.6 inches. However, addressing stormwater management does not mean that structural or micro-scale practices must be constructed to capture and treat large volumes of runoff. Using nonstructural techniques like disconnecting impervious cover reduces runoff by promoting overland filtering and infiltration. Commonly used with smaller or narrower impervious areas like driveways or open roads, the Disconnection of Non-Rooftop Runoff technique (see pp. 5.61 to 5.65 of the **2000 Maryland Stormwater Design Manual**<sup>1</sup>) is a low cost alternative for treating runoff in situations like rows of solar panels.

When non-rooftop disconnection is used to treat runoff, the following factors should be considered:

- The vegetated area receiving runoff must be equal to or greater in length than the disconnected surface (e.g., width of the row of solar panels)
- Runoff must sheet flow onto and across vegetated areas to maintain the disconnection
- Disconnections should be located on gradual slopes ( $\leq 5\%$ ) to maintain sheetflow. Level spreaders, terraces, or berms may be used to maintain sheetflow conditions if the average slope is steeper than 5%. However, installations on slopes greater than 10% will require an engineered plan that ensures adequate treatment and the safe and non-erosive conveyance of runoff to the property line or downstream stormwater management practice.
- Disconnecting impervious surfaces works best in undisturbed soils. To minimize disturbance and compaction, construction vehicles and equipment should avoid areas used for disconnection during installation of the solar panels.
- Groundcover vegetation must be maintained in good condition in those areas receiving disconnected runoff. Typically this maintenance is no different than other lawn or landscaped areas. However, areas receiving runoff should be protected (e.g., planting shrubs or trees along the perimeter) from future compaction.

Depending on the layout and number of panels installed, the disconnection of non-rooftop runoff technique may address some or all of the stormwater management requirements for an individual project. Where the imperviousness is high or there is other infrastructure (e.g., access roads, transformers), additional runoff may need to be treated. In these situations, other ESD techniques or micro-scale practices may be needed to provide stormwater management for these features.



### Example 1 – Using Non-Rooftop Disconnection Where the Average Slope $\leq 5\%$

Several rows of solar panels will be installed in an existing meadow. The soils within the meadow are hydrologic soil group (HSG) B and the average slope does not exceed 5%. Each row of panels is 10 feet wide and the distance between rows is 20 feet. The rows of solar panels will be installed according to Figure 1 below. In this scenario, the disconnection length is the same as the distance between rows (20 feet) and is greater than the width of each row (10 feet). Therefore, each row of panels is adequately disconnected and the runoff from 1.0 inch of rainfall is treated.

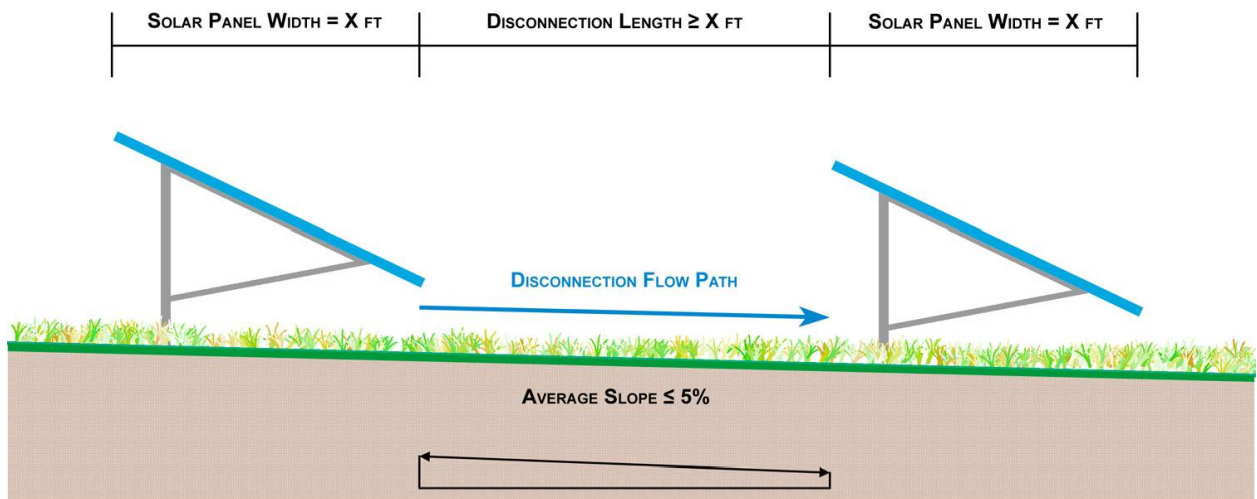


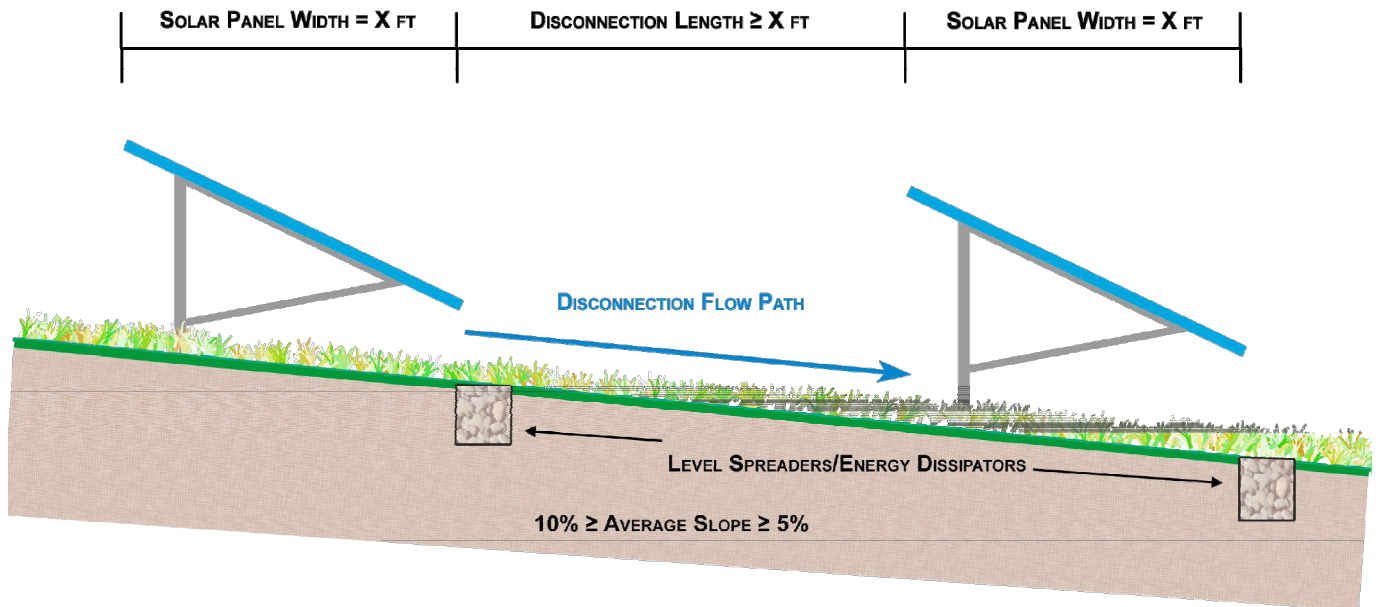
Figure 1. Typical Installation - Slope  $\leq 5\%$

### Example 2 – Using Non-Rooftop Disconnection Where the Average Slope $\geq 5\%$ but $\leq 10\%$

Several rows of solar panels will be installed in an existing meadow. The soils within the meadow are hydrologic soil group (HSG) B and the average slope is greater than 5% but less than 10%. Each row of panels is 10 feet wide and the distance between rows is 20 feet. The rows of solar panels will be installed as shown in Figure 2 below. The disconnection length is the same as the distance between rows (20 feet) and is greater than the width of each row (10 feet). However, in this example, a level spreader (typically 1 to 2-foot wide and 1 foot deep) has been located at the drip edge of each row of panels to dissipate energy and maintain sheetflow.

### Discussion

To meet State and local stormwater management requirements, ESD must be used to the MEP to reduce runoff to reflect forested conditions. While all reasonable options for implementing ESD must be investigated, minimally, the runoff from 1 inch of rainfall must be treated. In each of the examples above, there may be additional opportunities to implement ESD techniques or practices and reduce runoff that should be explored. However, simply disconnecting the runoff from the solar panel arrays captures and treats the runoff from 1.0 inch of rainfall. Where imperviousness is low and soil conditions less optimal (e.g., HSG C or D), this may be sufficient to completely address stormwater management requirements. In more dense applications or in sandy soils, additional stormwater management may be required.



**Figure 2. Typical Installation – Slope  $\geq 5\%$  but  $\leq 10\%$**

## Conclusion

The primary purpose of Maryland's stormwater management program is to mimic natural hydrologic runoff characteristics and minimize the impact of land development on water resources. Any land development project that exceeds 5,000 square feet of disturbance, including solar panel projects, must address stormwater management. However, for solar panels, stormwater management may be provided in a cost-effective manner by disconnecting each row of panels and directing runoff over the vegetated areas between the individual rows.

## Resources

<sup>1</sup> [2000 Maryland Stormwater Design Manual, Volumes I and II](http://www.mde.state.md.us/programs/Water/StormwaterManagementProgram/MarylandStormwaterDesignManual/Pages/Programs/WaterPrograms/SedimentandStormwater/stormwater_design/index.aspx), MDE, October 2000  
 ([http://www.mde.state.md.us/programs/Water/StormwaterManagementProgram/MarylandStormwaterDesignManual/Pages/Programs/WaterPrograms/SedimentandStormwater/stormwater\\_design/index.aspx](http://www.mde.state.md.us/programs/Water/StormwaterManagementProgram/MarylandStormwaterDesignManual/Pages/Programs/WaterPrograms/SedimentandStormwater/stormwater_design/index.aspx))



# Appendix F

## Stormwater Pollution Prevention Plan Certification



# Appendix G

## Notice of Termination (NOT)



**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 H

## General Contractor's Certification



**STORM WATER POLLUTION PREVENTION PLAN  
CONTRACTOR'S CERTIFICATION**

**CONSTRUCTION SITE –  
CROWN POINT SOLAR PROJECT – YELLOW 4 LLC  
TOWN OF CROWN POINT  
ESSEX COUNTY, NEW YORK  
STORMWATER POLLUTION PREVENTION PLAN**

**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 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 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. "*

**Name:** \_\_\_\_\_  
(Print)

**Signature:** \_\_\_\_\_

**Title:** \_\_\_\_\_

**Company Name:** \_\_\_\_\_

**Address:** \_\_\_\_\_

**Telephone Number:** \_\_\_\_\_

**Date:** \_\_\_\_\_

**Scope of Services:** \_\_\_\_\_

**Date:** \_\_\_\_\_

**Received by:** \_\_\_\_\_  
[Name]



# Appendix I

## Subcontractor's Certification

**STORM WATER POLLUTION PREVENTION PLAN  
SUBCONTRACTOR'S CERTIFICATION**

**CONSTRUCTION SITE –  
CROWN POINT SOLAR PROJECT – YELLOW 4 LLC  
TOWN OF CROWN POINT  
ESSEX COUNTY, NEW YORK  
STORMWATER POLLUTION PREVENTION PLAN**

**SUBCONTRACTOR'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 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 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. "*

**Name:** \_\_\_\_\_  
(Print)

**Signature:** \_\_\_\_\_

**Title:** \_\_\_\_\_

**Company Name:** \_\_\_\_\_

**Address:** \_\_\_\_\_

**Telephone Number:** \_\_\_\_\_

**Date:** \_\_\_\_\_

**Scope of Services:** \_\_\_\_\_

**Date:** \_\_\_\_\_

**Received by:** \_\_\_\_\_  
[Name]



# Appendix J

## Inspection Form/Report



**STORMWATER POLLUTION PREVENTION PLAN**  
**CONSTRUCTION SITE –**  
**CROWN POINT SOLAR PROJECT – YELLOW 4 LLC**  
**TOWN OF CROWN POINT**  
**ESSEX COUNTY, NEW YORK**  
**STORMWATER POLLUTION PREVENTION PLAN**

Inspections/reports must be completed a minimum of once every seven calendar days.

Inspection Type: <input type="checkbox"/> Routine (every 7 calendar days) <input type="checkbox"/> Other _____
--

Date: \_\_\_\_\_

Week Ending: \_\_\_\_\_

**Weather/Storm Event Information:**

Storm Start Time: \_\_\_\_\_

Storm Duration: \_\_\_\_\_

Approximate Amount of Rainfall (inches): \_\_\_\_\_

Based on the results of the inspection, necessary control modifications shall be implemented within seven (7) calendar days. These reports shall be kept on file as part of the Storm Water Pollution Prevention Plan for at least five (5) years from the date of completion and submission of the Final Stabilization Certification/Termination Checklist and Notice of Termination. A copy of the SWPPP shall be kept at the site at all times during construction.

**Practices in need of repair:**

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**Item not corrected from previous inspection:**

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Name of Inspector: \_\_\_\_\_ Title of Inspector: : \_\_\_\_\_

Inspector's Signature: \_\_\_\_\_

**Compliance Certification**

**I certify that, based on no incidents of non-compliance identified during the inspection, the site is in compliance with the SWPPP and the Construction General Permit.**

**Name of Duly Authorized Representative (Printed):** \_\_\_\_\_

**Signature of Duly Authorized Representative:** \_\_\_\_\_

**Date:** \_\_\_\_\_

**\*Note: Only to be signed when the site is in full compliance with the SWPPP and the Construction General Permit.**

**II. CONSTRUCTION DURATION INSPECTIONS**

**a. Directions:**

**Inspection Forms will be filled out during the entire construction phase of the project.**

**Required Elements:**

**(1) On a site map, indicate the extent of all disturbed site areas and drainage pathways. Indicate site areas that are expected to undergo initial disturbance or significant site work within the next 14-day period;**

**(2) Indicate on a site map all areas of the site that have undergone temporary or permanent stabilization;**

**(3) Indicate all disturbed site areas that have not undergone active site work during the previous 14-day period;**

**Inspect all sediment control practices and record the approximate degree of sediment accumulation as a percentage of sediment storage volume (for example, 10 percent, 20 percent, 50 percent);**

**(5) Inspect all erosion and sediment control practices and record all maintenance requirements such as verifying the integrity of barrier or diversion systems (earthen berms or silt fencing) and containment systems (sediment basins and sediment traps). Identify any evidence of rill or gully erosion occurring on slopes and any loss of stabilizing vegetation or seeding/mulching. Document any excessive deposition of sediment or ponding water along barrier or diversion systems. Record the depth of sediment within containment structures, any erosion near outlet and overflow structures, and verify the ability of rock filters around perforated riser pipes to pass water; and**

**(6) Immediately report to the Operator any deficiencies that are identified with the implementation of the SWPPP.**

**SITE PLAN/SKETCH**

\_\_\_\_\_  
**Qualified Inspector (print name)**

\_\_\_\_\_  
**Qualified Inspector Signature**

\_\_\_\_\_  
**Date of Inspection**

**The above signed acknowledges that, to the best of his/her knowledge, all information provided on the forms is accurate and complete.**

## CONSTRUCTION DURATION INSPECTIONS

### Maintaining Water Quality

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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

#### 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**

**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.

**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.

**Miscellaneous**

**1. Site Photos**

Yes No NA

Site photos have been included with the report that depicts properly installed practices and identified deficiencies needing corrective action. If no, please state why below.

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**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.



# Appendix K

## Stabilization Form







# Appendix L

## Implementation Form





# Appendix M

## Modification Log/Report Form

**STORM WATER POLLUTION PREVENTION PLAN  
MODIFICATION LOG**

**CONSTRUCTION SITE –  
CROWN POINT SOLAR PROJECT – YELLOW 4 LLC  
TOWN OF CROWN POINT  
ESSEX COUNTY, NEW YORK  
STORMWATER POLLUTION PREVENTION PLAN**

**CHANGES REQUIRED FOR STORM WATER POLLUTION PREVENTION PLAN**

The SWPPP must be amended whenever there is a change in design, construction, operation, or maintenance at the construction site that has a significant effect on the discharge of pollutants to the Waters of the United States that has not been previously addressed in the SWPPP, if inspections or investigations by site staff, local, state or federal officials determine that discharges are causing water quality exceedances or the SWPPP is ineffective in eliminating or significantly minimizing pollutants in storm water discharges from the construction site, or based on the results of an inspection, or there is a release containing a Hazardous Substance or Oil in an amount equal to or in excess of a reportable quantity established under either 40 CFR Part 110, 40 CFR Part 117, or 40 CFR Part 302 occurs during a 24 hour period, the SWPPP must be modified to include additional or modified BMPs designed to correct identified problems. Revisions to the SWPPP must be completed within seven (7) calendar days following the inspection. Modifications that are the result of inspections shall be initialed within 24 hours and completed within 48 hours. All modifications are to be referenced on both the forms and on a Progress Drawing.

**MODIFICATION LOG**

<b>MODIFICATION NUMBER*</b>	<b>DATE</b>	<b>BRIEF DESCRIPTION</b>	<b>PROJECT MANAGER REVIEW</b>

\*Modification Log Number to correspond with Modification Report Number



**STORM WATER POLLUTION PREVENTION PLAN  
MODIFICATION REPORT**

**CONSTRUCTION SITE –  
CROWN POINT SOLAR PROJECT – YELLOW 4 LLC  
TOWN OF CROWN POINT  
ESSEX COUNTY, NEW YORK  
STORMWATER POLLUTION PREVENTION PLAN**

**NUMBER** \_\_\_\_\_

**DATE** \_\_\_\_\_

**TO:  
ADDRESS:**

**TELEPHONE:**

**FACSIMILE:**

**SENT VIA:**

Facsimile

Courier

US Mail

**INSPECTOR:** \_\_\_\_\_  
(Print Name)

\_\_\_\_\_  
(Inspector Signature)

**QUALIFICATIONS OF INSPECTOR:** \_\_\_\_\_

**CHANGES REQUIRED TO THE STORMWATER POLLUTION PREVENTION PLAN:**

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**REASONS FOR CHANGES:**

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**TO BE PERFORMED BY:** \_\_\_\_\_

**ON OR BEFORE:** \_\_\_\_\_

**Project Manager:** \_\_\_\_\_

**Other Operator:** \_\_\_\_\_



# Appendix N

## Final Stabilization Form/Termination Checklist

**STORM WATER POLLUTION PREVENTION PLAN**

**FINAL STABILIZATION CERTIFICATION /NOTICE OF TERMINATION CHECKLIST**

**CONSTRUCTION SITE –  
CRWON POINT SOLAR PROJECT – YELLOW 4 LLC  
TOWN OF CROWN POINT  
ESSEX COUNTY, NEW YORK  
STORMWATER POLLUTION PREVENTION PLAN**

1.  All soil disturbing activities are complete and the facility no longer discharges storm water associated with Construction Activities.
2.  Temporary Erosion and Sediment Control Measures have been removed or will be removed at the appropriate time.
3.  All areas of the Construction Site not otherwise covered by a permanent pavement or structure have been stabilized with a uniform perennial vegetative cover with a density of 80% or equivalent measures have been employed.

**CONTRACTOR'S CERTIFICATION:**

*“I certify under penalty of law that all storm water discharges associated with Construction Activity from the identified project that are authorized by the NPDES Construction General Permit have been eliminated and that all disturbed areas and soils at the construction site have achieved Final Stabilization and all temporary erosion and sediment control measures have been remove in addition all permanent stormwater structures have been constructed as described in the SWPPP”*

Company Name: \_\_\_\_\_

Name (Print): \_\_\_\_\_

Signature: \_\_\_\_\_

Title: \_\_\_\_\_

Date: \_\_\_\_\_

Date: \_\_\_\_\_

Received by: \_\_\_\_\_  
[Name]



# Appendix O

## Reportable Quantity Release Form







# Appendix P

## Project Rainfall Log

YEAR 2021

**PROPOSED CROWN POINT SOLAR PROJECT  
YELLOW 4 LLC – TOWN OF CROWN POINT, NEW YORK  
STORM WATER POLLUTION PREVENTION PLAN  
PROJECT RAINFALL LOG**

Month	Jan	Feb	Mar	Apr	May	June	July	Aug	Sep	Oct	Nov	Dec
Day												
1												
2												
3												
4												
5												
6												
7												
8												
9												
10												
11												
12												
13												
14												
15												
16												
17												
18												
19												
20												
21												
22												
23												
24												
25												
26												
27												
28												
29												
30												
31												
PM Initials												

Note: Rainfall amounts are to be based on a 24-hour rainfall event, instead of a cumulative total of rainfall over several days.



# Appendix Q

## Pre-Construction Meeting Forms

**STORM WATER POLLUTION PREVENTION PLAN  
PRE-CONSTRUCTION MEETING AGENDA AND ATTENDANCE RECORD**

**PROPOSED CROWN POINT SOLAR PROJECT  
YELLOW 4 LLC – TOWN OF CROWN POINT, NEW YORK  
STORM WATER POLLUTION PREVENTION PLAN**

<b>Topic</b>	<b>Discussed</b>	<b>Further action or Information Required (Yes or No)</b>
<b>Overview of SPDES Permit Program</b>		
<b>General Discussion of SWPPP and Records Retention Requirements</b>		
<b>Phasing of Project</b>		
<b>Review of Erosion and Sediment Control Plans (to include all temporary and permanent structural and stabilization measures)</b>		
<b>Locating solid waste containers, portable toilets, concrete washout areas, fueling areas and tank storage area on Progress Drawing</b>		
<b>Posting the Progress Drawing (marked on the Erosion and Sediment Control Plans) at job trailer</b>		
<b>Posting requirements for the Notice of Intent (NOI), Must be posted at Project entrance and inside job trailer wall.</b>		
<b>Allowable non-storm water discharges and handling procedures</b>		
<b>Materials management to include proper material storage, etc.</b>		
<b>Signatory Authorization Delegation</b>		
<b>Contractor’s Certification</b>		
<b>Subcontractor’s Certification</b>		
<b>Inspection form and required inspection timeframe</b>		
<b>Stabilization schedule</b>		
<b>Implementation schedule</b>		
<b>Modification report and modifying plans</b>		
<b>Final stabilization</b>		
<b>Reportable quantity release procedures</b>		
<b>Rain gage requirement and rainfall logs</b>		
<b>State specific requirements</b>		
<b>Import/Export – Fill and Spoil Materials</b>		
<b>SWPPP accessibility to regulatory officials</b>		
<b>Inspections – assisting and cooperating with regulatory officials – inspection reports and notices of violation (any response must be coordinated through Project Manager)</b>		

**Attendance Roster**

**Date:** \_\_\_\_\_

<b>Name</b>	<b>Company</b>	<b>Telephone Number</b>	<b>Signature</b>

**Attendance Roster (continued)**

Name	Company	Telephone Number	Signature

**Items which require further action or additional information:** \_\_\_\_\_

\_\_\_\_\_

**Additional items discussed (not addressed above):** \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**\*This completed form must be included in both the Project Manager's and Construction Site SWPPP Ledger.**





# Appendix R

## Stormwater Management Report



# Crown Point Solar Project

## TOWN OF CROWN POINT

## STORMWATER MANAGEMENT REPORT



Town of Crown Point  
Essex County, New York  
March 23, 2021  
Revised: June 16, 2021

### PREPARED FOR:

Yellow 10 LLC c/o Chris Stroud  
125 Wolf Road, Suite 312  
Colonie, NY 12205

### PREPARED BY:

Bergmann

2 Winners Circle, Suite 102  
Albany, NY 12205

Phone: 518.862.0325



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Section I General Information

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A. PROJECT DESCRIPTION

The Crown Point Solar Project is located within the Town of Crown Point, Clinton County, New York. The project consists of a gravel driveway, solar arrays with appurtenant utilities. The proposed solar project will be constructed on parcel 117.19-2-1.000. The site is proposed to be developed in a single phase, with the full development covering a total of 7.5± acres, no more than 5 acres will be disturbed at any given time. The project will use a temporary driveway for site access. The construction of the limited use pervious gravel driveway will be completed following installation and connection of the solar panels.

B. SOIL CLASSIFICATION

According to the Natural Resources Conservation Service website (NRCS), there are four (4) mapped soil units identified on the project property. Howard gravelly loam, 2 to 8 percent slopes is the dominant soil type and is located on approximately 67.6% of the project area. These soils have a high infiltration rate (low runoff potential) when thoroughly wet and have a high rate of water transmission.

The complete list of soils found on the project site is identified in the table below.

Table I  
Soil Summary

Symbol	Soil Name	Hydrologic Soil Group
DuE	Dunkirk silt loam, 25 to 45 percent slopes	C
HcD	Howard very cobbly loam, 15 to 25 percent slopes	A
HgB	Howard gravelly loam, 2 to 8 percent slopes	A
RmA	Rippowam fine sandy loam, 0 to 3 percent slopes	A/D



Section II Hydrology

---

A. METHODOLOGY

Stormwater runoff rates discharged from the site under the existing conditions provide the basis on which to compare the impacts of the proposed site improvements. The areas draining to each analysis point are delineated using topographic survey maps and grading plans. HydroCAD 10.0 by HydroCAD Software Solutions LLC was used to model the existing and proposed condition.

The parameters required to calculate stormwater runoff are area, curve number, and time of concentration. Each drainage area is evaluated using the guidelines described in USDA Soil Conservation Service’s TR-55 to determine the curve number and time of concentration.

The runoff curve number (CN) is based on a weighted average of ground cover and soil type. The underlying soil types are described in county soil maps. Site and grading plans and survey maps outline existing and proposed ground cover. CN values for specific locations are determined from the tables presented in TR-55. The CN value for the limited use gravel pavement was calculated manually using the SCS runoff curve number equation provided in TR-55.

Time of concentration (Tc) represents the amount of time it takes for runoff to travel from the hydraulically most distant point of the watershed to the point of analysis. Surface roughness, slope, channel shape and flow patterns are the factors that affect the time of concentration. Stormwater runoff flows through the drainage area as sheet flow, shallow concentrated flow, open channel flow, or concentrated flow (such as in storm sewers). The sum of the travel times over the various surfaces within the assumed flow path for a specific drainage area determines that area’s time of concentration. The figures and formulas in TR-55 are employed to compute travel times for sheet flow and shallow concentrated flow.

B. EXISTING CONDITIONS

Though the project area has been identified as 7.5± acres, the drainage area analyzed has been calculated to be 13.494 acres. This drainage area is further categorized into three sub areas with site runoff conveyed via sheet flow and shallow concentrated flow. The parcel to be developed consists of grass, wooded areas, a gravel driveway, and a house.

Table II  
Existing Conditions Summary

Drainage Area	Description	Size (ac)	Composite Cn	Tc (min)
E-1	This area consists of woods, grass, a portion of the driveway, an existing barn and wetlands. This area drains to the south via sheet flow, shallow concentrated flow and ultimately discharges to the southern property line designated as Design point #1 (DP-1).	3.884	44	10.3





E-2	This area consists of woods, grass, and a portion of the driveway. This area drains to the south via sheet flow, shallow concentrated flow and ultimately discharges to the south side of the property line designated as Design point #2 (DP-2).	8.548	36	35.3
E-3	This area consists of mostly woods. This area drains to the east via sheet flow, shallow concentrated flow and ultimately discharges to Design point #3 (DP-3).	1.062	36	25.5

C. PROPOSED CONDITIONS

The proposed drainage area comprises a total of 13.494 acres. In the proposed (post-development) condition, the site will be comprised of three sub areas that represents all of the site runoff. The three sub areas are labeled P-1, P-2 and P-3. The runoff from the sub areas will drain via sheet flow and shallow concentrated flow to their designated design points as it does in the pre-development conditions.

Table III  
Proposed Conditions Summary

Drainage Area	Description	Size (ac)	Composite Cn	Tc (min)
P-1	This area consists of woods, grass, solar panels a portion of the driveway and house and some wetlands. This area drains to the south via sheet flow, shallow concentrated flow and ultimately discharges to the southern property line designated as Design point #1 (DP-1).	3.884	43	9.8
P-2	This area consists of woods, grass, solar panels, and a portion of the gravel driveway. This area drains to the south via sheet flow, shallow concentrated flow and ultimately discharges to the southern property line designated as Design point #2 (DP-2).	8.548	33	25.4
P-3	This area consists of solar panels, woods and grass. This area drains to the east via sheet flow, shallow concentrated flow and ultimately discharges to Design point #3 (DP-3).	1.062	34	24.8



Section III Stormwater Management & SPDES Phase II Requirements

State Pollutant Discharge Elimination System (SPDES)

Since the subject site will have land disturbance of more than 1-acre a State Pollutant Discharge Elimination System (SPDES) permit will be completed as part of the project. A Storm Water Pollution Prevention Plan (SWPPP) will be developed in accordance with the EPA Phase II regulations. The SWPPP will be for the most part modeled on the New York State DEC Guidelines and will meet the following criteria as the principle objectives contained in an approved SWPPP.

- 1) Reduction or elimination of erosion and sediment loading to water-bodies during construction activities.
- 2) Control the impact of storm water runoff on the water quality of the receiving waters.
- 3) Control the increase volume and peak runoff rate of runoff during and after construction.
- 4) Maintenance of storm water controls during and after completion of construction.

The aforementioned objectives will be accomplished by incorporating the several of the design criteria outlined within the Technical Guidelines provided by New York State Department of Environmental Conservation, Stormwater Management Design Manual and summarized below.

A. WATER QUALITY VOLUME

The New York State Department of Environmental Conservation, Stormwater Management Design Manual was used to determine the water quality criteria. Specifically, the unified storm water sizing criteria was followed for water quality to meet the State of New York pollutant goals. The water quantity volume is intended to improve water quality by capturing and treating 90% of the average annual storm water runoff volume.

The following equation is given within the design manual for calculating the water quality storage volume.

$$WQ_v = \frac{(P)(R_v)(A)}{12}$$

where:

- WQ<sub>v</sub> = water quality volume (acre-ft)
- P = 90% Rainfall Event Number (1" was used per ICW Guidelines)
- R<sub>v</sub> = 0.05 + 0.009 (I) , where I is percent of impervious cover
- A = site area (acres)

Table IV – WQv/RRv Summary

Water Quality Volume / Runoff Reduction Volume				
Total Drainage Area (Acres)	WQv Required (CF)	WQv Provided (CF)	Min. RRv Required (CF)	RRv Provided (CF)
2.45	1,931	1,931	572	609



## B. CHANNEL PROTECTION VOLUME

The proposed project is using a limited use pervious gravel section for the design of the gravel driveway. This driveway section is considered a pervious surface. The proposed design will not alter the hydrology from pre to post-development conditions and therefore, the need to provide the total channel protection storage volume is not required. In the event that channel protection is required, the New York State Department of Environmental Conservation, Stormwater Management Design Manual will be used to determine the water quantity criteria. Specifically, mitigating the 10-year and 100-year post-development runoff rates to the predevelopment runoff rates and providing the 24-hour extended detention for the 1-year storm event.

## C. RUNOFF REDUCTION VOLUME

The Runoff Reduction Volume (RRv) for the site shall be equal to 100% of the water quality volume per section 4.3 of the Stormwater Management Design Manual. In the event that a project cannot meet the 100% requirement a reduced percentage based on the formula located on page 4-6 of the Stormwater Management Design Manual. Refer to Table IV for the minimum RRv required and provided.

## D. OVERBANK FLOOD

Overbank Flood protection is provided by controlling the peak discharge from the 10-year storm to 10-year predevelopment rates. This requirement is being satisfied as the proposed development peak flow rate from the 10-year storm lower than the pre-development peak flow rate. Refer to Table VI for details.

## E. EXTREME STORM

Extreme Storm protection is provided by controlling the peak discharge from the 100-year storm to 100-year predevelopment rates. This requirement is being satisfied as the proposed development peak flow rate from the 100-year storm is lower than the pre-development peak flow rate. Refer to Table VII for details.



Section IV Summary of Findings

A. Summary of Results

The following tables shows a summary of comparison pre-development and post-development flow rates. The values account for the full development of the site in all phases.

Table V – Existing and Proposed Peak Discharge for the 1-year Storm (cfs)

Existing Drainage Area Proposed Drainage Area	1-year Design Storm Discharge	
	Existing	Proposed
E-1 P-1	0.00	0.00
E-2 P-2	0.00	0.00
E-3 P-3	0.00	0.00

Table VI – Existing and Proposed Peak Discharge for the 10-year Storm (cfs)

Existing Drainage Area Proposed Drainage Area	10-year Design Storm Discharge	
	Existing	Proposed
E-1 P-1	0.03	0.03
E-2 P-2	0.00	0.00
E-3 P-3	0.00	0.00

Table VII – Existing and Proposed Peak Discharge for the 100-year Storm (cfs)

Existing Drainage Area Proposed Drainage Area	100-year Design Storm Discharge	
	Existing	Proposed
E-1 P-1	2.37	2.04
E-2 P-2	0.32	0.12
E-3 P-3	0.04	0.02

As depicted in the above tables, the peak discharge from the site for each of the design storms will decrease after this project is constructed and the stormwater management plan is implemented. Therefore, the proposed project does not alter the hydrology of the site from pre to post-development conditions.



## B. Conclusion

Based on the calculations attached in the appendices of this report, the proposed stormwater runoff will decrease for all of the design storms under proposed conditions and water quality treatment is provided by the use of dry swale designed to treat the proposed gravel driveway.


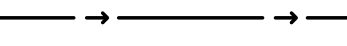
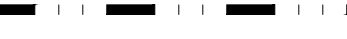




Appendix R-1  
Existing Conditions Drainage Map  
And HydroCAD Report



**LEGEND**

	DRAINAGE AREA BOUNDARY
	TIME OF CONCENTRATION PATH
	SOIL TYPE BOUNDARY

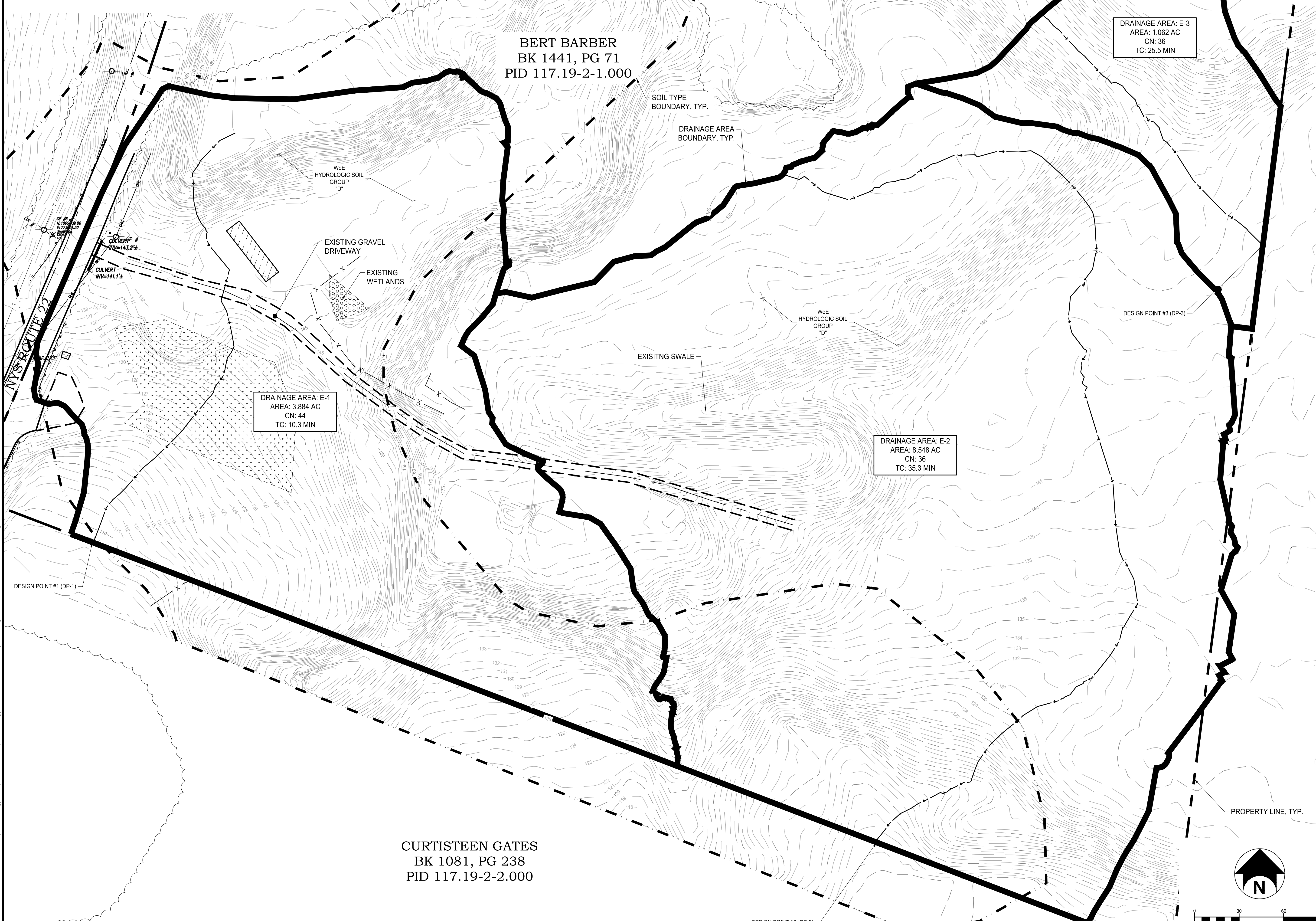
BERT BARBER  
BK 1441, PG 71  
PID 117.19-2-1.000

DRAINAGE AREA: E-3  
AREA: 1.062 AC  
CN: 36  
TC: 25.5 MIN

DRAINAGE AREA: E-1  
AREA: 3.884 AC  
CN: 44  
TC: 10.3 MIN

DRAINAGE AREA: E-2  
AREA: 8.548 AC  
CN: 36  
TC: 35.3 MIN

CURTISTEEN GATES  
BK 1081, PG 238  
PID 117.19-2-2.000



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Albany, NY 12205  
www.bergmannpc.com  
office: 518.862.0325

**YELLOW 4 LLC**

**CROWN POINT  
SOLAR PROJECT**

12 LAKE ROAD  
CROWN POINT, NY 12928

Date Revised	Description



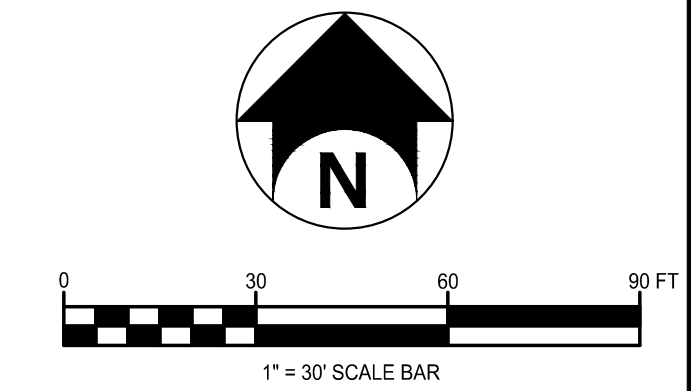
NOT FOR  
CONSTRUCTION

Copyright © Bergmann Associates, Architects, Engineers,  
Landscape Architects & Surveyors, D.P.C.

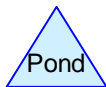
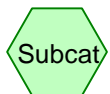
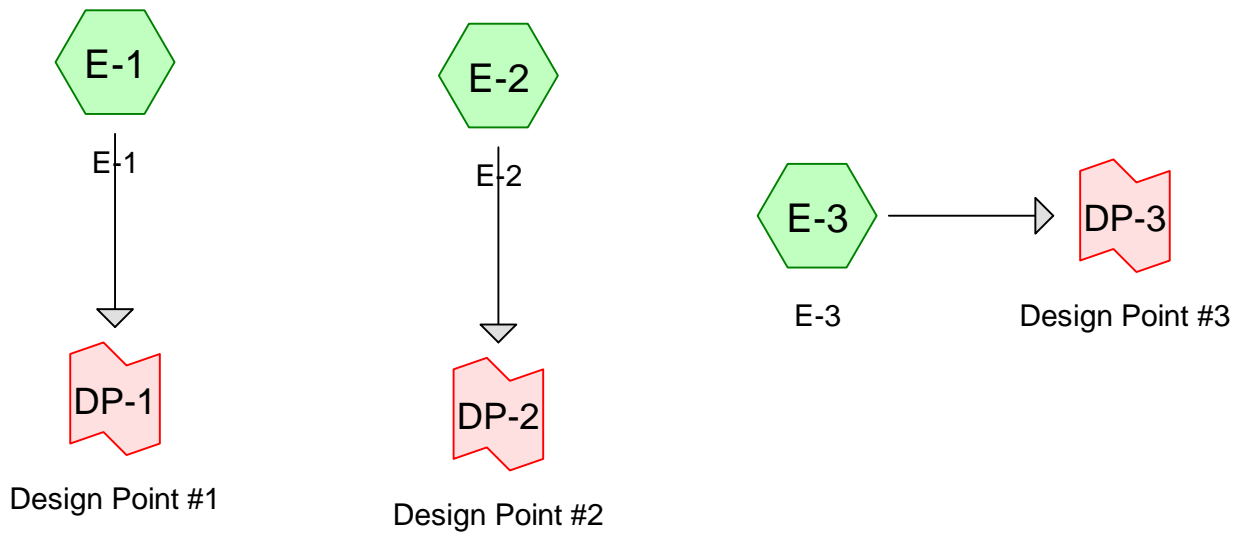
Project Manager <b>ECR</b>	Discipline Lead <b>ECR</b>
Designer <b>WD</b>	Reviewer <b>ECR</b>
Date Issued <b>03/19/2021</b>	Project Number <b>14859.03</b>

Sheet Name  
**EXISTING CONDITIONS  
DRAINAGE MAP**

Drawing Number  
**DR-EX**







**DR-EX**

Prepared by Bergmann Associates

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Page 2

**Area Listing (all nodes)**

Area (acres)	CN	Description (subcatchment-numbers)
0.567	68	<50% Grass cover, Poor, HSG A (E-1)
0.161	96	Gravel surface, HSG A (E-1, E-2)
0.106	98	Paved parking, HSG A (E-1)
12.660	36	Woods, Fair, HSG A (E-1, E-2, E-3)

**DR-EX**

Prepared by Bergmann Associates

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Page 3

**Soil Listing (all nodes)**

Area (acres)	Soil Group	Subcatchment Numbers
13.494	HSG A	E-1, E-2, E-3
0.000	HSG B	
0.000	HSG C	
0.000	HSG D	
0.000	Other	



**DR-EX**

Prepared by Bergmann Associates

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Page 4

**Ground Covers (all nodes)**

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
0.567	0.000	0.000	0.000	0.000	0.567	<50% Grass cover, Poor	E-1
0.161	0.000	0.000	0.000	0.000	0.161	Gravel surface	E-1, E-2
0.106	0.000	0.000	0.000	0.000	0.106	Paved parking	E-1
12.660	0.000	0.000	0.000	0.000	12.660	Woods, Fair	E-1, E-2, E-3

**Summary for Subcatchment E-1: E-1**

Runoff = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af, Depth= 0.00"

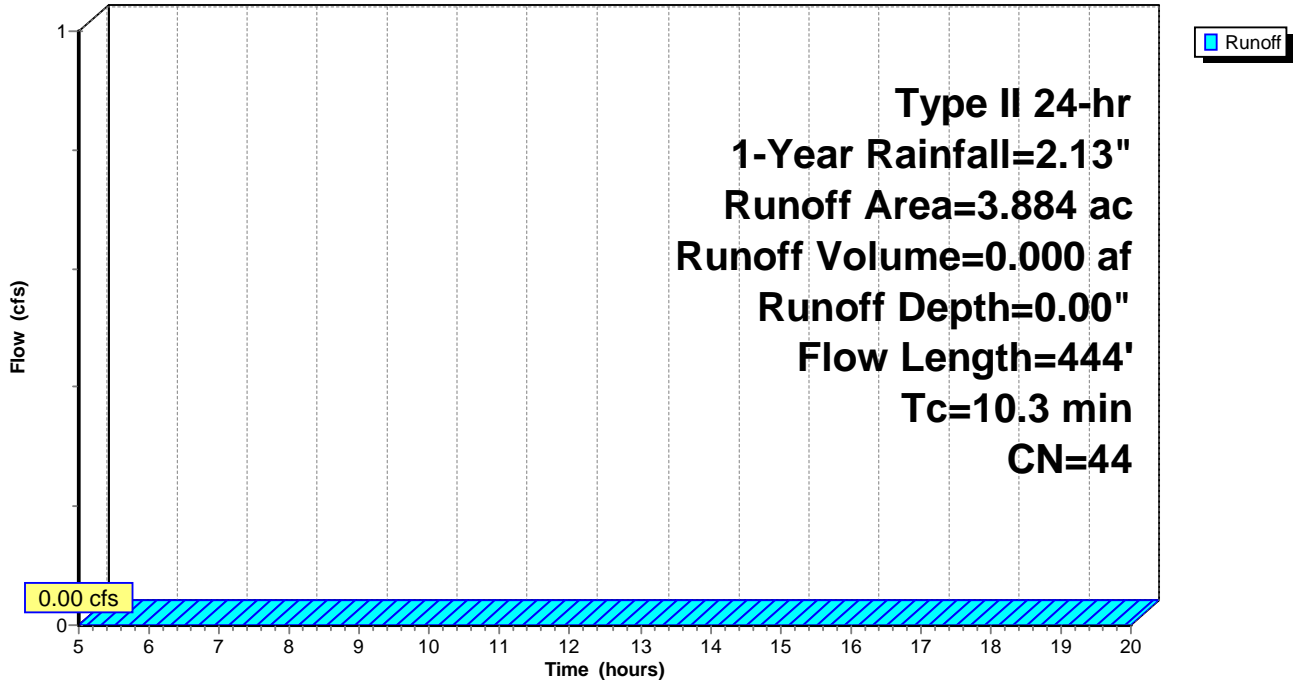
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs  
 Type II 24-hr 1-Year Rainfall=2.13"

Area (ac)	CN	Description
0.567	68	<50% Grass cover, Poor, HSG A
3.104	36	Woods, Fair, HSG A
0.106	98	Paved parking, HSG A
0.107	96	Gravel surface, HSG A
3.884	44	Weighted Average
3.778		97.27% Pervious Area
0.106		2.73% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.7	83	0.2880	0.21		<b>Sheet Flow,</b> Woods: Light underbrush n= 0.400 P2= 2.87"
0.6	17	0.5880	0.44		<b>Sheet Flow,</b> Grass: Short n= 0.150 P2= 2.87"
0.9	119	0.1000	2.21		<b>Shallow Concentrated Flow,</b> Short Grass Pasture Kv= 7.0 fps
2.1	225	0.1220	1.75		<b>Shallow Concentrated Flow,</b> Woodland Kv= 5.0 fps
10.3	444	Total			

Subcatchment E-1: E-1

Hydrograph



**Summary for Subcatchment E-2: E-2**

Runoff = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af, Depth= 0.00"

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 1-Year Rainfall=2.13"

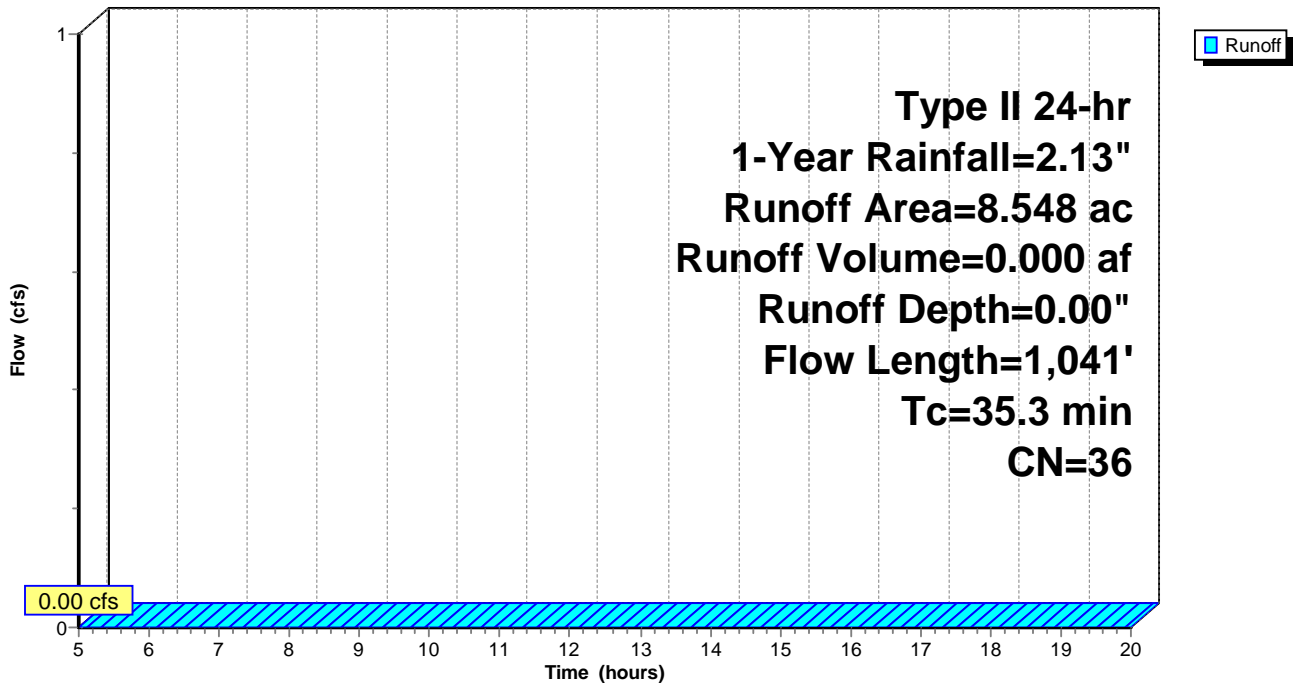
Area (ac)	CN	Description
8.494	36	Woods, Fair, HSG A
0.054	96	Gravel surface, HSG A
8.548	36	Weighted Average
8.548		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
22.2	100	0.0212	0.08		<b>Sheet Flow,</b> Woods: Light underbrush n= 0.400 P2= 2.87"
3.2	154	0.0258	0.80		<b>Shallow Concentrated Flow,</b> Woodland Kv= 5.0 fps
0.5	78	0.3330	2.89		<b>Shallow Concentrated Flow,</b> Woodland Kv= 5.0 fps
9.4	709	0.0628	1.25		<b>Shallow Concentrated Flow,</b> Woodland Kv= 5.0 fps
35.3	1,041	Total			

**Subcatchment E-2: E-2**

Hydrograph



**Summary for Subcatchment E-3: E-3**

Runoff = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af, Depth= 0.00"

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 1-Year Rainfall=2.13"

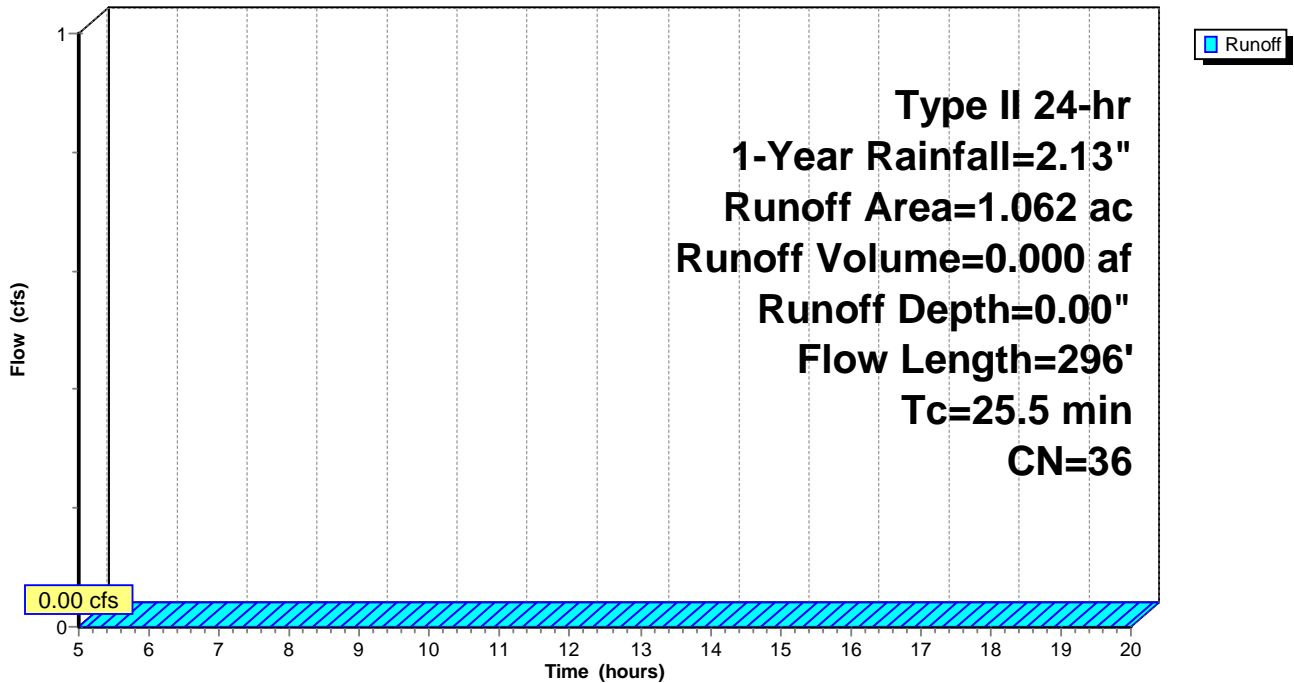
Area (ac)	CN	Description
1.062	36	Woods, Fair, HSG A
1.062		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
22.4	100	0.0207	0.07		<b>Sheet Flow,</b> Woods: Light underbrush n= 0.400 P2= 2.87"
3.1	196	0.0437	1.05		<b>Shallow Concentrated Flow,</b> Woodland Kv= 5.0 fps
25.5	296	Total			

**Subcatchment E-3: E-3**

Hydrograph



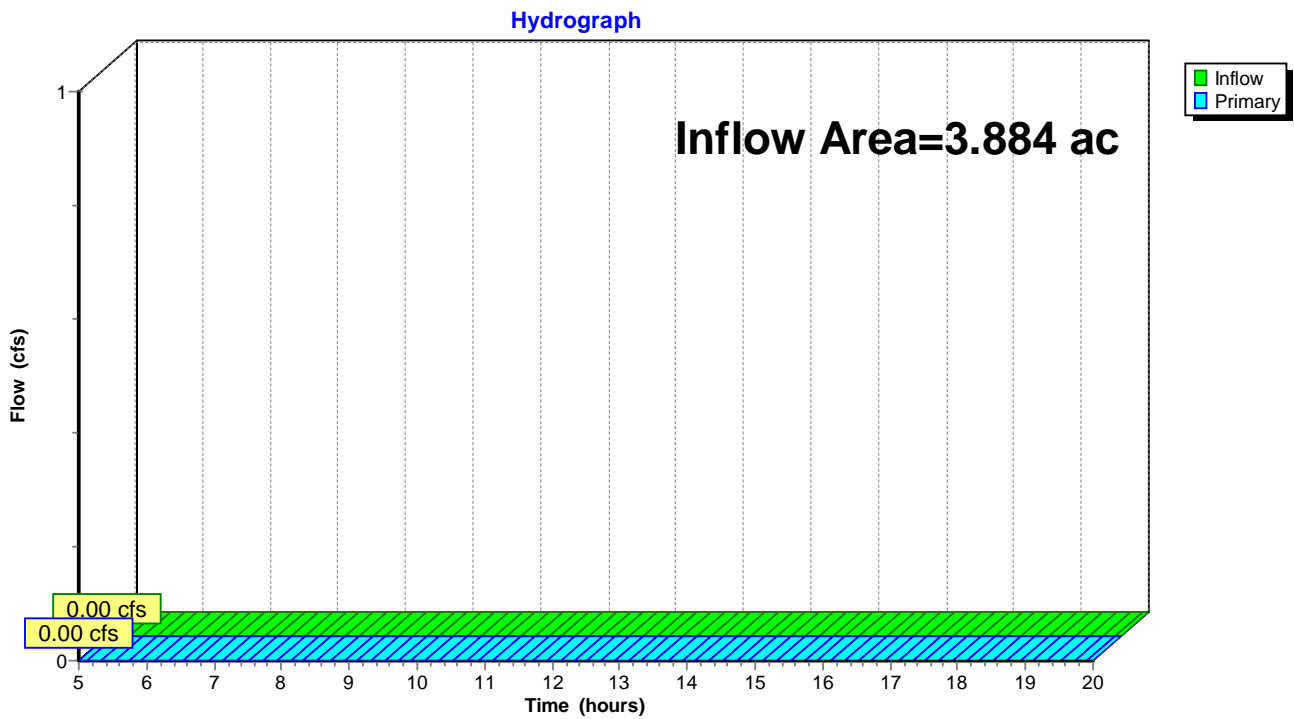


### Summary for Link DP-1: Design Point #1

Inflow Area = 3.884 ac, 2.73% Impervious, Inflow Depth = 0.00" for 1-Year event  
Inflow = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af  
Primary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

### Link DP-1: Design Point #1

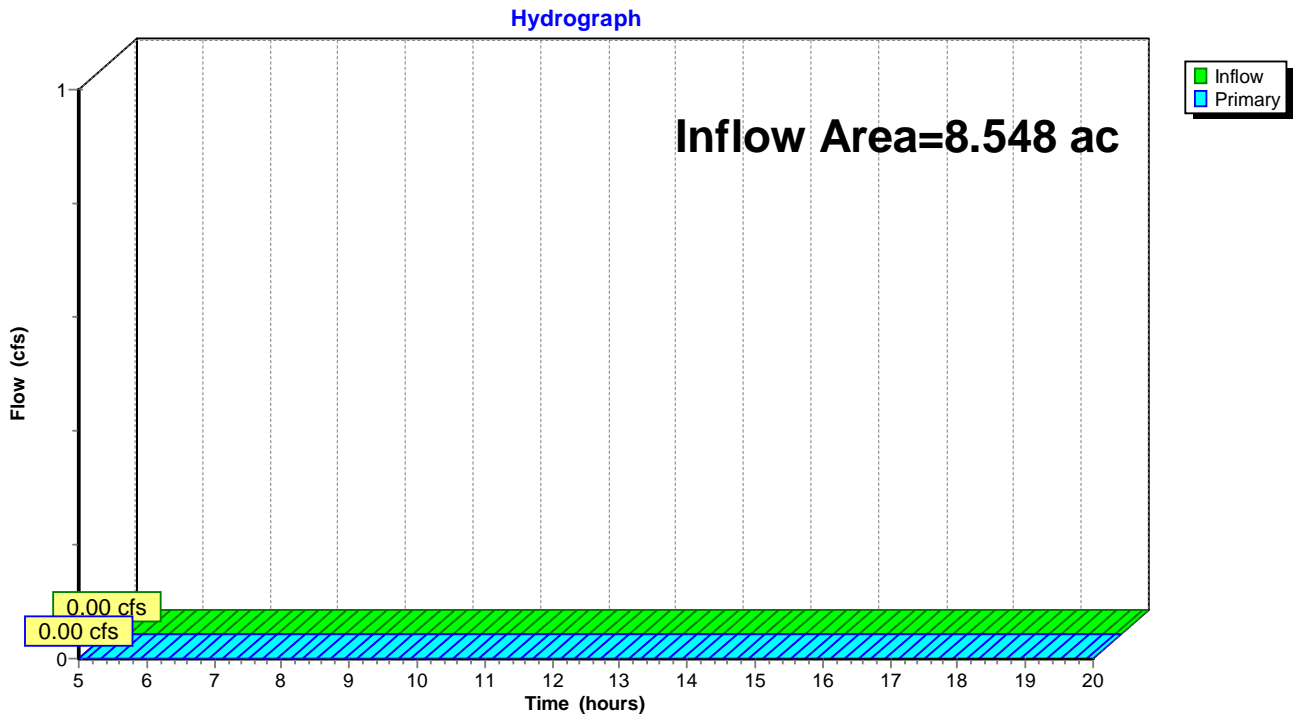


### Summary for Link DP-2: Design Point #2

Inflow Area = 8.548 ac, 0.00% Impervious, Inflow Depth = 0.00" for 1-Year event  
Inflow = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af  
Primary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

### Link DP-2: Design Point #2

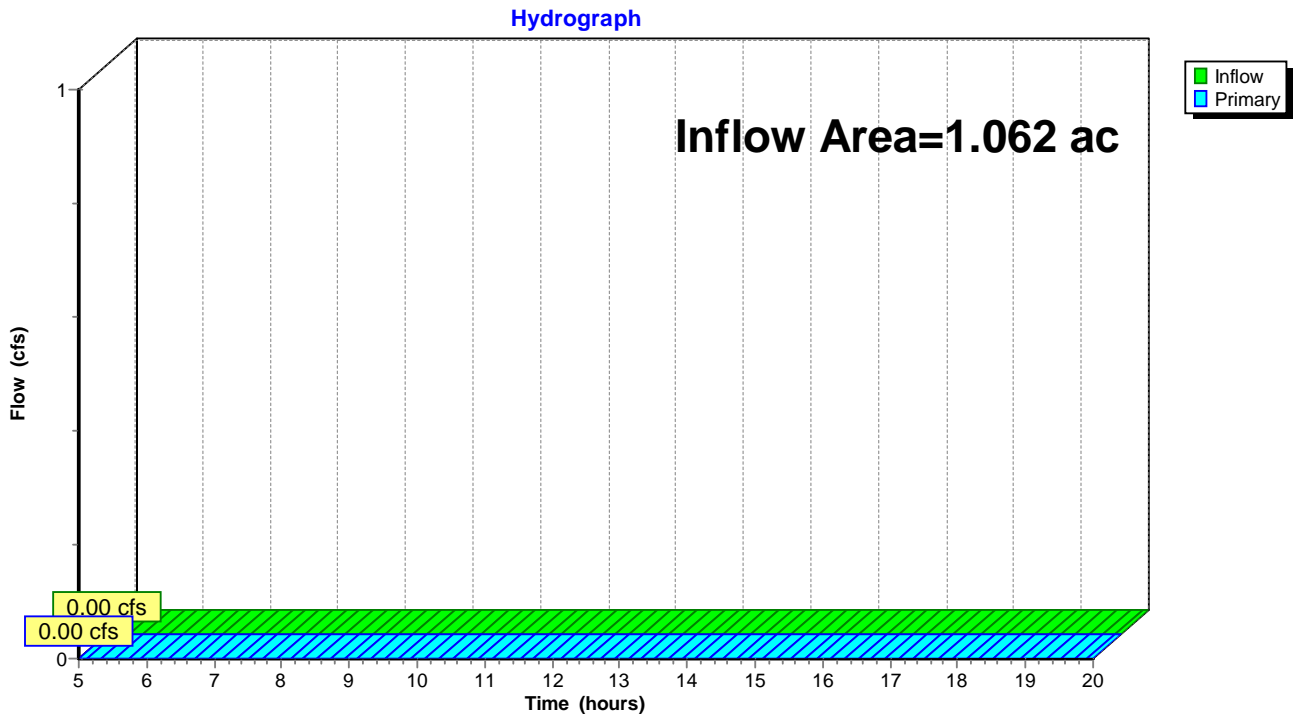


### Summary for Link DP-3: Design Point #3

Inflow Area = 1.062 ac, 0.00% Impervious, Inflow Depth = 0.00" for 1-Year event  
Inflow = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af  
Primary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

### Link DP-3: Design Point #3



**Summary for Subcatchment E-1: E-1**

Runoff = 0.03 cfs @ 13.57 hrs, Volume= 0.018 af, Depth> 0.06"

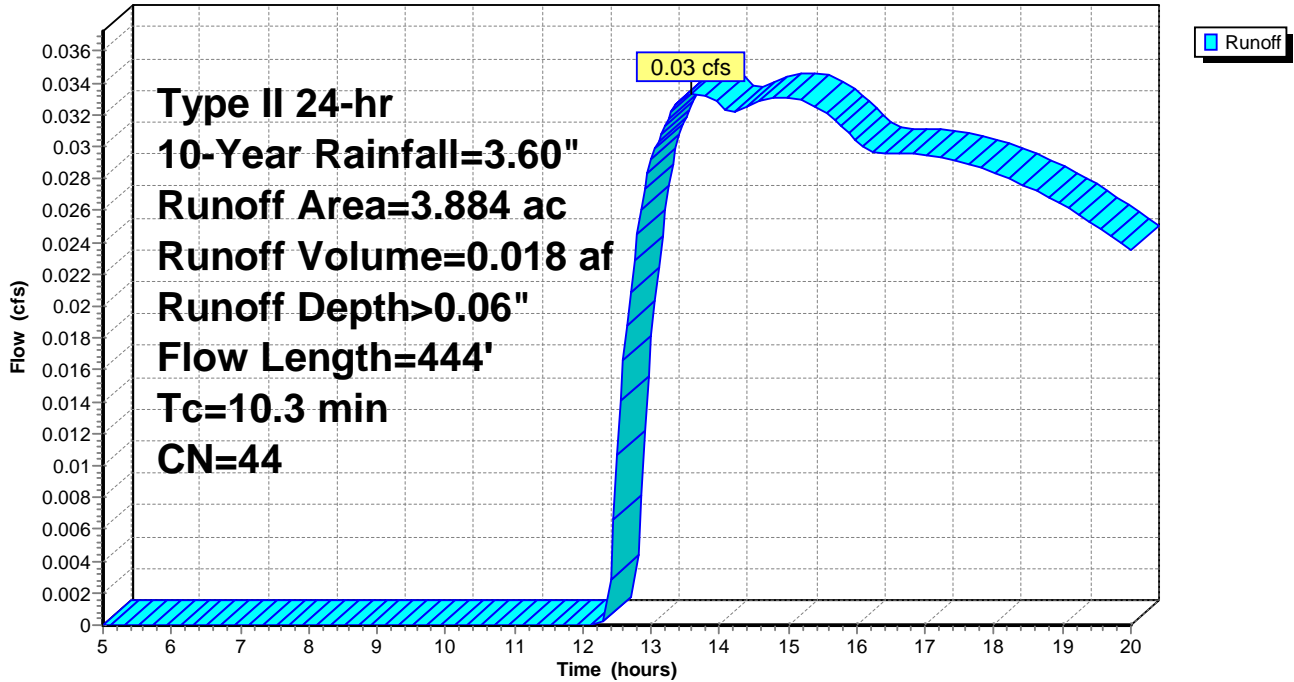
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs  
 Type II 24-hr 10-Year Rainfall=3.60"

Area (ac)	CN	Description
0.567	68	<50% Grass cover, Poor, HSG A
3.104	36	Woods, Fair, HSG A
0.106	98	Paved parking, HSG A
0.107	96	Gravel surface, HSG A
3.884	44	Weighted Average
3.778		97.27% Pervious Area
0.106		2.73% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.7	83	0.2880	0.21		<b>Sheet Flow,</b> Woods: Light underbrush n= 0.400 P2= 2.87"
0.6	17	0.5880	0.44		<b>Sheet Flow,</b> Grass: Short n= 0.150 P2= 2.87"
0.9	119	0.1000	2.21		<b>Shallow Concentrated Flow,</b> Short Grass Pasture Kv= 7.0 fps
2.1	225	0.1220	1.75		<b>Shallow Concentrated Flow,</b> Woodland Kv= 5.0 fps
10.3	444	Total			

### Subcatchment E-1: E-1

Hydrograph





**Summary for Subcatchment E-2: E-2**

Runoff = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af, Depth= 0.00"

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 10-Year Rainfall=3.60"

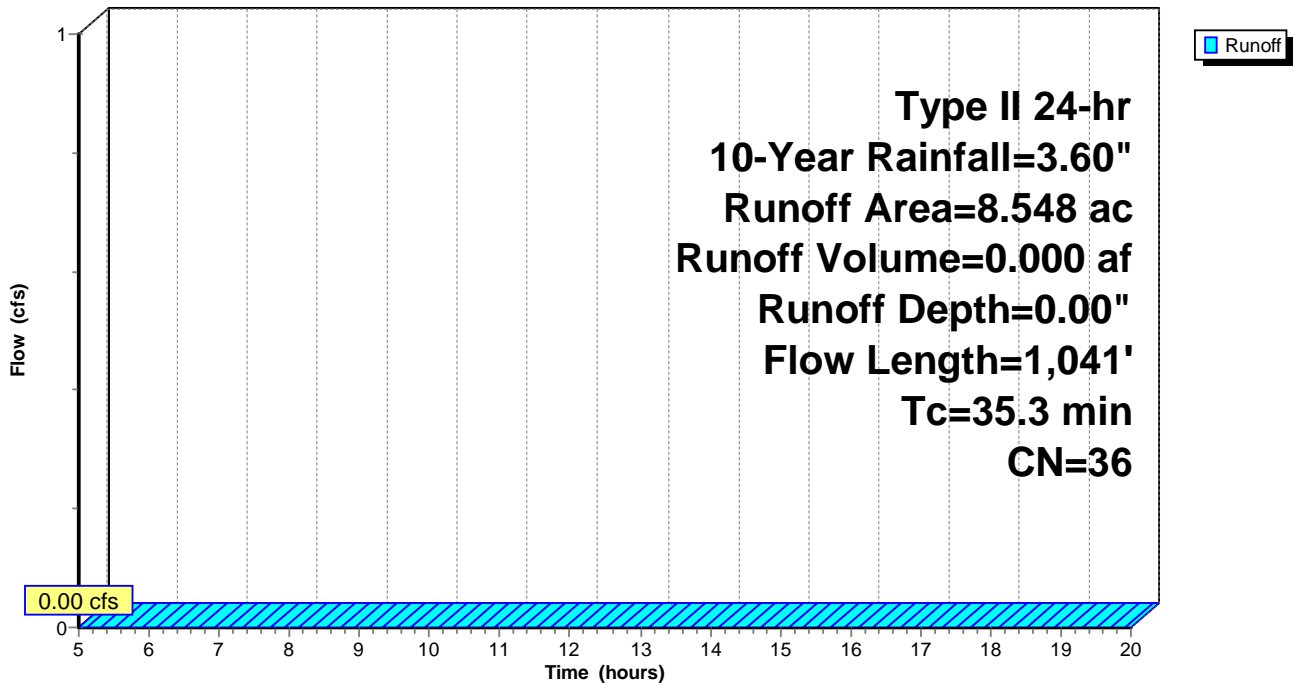
Area (ac)	CN	Description
8.494	36	Woods, Fair, HSG A
0.054	96	Gravel surface, HSG A
8.548	36	Weighted Average
8.548		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
22.2	100	0.0212	0.08		<b>Sheet Flow,</b> Woods: Light underbrush n= 0.400 P2= 2.87"
3.2	154	0.0258	0.80		<b>Shallow Concentrated Flow,</b> Woodland Kv= 5.0 fps
0.5	78	0.3330	2.89		<b>Shallow Concentrated Flow,</b> Woodland Kv= 5.0 fps
9.4	709	0.0628	1.25		<b>Shallow Concentrated Flow,</b> Woodland Kv= 5.0 fps
35.3	1,041	Total			

**Subcatchment E-2: E-2**

Hydrograph



**Summary for Subcatchment E-3: E-3**

Runoff = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af, Depth= 0.00"

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 10-Year Rainfall=3.60"

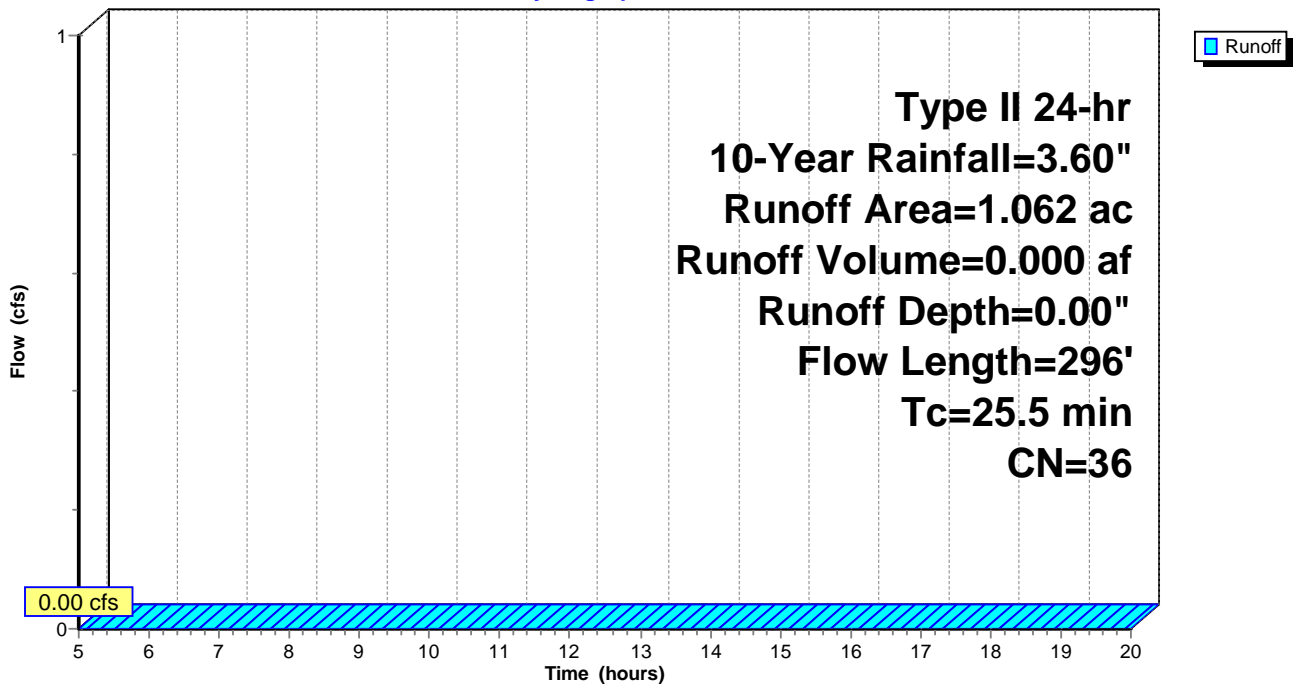
Area (ac)	CN	Description
1.062	36	Woods, Fair, HSG A
1.062		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
22.4	100	0.0207	0.07		<b>Sheet Flow,</b> Woods: Light underbrush n= 0.400 P2= 2.87"
3.1	196	0.0437	1.05		<b>Shallow Concentrated Flow,</b> Woodland Kv= 5.0 fps
25.5	296	Total			

**Subcatchment E-3: E-3**

Hydrograph

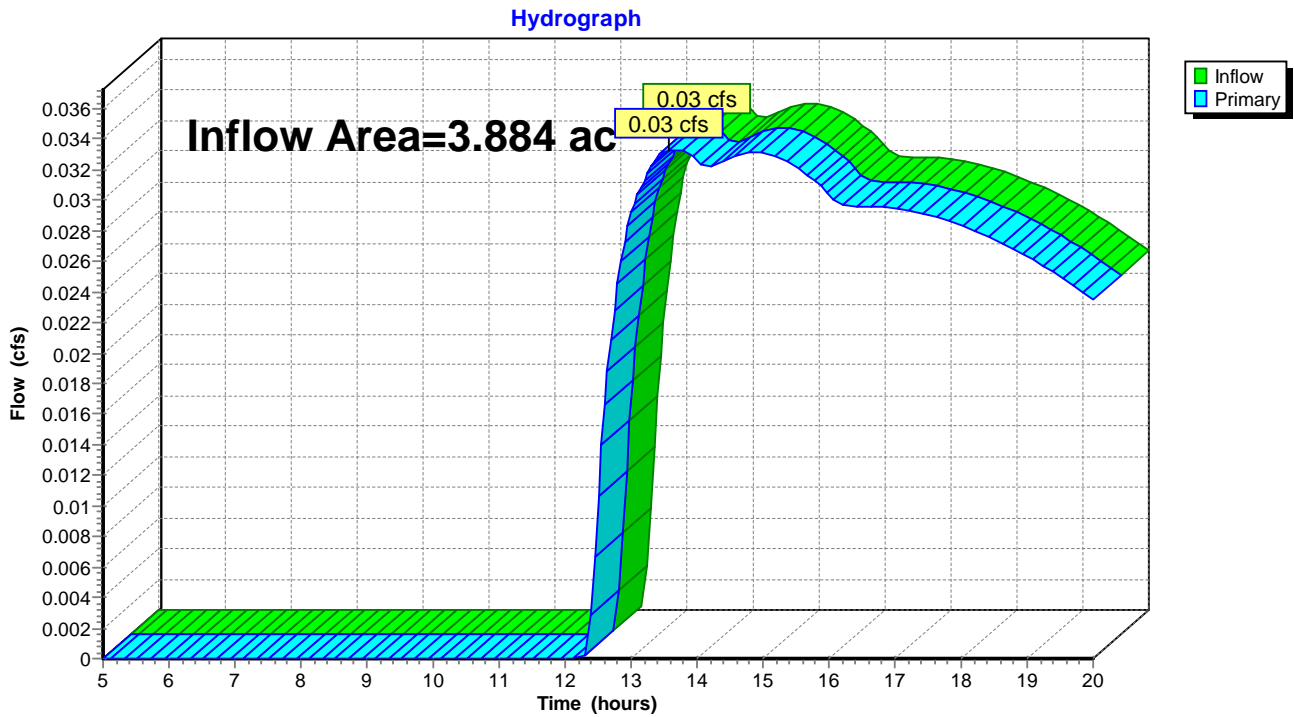


### Summary for Link DP-1: Design Point #1

Inflow Area = 3.884 ac, 2.73% Impervious, Inflow Depth > 0.06" for 10-Year event  
Inflow = 0.03 cfs @ 13.57 hrs, Volume= 0.018 af  
Primary = 0.03 cfs @ 13.57 hrs, Volume= 0.018 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

### Link DP-1: Design Point #1

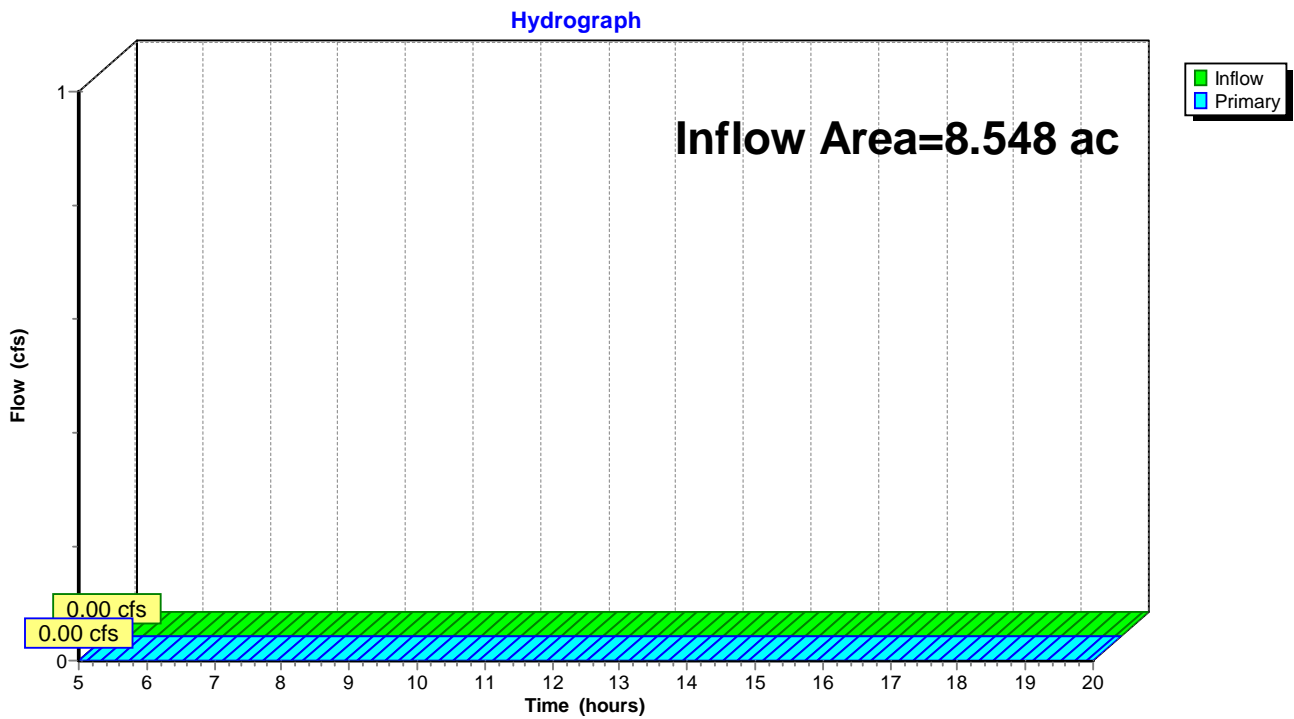


### Summary for Link DP-2: Design Point #2

Inflow Area = 8.548 ac, 0.00% Impervious, Inflow Depth = 0.00" for 10-Year event  
Inflow = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af  
Primary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

### Link DP-2: Design Point #2

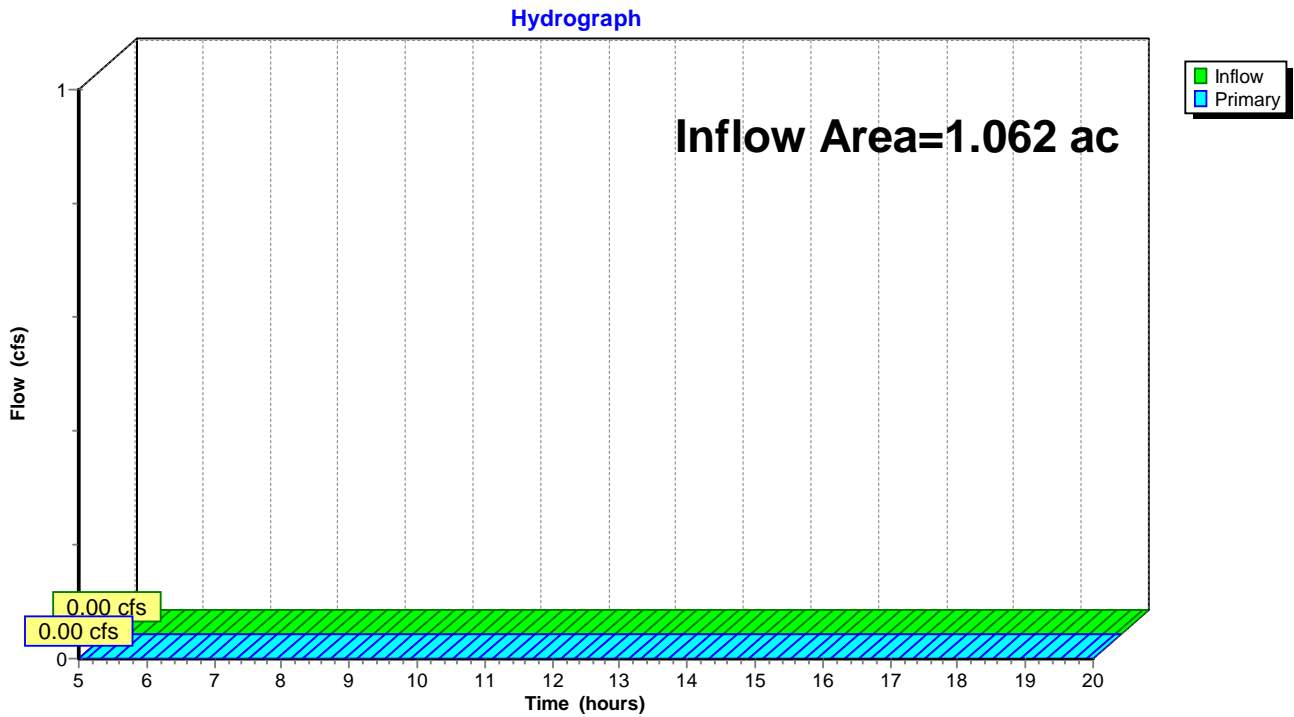


### Summary for Link DP-3: Design Point #3

Inflow Area = 1.062 ac, 0.00% Impervious, Inflow Depth = 0.00" for 10-Year event  
Inflow = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af  
Primary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

### Link DP-3: Design Point #3





**Summary for Subcatchment E-1: E-1**

Runoff = 2.37 cfs @ 12.06 hrs, Volume= 0.176 af, Depth> 0.54"

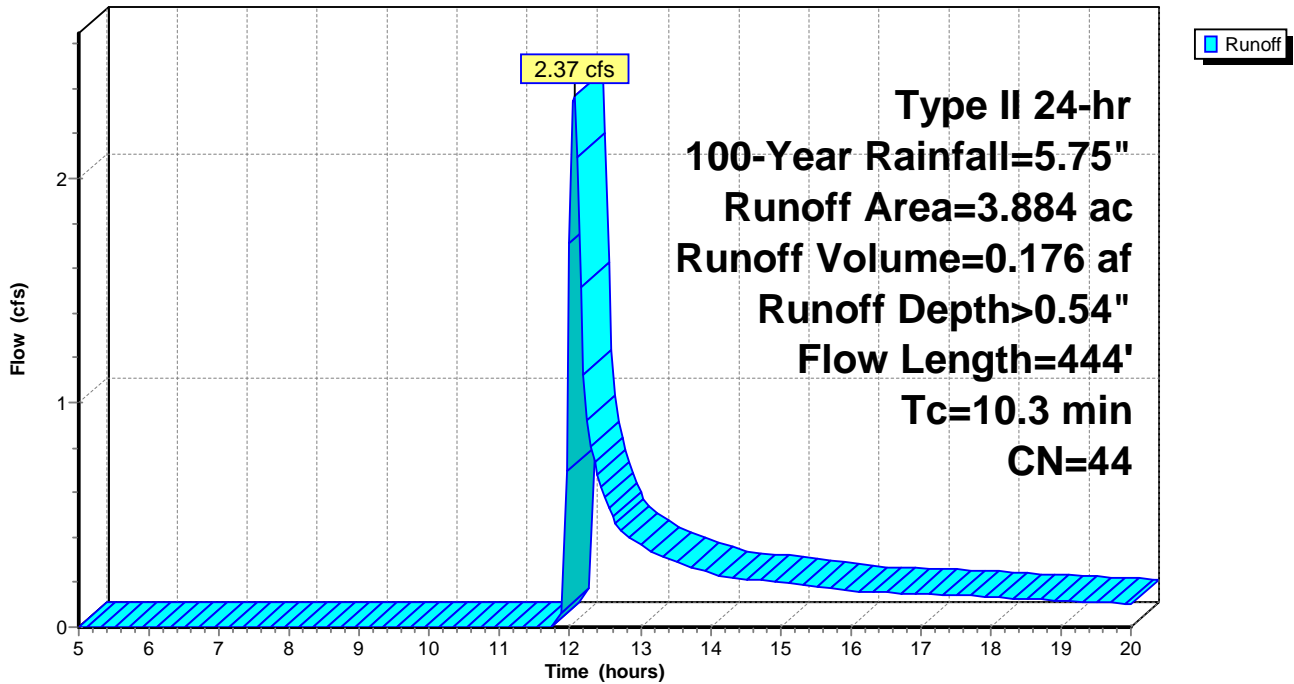
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs  
 Type II 24-hr 100-Year Rainfall=5.75"

Area (ac)	CN	Description
0.567	68	<50% Grass cover, Poor, HSG A
3.104	36	Woods, Fair, HSG A
0.106	98	Paved parking, HSG A
0.107	96	Gravel surface, HSG A
3.884	44	Weighted Average
3.778		97.27% Pervious Area
0.106		2.73% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.7	83	0.2880	0.21		<b>Sheet Flow,</b> Woods: Light underbrush n= 0.400 P2= 2.87"
0.6	17	0.5880	0.44		<b>Sheet Flow,</b> Grass: Short n= 0.150 P2= 2.87"
0.9	119	0.1000	2.21		<b>Shallow Concentrated Flow,</b> Short Grass Pasture Kv= 7.0 fps
2.1	225	0.1220	1.75		<b>Shallow Concentrated Flow,</b> Woodland Kv= 5.0 fps
10.3	444	Total			

### Subcatchment E-1: E-1

Hydrograph



**Summary for Subcatchment E-2: E-2**

Runoff = 0.32 cfs @ 12.87 hrs, Volume= 0.128 af, Depth> 0.18"

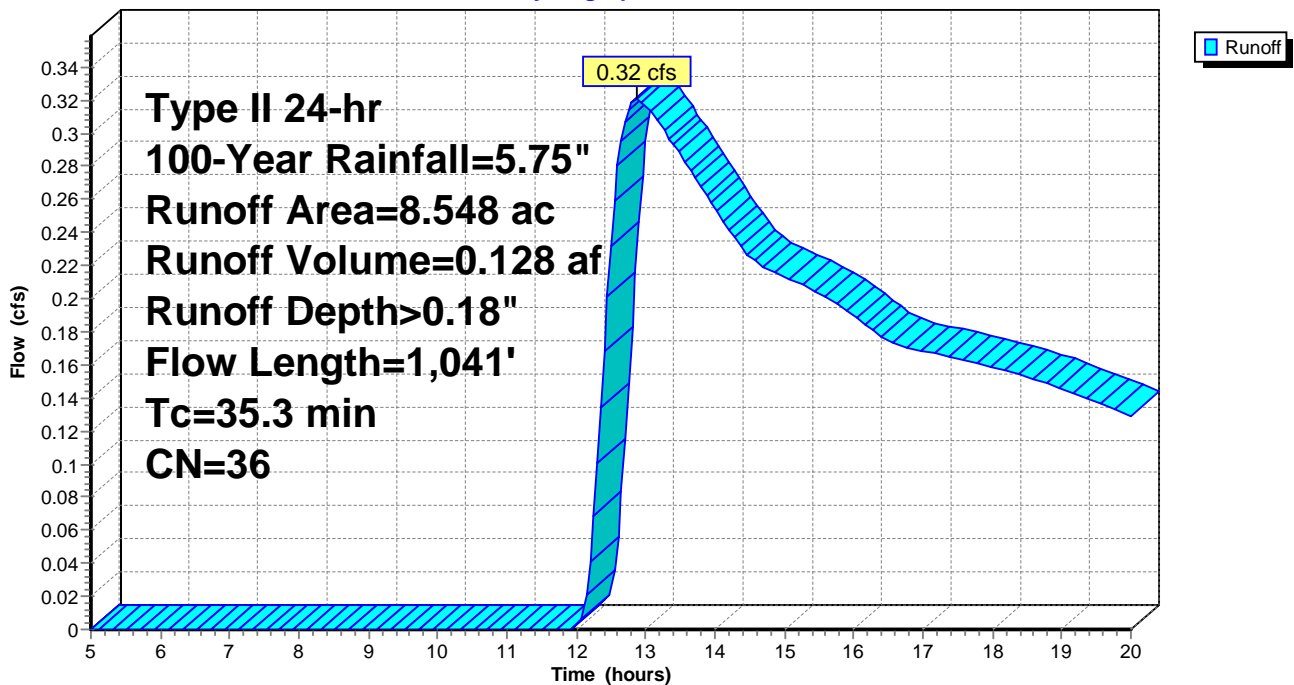
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs  
 Type II 24-hr 100-Year Rainfall=5.75"

Area (ac)	CN	Description
8.494	36	Woods, Fair, HSG A
0.054	96	Gravel surface, HSG A
8.548	36	Weighted Average
8.548		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
22.2	100	0.0212	0.08		<b>Sheet Flow,</b> Woods: Light underbrush n= 0.400 P2= 2.87"
3.2	154	0.0258	0.80		<b>Shallow Concentrated Flow,</b> Woodland Kv= 5.0 fps
0.5	78	0.3330	2.89		<b>Shallow Concentrated Flow,</b> Woodland Kv= 5.0 fps
9.4	709	0.0628	1.25		<b>Shallow Concentrated Flow,</b> Woodland Kv= 5.0 fps
35.3	1,041	Total			

**Subcatchment E-2: E-2**

Hydrograph



**Summary for Subcatchment E-3: E-3**

Runoff = 0.04 cfs @ 12.66 hrs, Volume= 0.016 af, Depth> 0.18"

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-Year Rainfall=5.75"

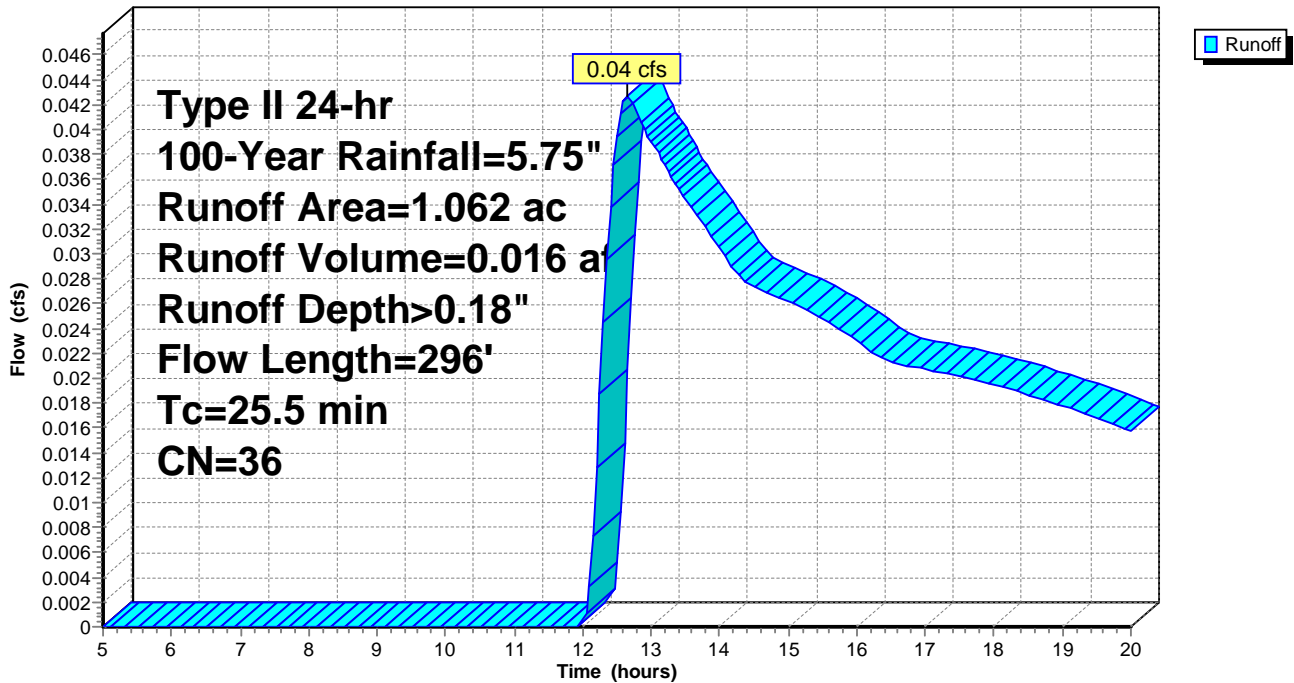
Area (ac)	CN	Description
1.062	36	Woods, Fair, HSG A
1.062		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
22.4	100	0.0207	0.07		<b>Sheet Flow,</b> Woods: Light underbrush n= 0.400 P2= 2.87"
3.1	196	0.0437	1.05		<b>Shallow Concentrated Flow,</b> Woodland Kv= 5.0 fps
25.5	296	Total			

**Subcatchment E-3: E-3**

Hydrograph

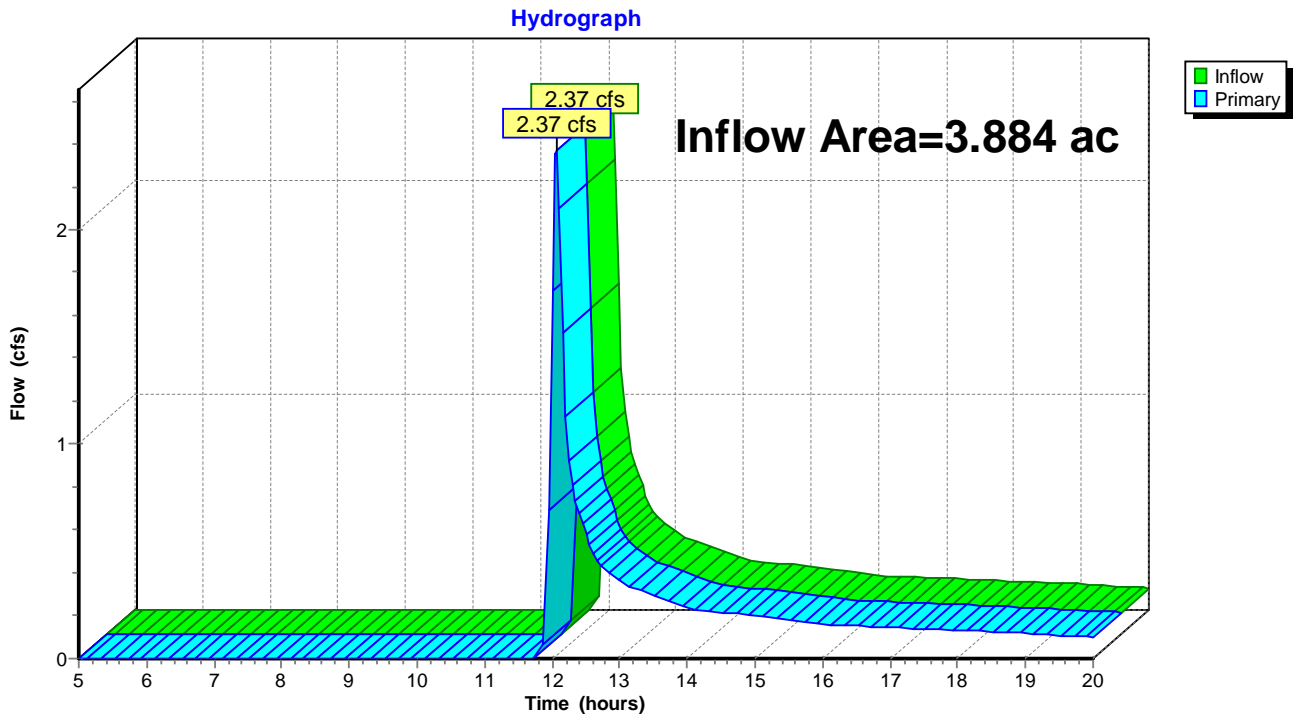


### Summary for Link DP-1: Design Point #1

Inflow Area = 3.884 ac, 2.73% Impervious, Inflow Depth > 0.54" for 100-Year event  
Inflow = 2.37 cfs @ 12.06 hrs, Volume= 0.176 af  
Primary = 2.37 cfs @ 12.06 hrs, Volume= 0.176 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

### Link DP-1: Design Point #1



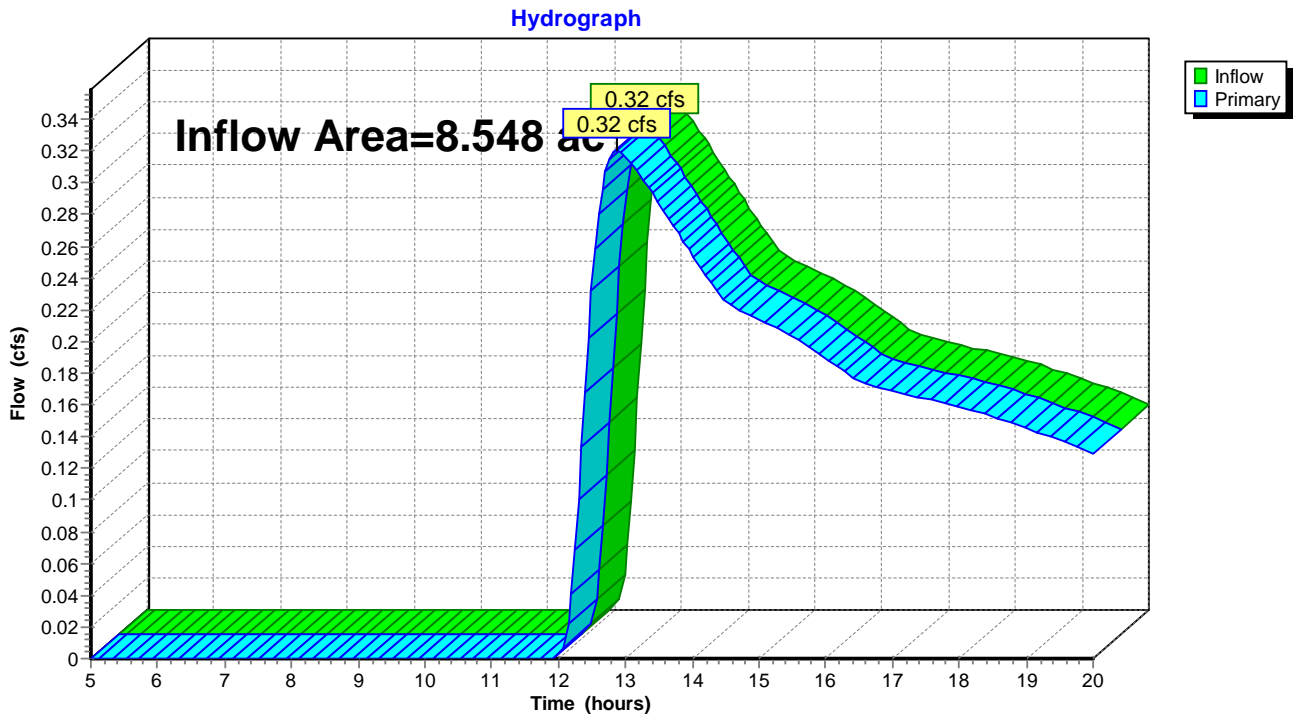


### Summary for Link DP-2: Design Point #2

Inflow Area = 8.548 ac, 0.00% Impervious, Inflow Depth > 0.18" for 100-Year event  
Inflow = 0.32 cfs @ 12.87 hrs, Volume= 0.128 af  
Primary = 0.32 cfs @ 12.87 hrs, Volume= 0.128 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

### Link DP-2: Design Point #2

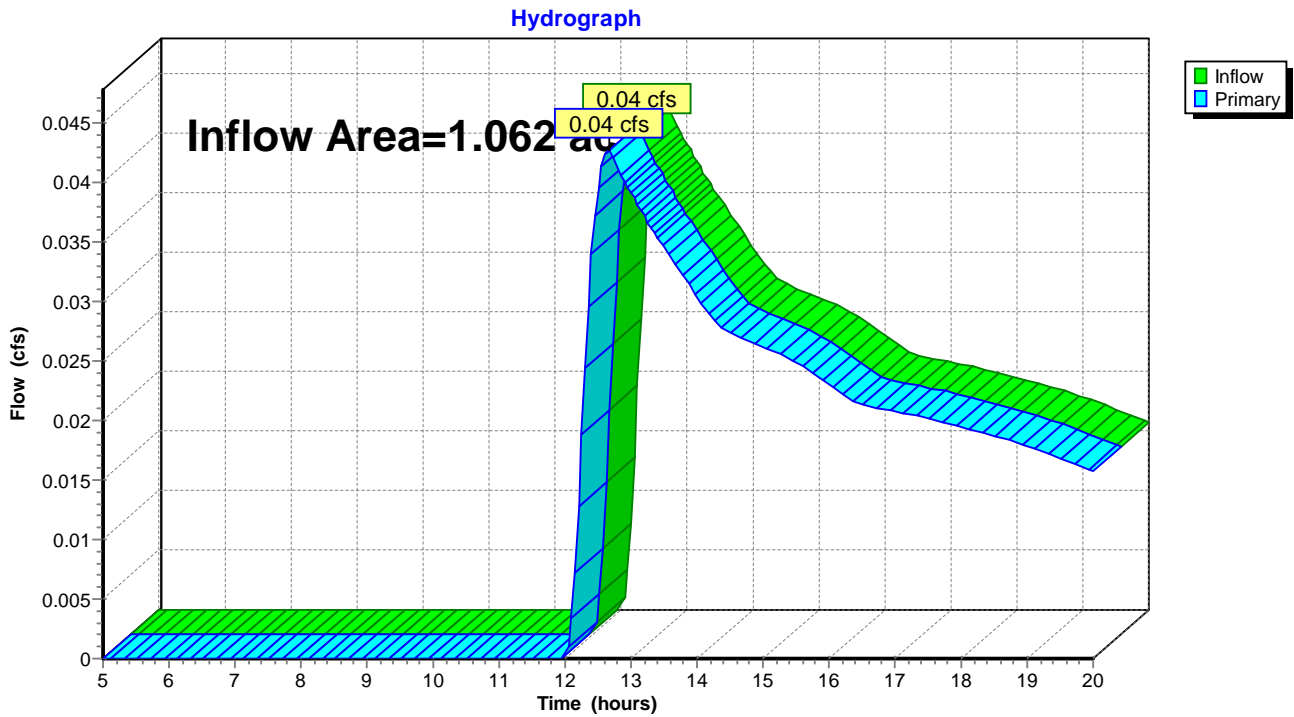


### Summary for Link DP-3: Design Point #3

Inflow Area = 1.062 ac, 0.00% Impervious, Inflow Depth > 0.18" for 100-Year event  
Inflow = 0.04 cfs @ 12.66 hrs, Volume= 0.016 af  
Primary = 0.04 cfs @ 12.66 hrs, Volume= 0.016 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

### Link DP-3: Design Point #3








Appendix R-2  
Proposed Conditions Drainage Map  
And HydroCAD Report



**LEGEND**

-  DRAINAGE AREA BOUNDARY
-  TIME OF CONCENTRATION PATH
-  SOIL TYPE BOUNDARY

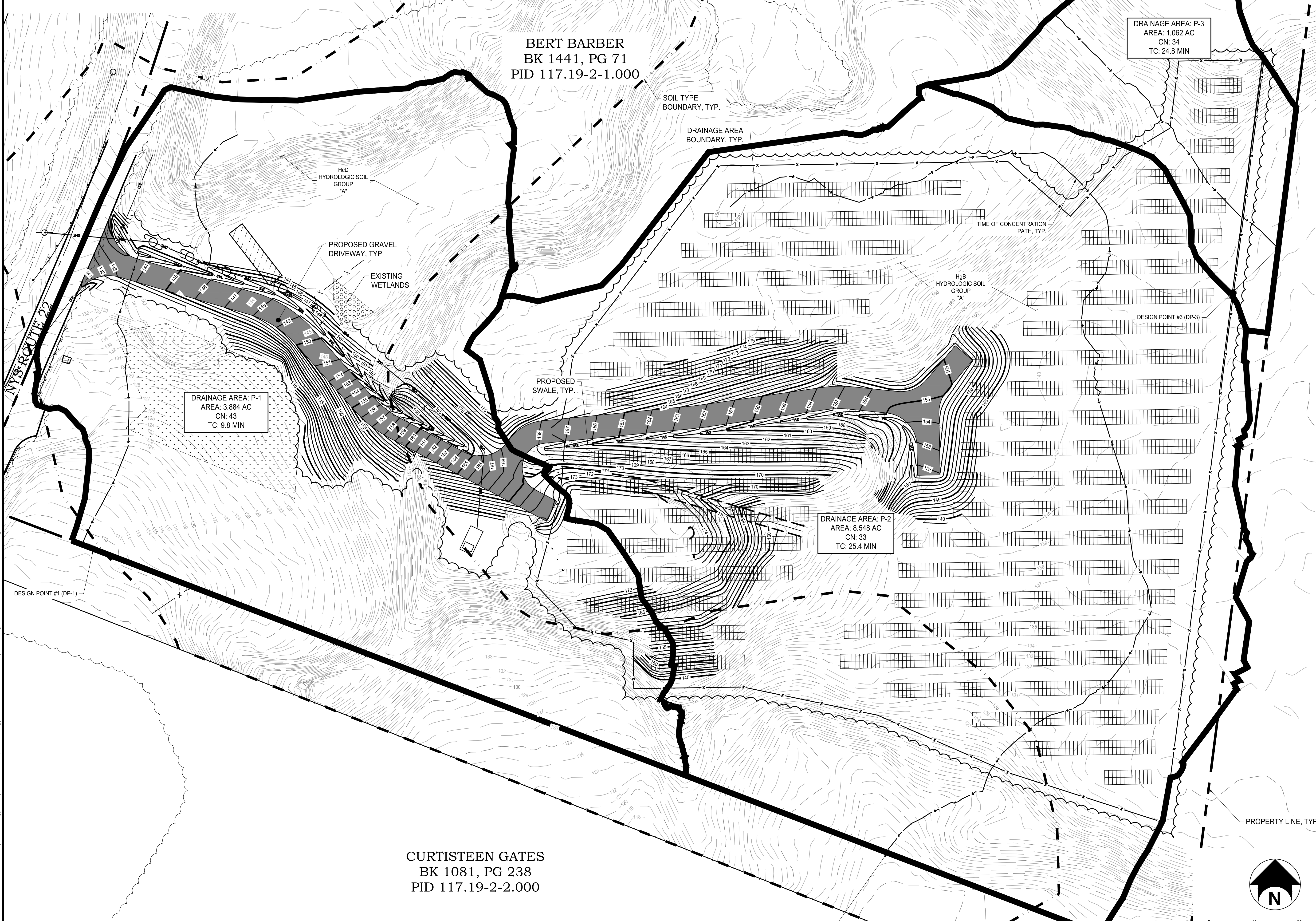
BERT BARBER  
BK 1441, PG 71  
PID 117.19-2-1.000

DRAINAGE AREA: P-3  
AREA: 1.062 AC  
CN: 34  
TC: 24.8 MIN

DRAINAGE AREA: P-1  
AREA: 3.884 AC  
CN: 43  
TC: 9.8 MIN

DRAINAGE AREA: P-2  
AREA: 8.548 AC  
CN: 33  
TC: 25.4 MIN

CURTISTEEN GATES  
BK 1081, PG 238  
PID 117.19-2-2.000



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**YELLOW 4 LLC**

**CROWN POINT  
SOLAR PROJECT**

12 LAKE ROAD  
CROWN POINT, NY 12928

Date Revised Description



NOT FOR  
CONSTRUCTION

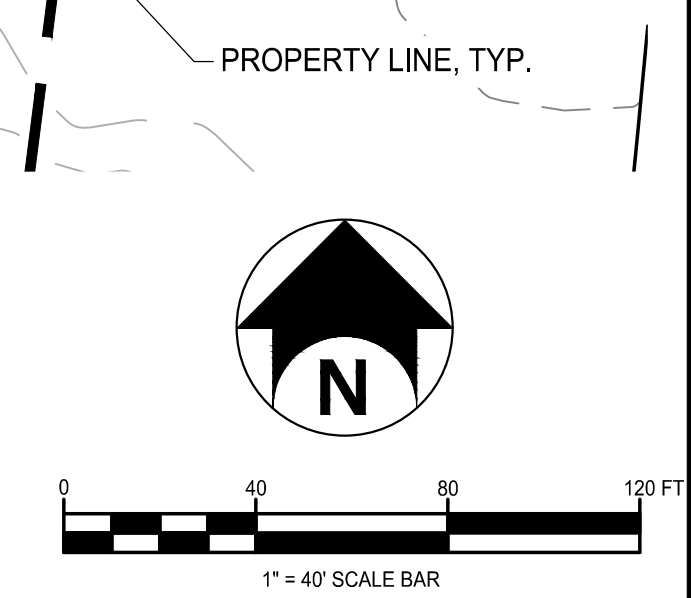
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Landscape Architects & Surveyors, D.P.C.

Project Manager	Discipline Lead
ECR	ECR
Designer	Reviewer
WD	ECR
Date Issued	Project Number
03/19/2021	14859.03

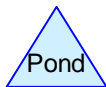
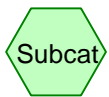
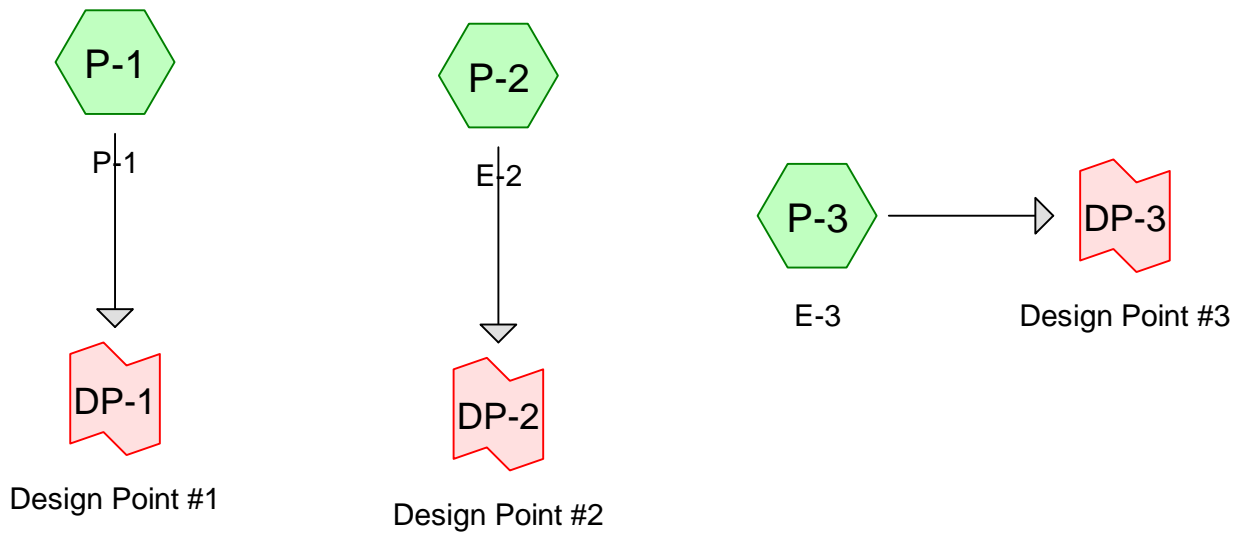
Sheet Name

**PROPOSED CONDITIONS  
DRAINAGE MAP**

Drawing Number  
**DR-PR**









**Area Listing (all nodes)**

Area (acres)	CN	Description (subcatchment-numbers)
0.420	68	<50% Grass cover, Poor, HSG A (P-1)
0.227	96	Gravel surface, HSG A (P-2)
0.245	75	Limited Use Pervious Gravel (P-1)
6.999	30	Meadow, non-grazed, HSG A (P-1, P-2, P-3)
0.106	98	Paved parking, HSG A (P-1)
5.497	36	Woods, Fair, HSG A (P-1, P-2, P-3)

**DR-PR**

Prepared by Bergmann Associates

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Page 3

**Soil Listing (all nodes)**

Area (acres)	Soil Group	Subcatchment Numbers
13.249	HSG A	P-1, P-2, P-3
0.000	HSG B	
0.000	HSG C	
0.000	HSG D	
0.245	Other	P-1

**DR-PR**

Prepared by Bergmann Associates

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Page 4

**Ground Covers (all nodes)**

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
0.420	0.000	0.000	0.000	0.000	0.420	<50% Grass cover, Poor	P-1
0.227	0.000	0.000	0.000	0.000	0.227	Gravel surface	P-2
0.000	0.000	0.000	0.000	0.245	0.245	Limited Use Pervious Gravel	P-1
6.999	0.000	0.000	0.000	0.000	6.999	Meadow, non-grazed	P-1, P-2, P-3
0.106	0.000	0.000	0.000	0.000	0.106	Paved parking	P-1
5.497	0.000	0.000	0.000	0.000	5.497	Woods, Fair	P-1, P-2, P-3

**Summary for Subcatchment P-1: P-1**

Runoff = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af, Depth= 0.00"

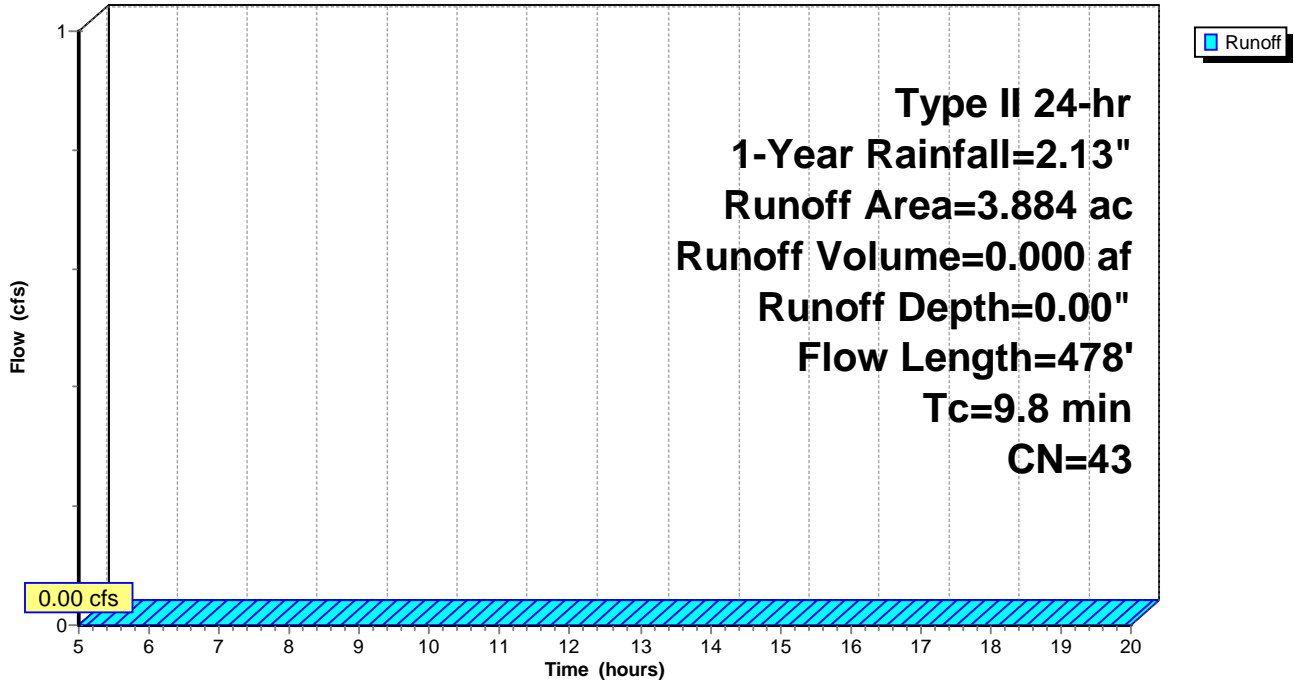
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs  
 Type II 24-hr 1-Year Rainfall=2.13"

Area (ac)	CN	Description
0.420	68	<50% Grass cover, Poor, HSG A
2.545	36	Woods, Fair, HSG A
0.106	98	Paved parking, HSG A
* 0.245	75	Limited Use Pervious Gravel
0.568	30	Meadow, non-grazed, HSG A
3.884	43	Weighted Average
3.778		97.27% Pervious Area
0.106		2.73% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.7	83	0.2888	0.21		<b>Sheet Flow,</b> Woods: Light underbrush n= 0.400 P2= 2.87"
0.6	17	0.5880	0.44		<b>Sheet Flow,</b> Grass: Short n= 0.150 P2= 2.87"
0.4	44	0.0730	1.89		<b>Shallow Concentrated Flow,</b> Short Grass Pasture Kv= 7.0 fps
0.1	62	0.0348	8.97	44.85	<b>Trap/Vee/Rect Channel Flow,</b> Bot.W=2.00' D=1.00' Z= 3.0 '/' Top.W=8.00' n= 0.022 Earth, clean & straight
0.1	61	0.0759	12.50	9.82	<b>Pipe Channel, RCP_Round 12"</b> 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.013 Corrugated PE, smooth interior
1.9	211	0.1343	1.83		<b>Shallow Concentrated Flow,</b> Woodland Kv= 5.0 fps
9.8	478	Total			

Subcatchment P-1: P-1

Hydrograph





**Summary for Subcatchment P-2: E-2**

Runoff = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af, Depth= 0.00"

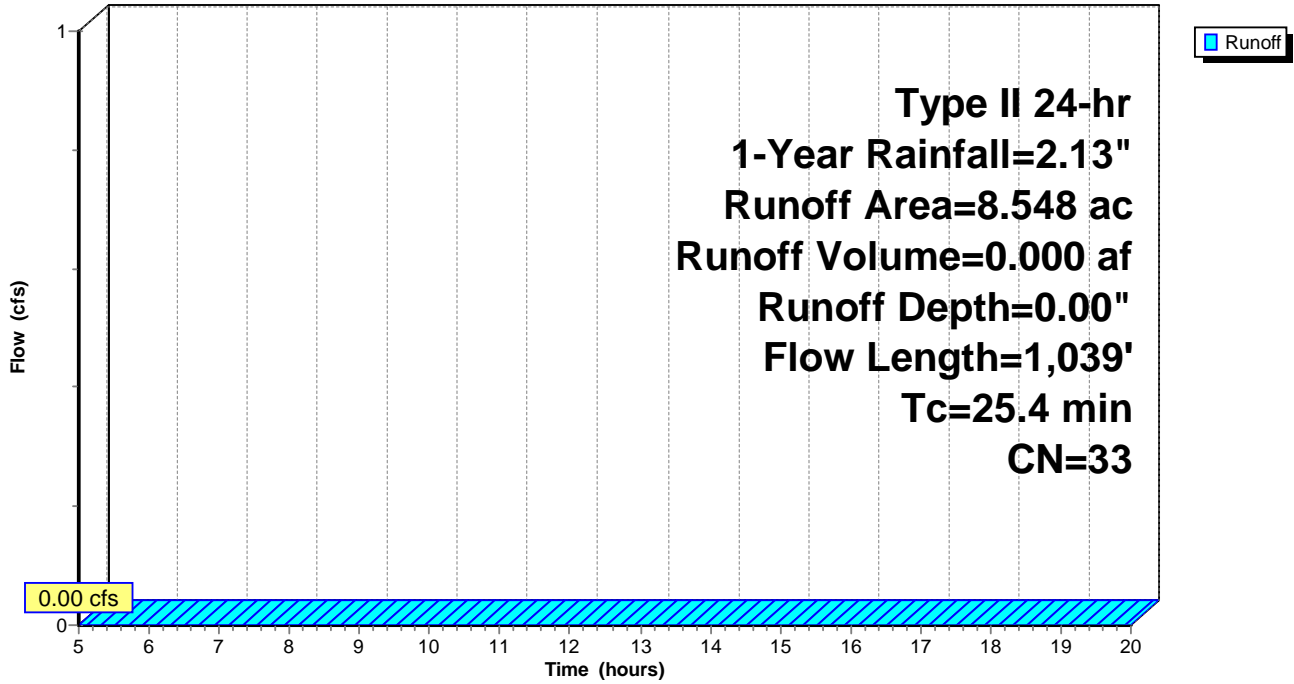
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs  
 Type II 24-hr 1-Year Rainfall=2.13"

Area (ac)	CN	Description
2.221	36	Woods, Fair, HSG A
0.227	96	Gravel surface, HSG A
6.100	30	Meadow, non-grazed, HSG A
8.548	33	Weighted Average
8.548		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.7	100	0.0212	0.11		<b>Sheet Flow,</b> Grass: Dense n= 0.240 P2= 2.87"
1.8	115	0.0223	1.05		<b>Shallow Concentrated Flow,</b> Short Grass Pasture Kv= 7.0 fps
0.7	39	0.0359	0.95		<b>Shallow Concentrated Flow,</b> Woodland Kv= 5.0 fps
0.5	78	0.3330	2.89		<b>Shallow Concentrated Flow,</b> Woodland Kv= 5.0 fps
6.4	586	0.0473	1.52		<b>Shallow Concentrated Flow,</b> Short Grass Pasture Kv= 7.0 fps
1.3	121	0.1000	1.58		<b>Shallow Concentrated Flow,</b> Woodland Kv= 5.0 fps
25.4	1,039	Total			

### Subcatchment P-2: E-2

Hydrograph



Summary for Subcatchment P-3: E-3

Runoff = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af, Depth= 0.00"

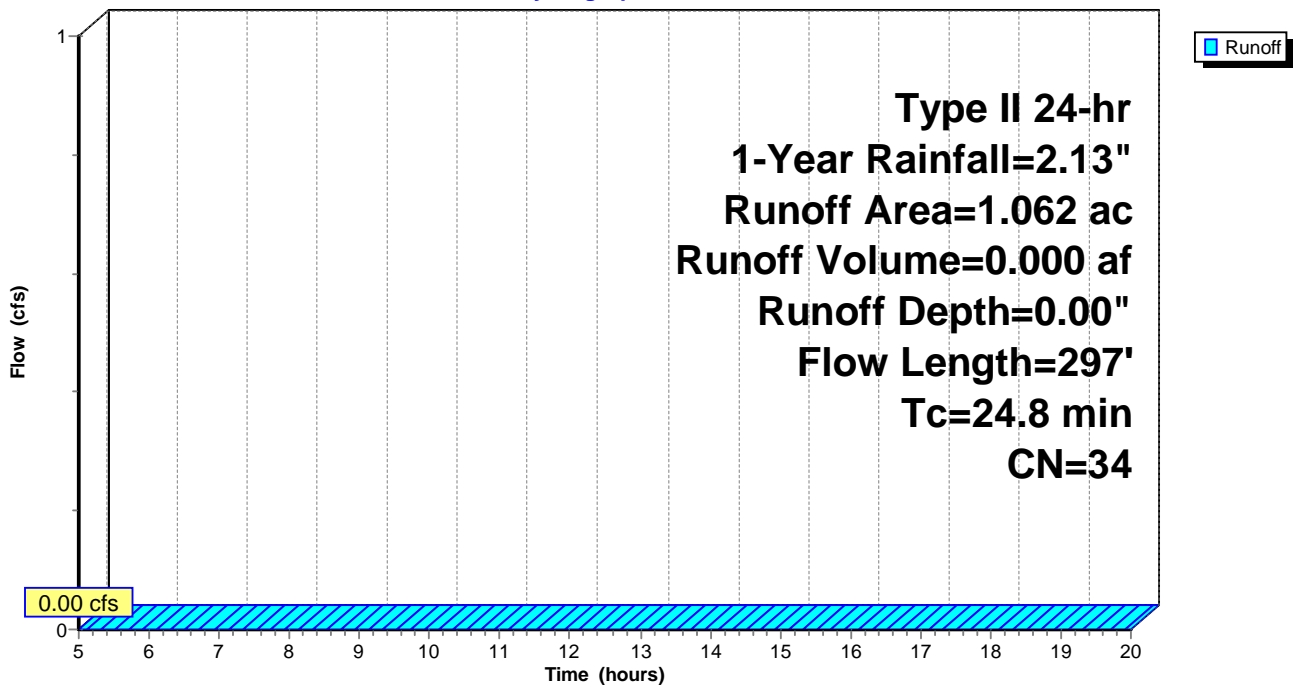
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs  
Type II 24-hr 1-Year Rainfall=2.13"

Area (ac)	CN	Description
0.731	36	Woods, Fair, HSG A
0.331	30	Meadow, non-grazed, HSG A
1.062	34	Weighted Average
1.062		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
22.4	100	0.0207	0.07		<b>Sheet Flow,</b> Woods: Light underbrush n= 0.400 P2= 2.87"
0.4	38	0.0500	1.57		<b>Shallow Concentrated Flow,</b> Short Grass Pasture Kv= 7.0 fps
1.5	127	0.0427	1.45		<b>Shallow Concentrated Flow,</b> Short Grass Pasture Kv= 7.0 fps
0.5	32	0.0387	0.98		<b>Shallow Concentrated Flow,</b> Woodland Kv= 5.0 fps
24.8	297	Total			

Subcatchment P-3: E-3

Hydrograph

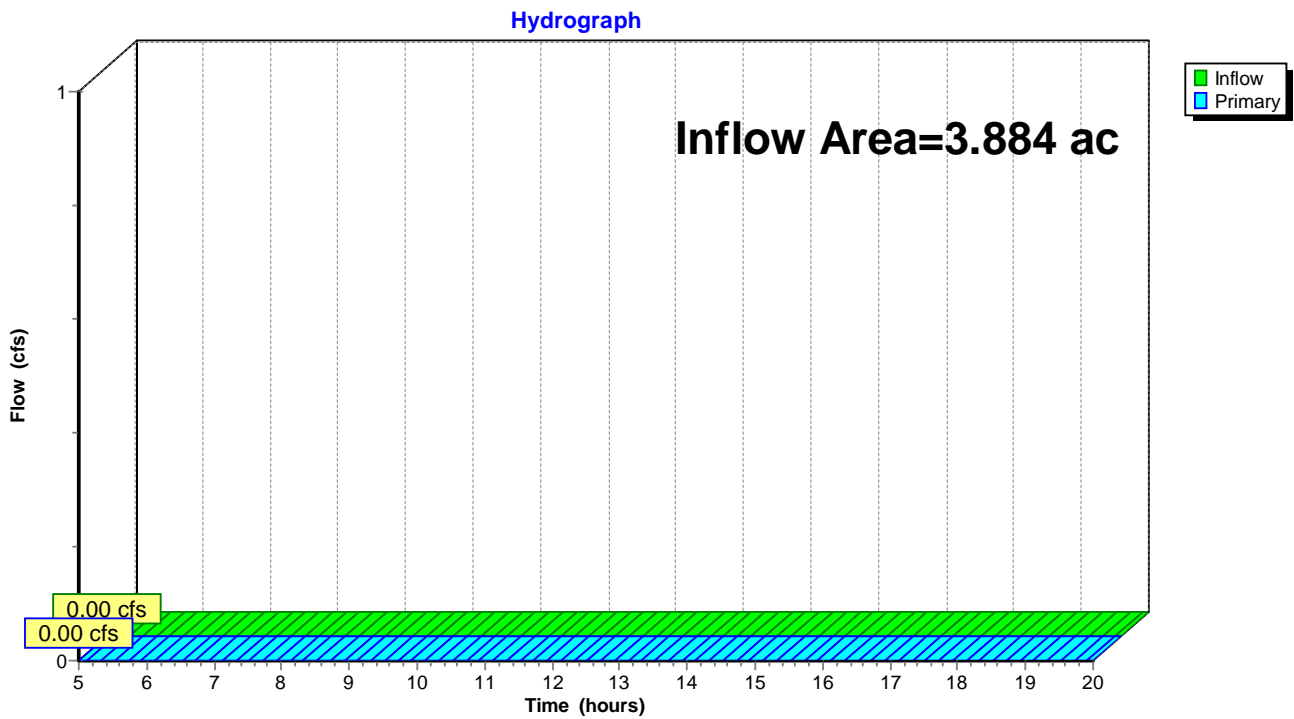


### Summary for Link DP-1: Design Point #1

Inflow Area = 3.884 ac, 2.73% Impervious, Inflow Depth = 0.00" for 1-Year event  
Inflow = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af  
Primary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

### Link DP-1: Design Point #1

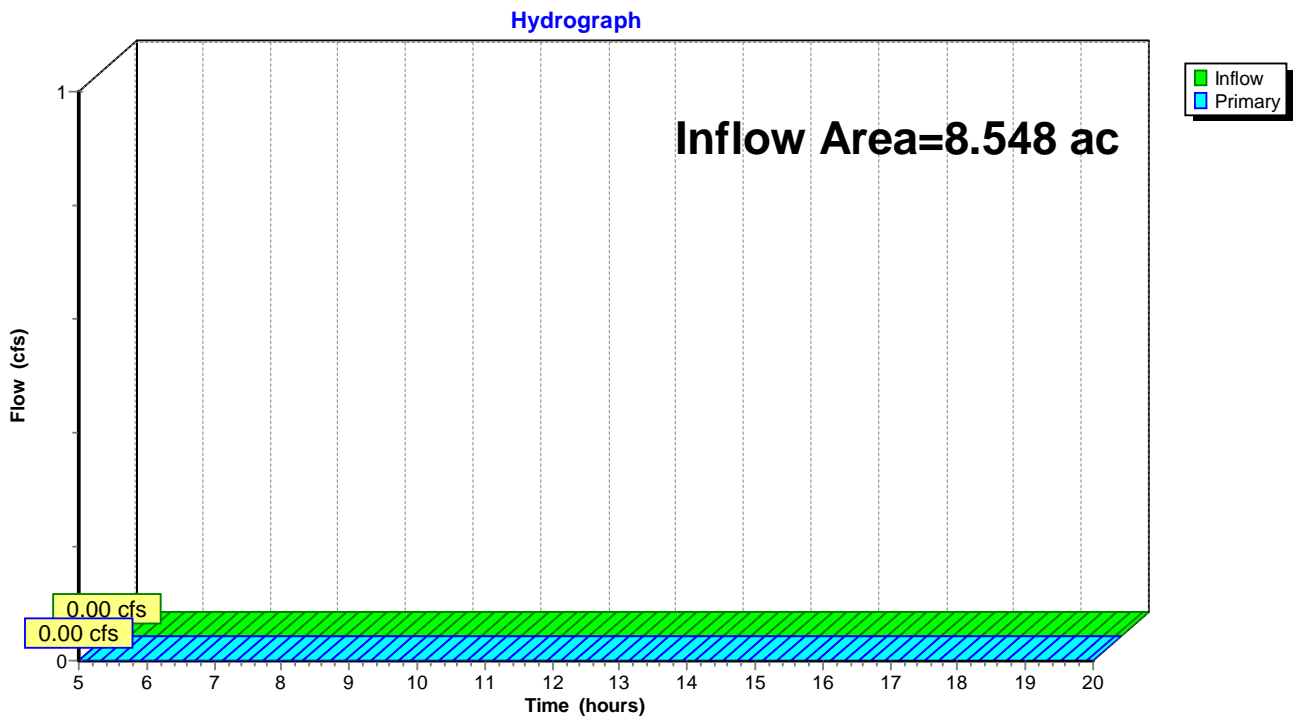


### Summary for Link DP-2: Design Point #2

Inflow Area = 8.548 ac, 0.00% Impervious, Inflow Depth = 0.00" for 1-Year event  
Inflow = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af  
Primary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

### Link DP-2: Design Point #2



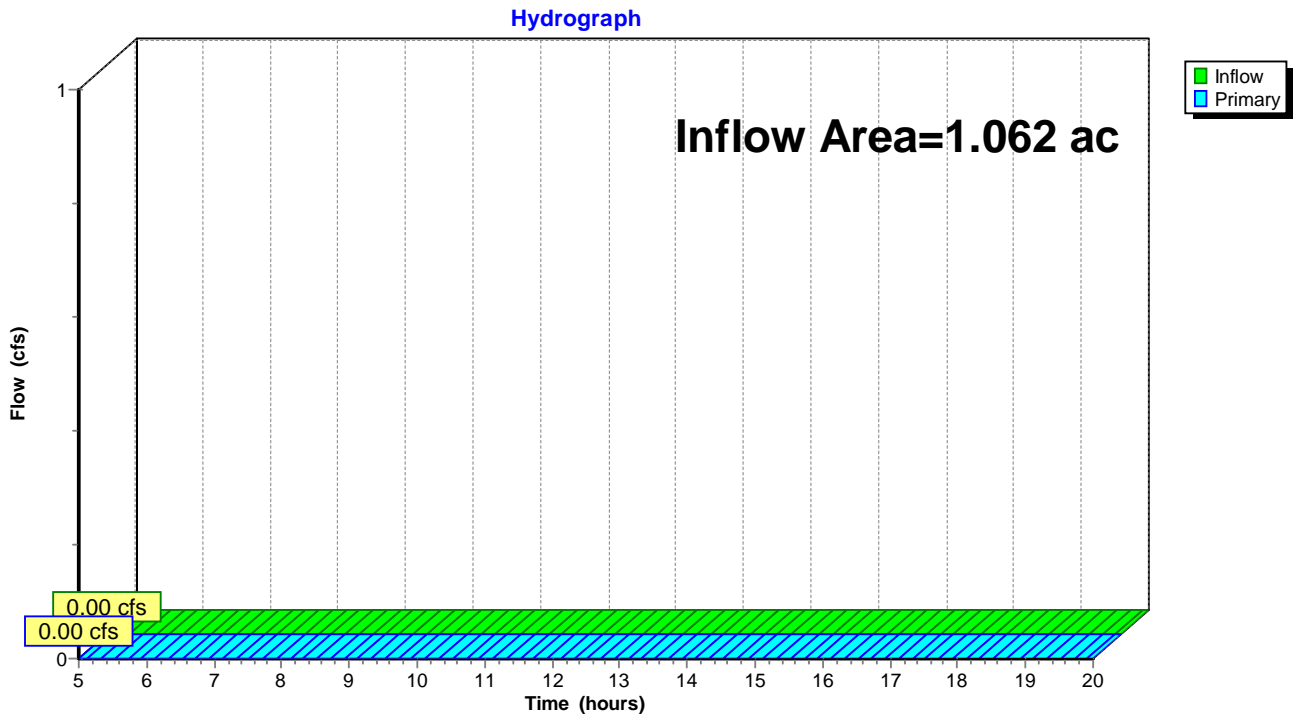


### Summary for Link DP-3: Design Point #3

Inflow Area = 1.062 ac, 0.00% Impervious, Inflow Depth = 0.00" for 1-Year event  
Inflow = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af  
Primary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

### Link DP-3: Design Point #3



**Summary for Subcatchment P-1: P-1**

Runoff = 0.03 cfs @ 15.22 hrs, Volume= 0.014 af, Depth> 0.04"

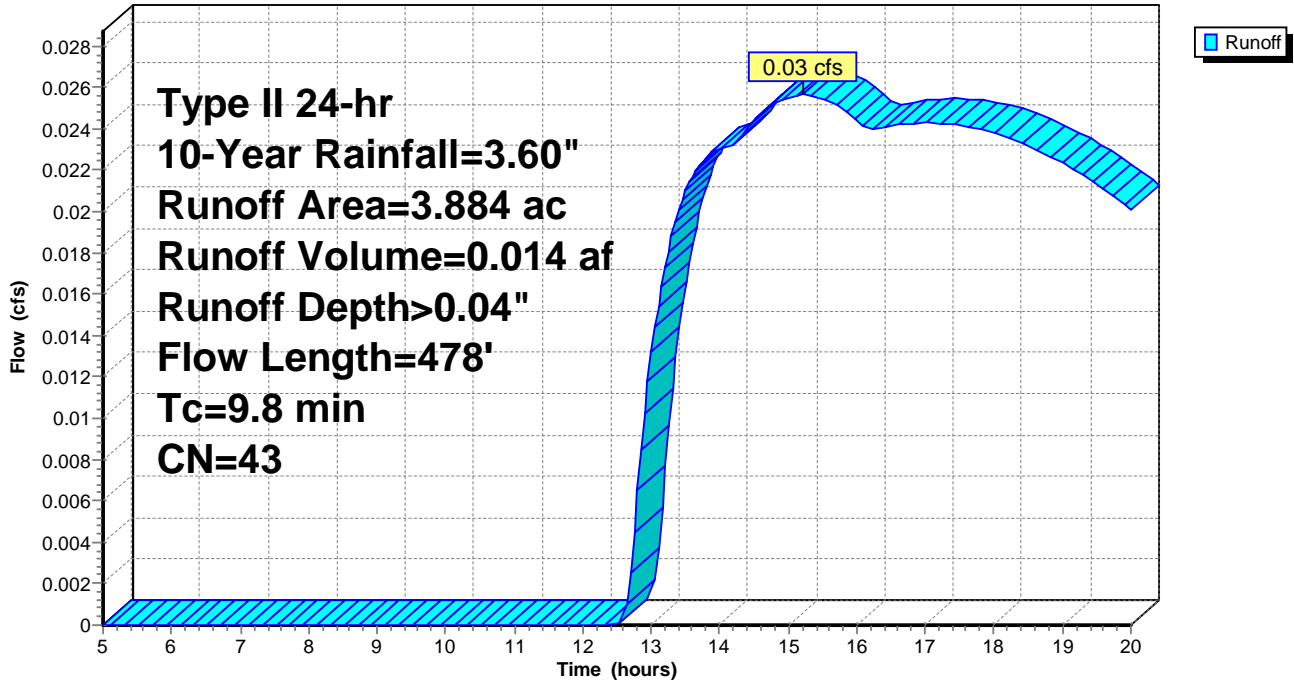
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs  
 Type II 24-hr 10-Year Rainfall=3.60"

Area (ac)	CN	Description
0.420	68	<50% Grass cover, Poor, HSG A
2.545	36	Woods, Fair, HSG A
0.106	98	Paved parking, HSG A
* 0.245	75	Limited Use Pervious Gravel
0.568	30	Meadow, non-grazed, HSG A
3.884	43	Weighted Average
3.778		97.27% Pervious Area
0.106		2.73% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.7	83	0.2888	0.21		<b>Sheet Flow,</b> Woods: Light underbrush n= 0.400 P2= 2.87"
0.6	17	0.5880	0.44		<b>Sheet Flow,</b> Grass: Short n= 0.150 P2= 2.87"
0.4	44	0.0730	1.89		<b>Shallow Concentrated Flow,</b> Short Grass Pasture Kv= 7.0 fps
0.1	62	0.0348	8.97	44.85	<b>Trap/Vee/Rect Channel Flow,</b> Bot.W=2.00' D=1.00' Z= 3.0 '/' Top.W=8.00' n= 0.022 Earth, clean & straight
0.1	61	0.0759	12.50	9.82	<b>Pipe Channel, RCP_Round 12"</b> 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.013 Corrugated PE, smooth interior
1.9	211	0.1343	1.83		<b>Shallow Concentrated Flow,</b> Woodland Kv= 5.0 fps
9.8	478	Total			

### Subcatchment P-1: P-1

Hydrograph



**Summary for Subcatchment P-2: E-2**

Runoff = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af, Depth= 0.00"

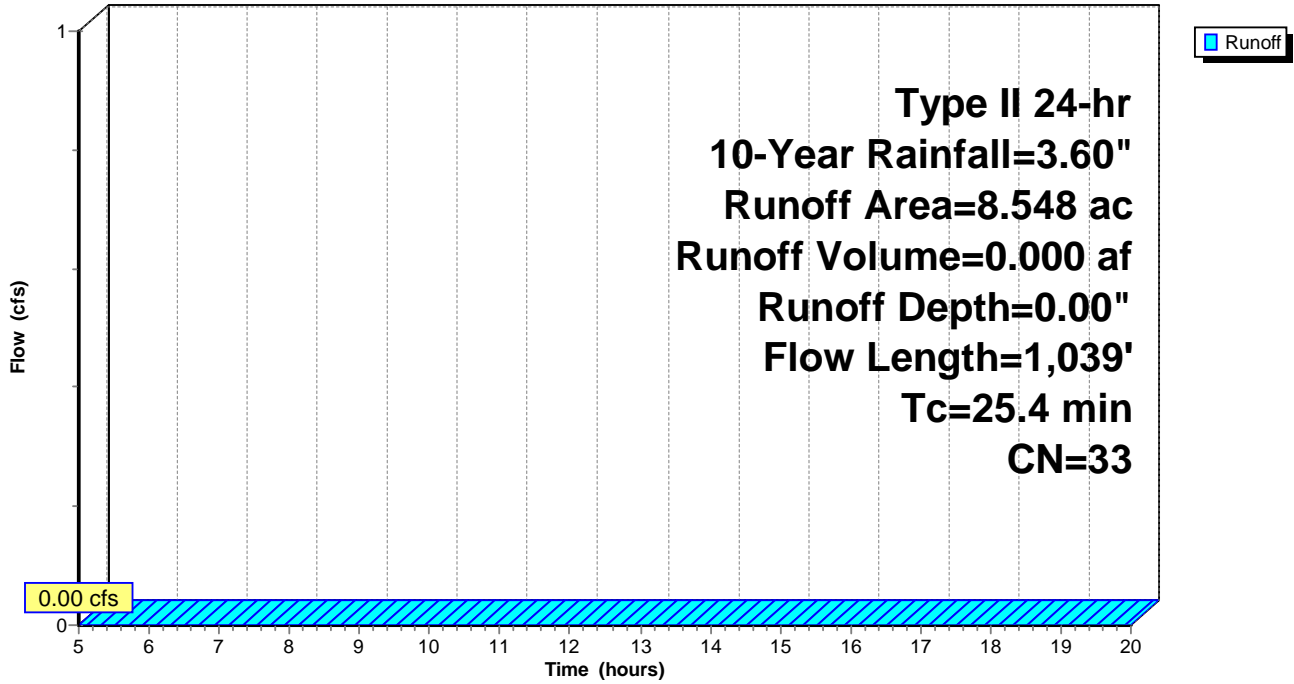
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs  
 Type II 24-hr 10-Year Rainfall=3.60"

Area (ac)	CN	Description
2.221	36	Woods, Fair, HSG A
0.227	96	Gravel surface, HSG A
6.100	30	Meadow, non-grazed, HSG A
8.548	33	Weighted Average
8.548		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.7	100	0.0212	0.11		<b>Sheet Flow,</b> Grass: Dense n= 0.240 P2= 2.87"
1.8	115	0.0223	1.05		<b>Shallow Concentrated Flow,</b> Short Grass Pasture Kv= 7.0 fps
0.7	39	0.0359	0.95		<b>Shallow Concentrated Flow,</b> Woodland Kv= 5.0 fps
0.5	78	0.3330	2.89		<b>Shallow Concentrated Flow,</b> Woodland Kv= 5.0 fps
6.4	586	0.0473	1.52		<b>Shallow Concentrated Flow,</b> Short Grass Pasture Kv= 7.0 fps
1.3	121	0.1000	1.58		<b>Shallow Concentrated Flow,</b> Woodland Kv= 5.0 fps
25.4	1,039	Total			

Subcatchment P-2: E-2

Hydrograph





**Summary for Subcatchment P-3: E-3**

Runoff = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af, Depth= 0.00"

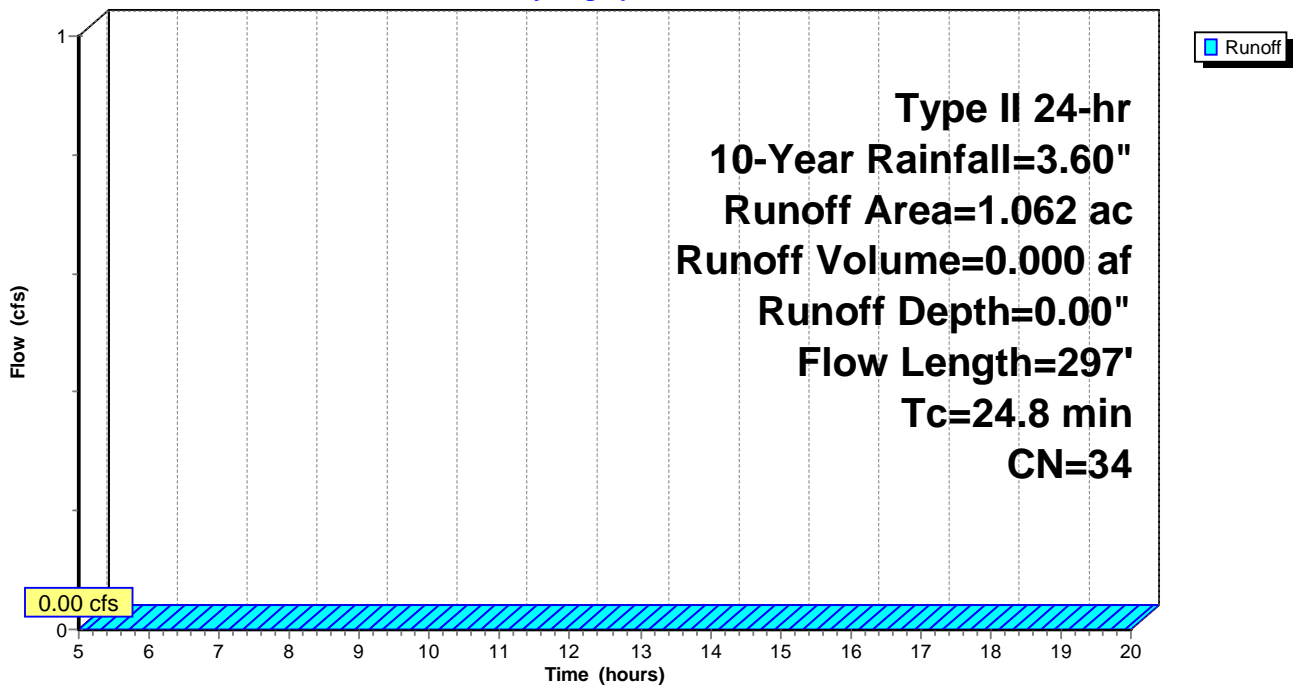
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs  
 Type II 24-hr 10-Year Rainfall=3.60"

Area (ac)	CN	Description
0.731	36	Woods, Fair, HSG A
0.331	30	Meadow, non-grazed, HSG A
1.062	34	Weighted Average
1.062		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
22.4	100	0.0207	0.07		<b>Sheet Flow,</b> Woods: Light underbrush n= 0.400 P2= 2.87"
0.4	38	0.0500	1.57		<b>Shallow Concentrated Flow,</b> Short Grass Pasture Kv= 7.0 fps
1.5	127	0.0427	1.45		<b>Shallow Concentrated Flow,</b> Short Grass Pasture Kv= 7.0 fps
0.5	32	0.0387	0.98		<b>Shallow Concentrated Flow,</b> Woodland Kv= 5.0 fps
24.8	297	Total			

**Subcatchment P-3: E-3**

Hydrograph

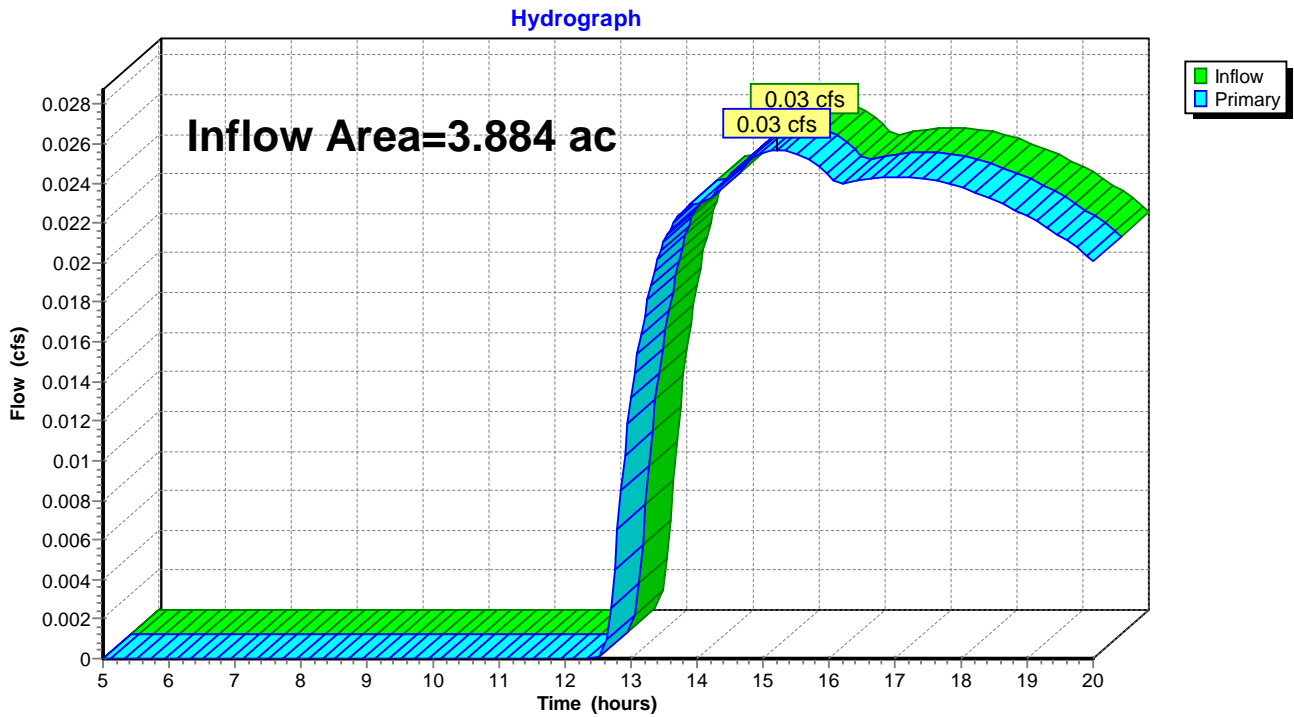


### Summary for Link DP-1: Design Point #1

Inflow Area = 3.884 ac, 2.73% Impervious, Inflow Depth > 0.04" for 10-Year event  
Inflow = 0.03 cfs @ 15.22 hrs, Volume= 0.014 af  
Primary = 0.03 cfs @ 15.22 hrs, Volume= 0.014 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

### Link DP-1: Design Point #1

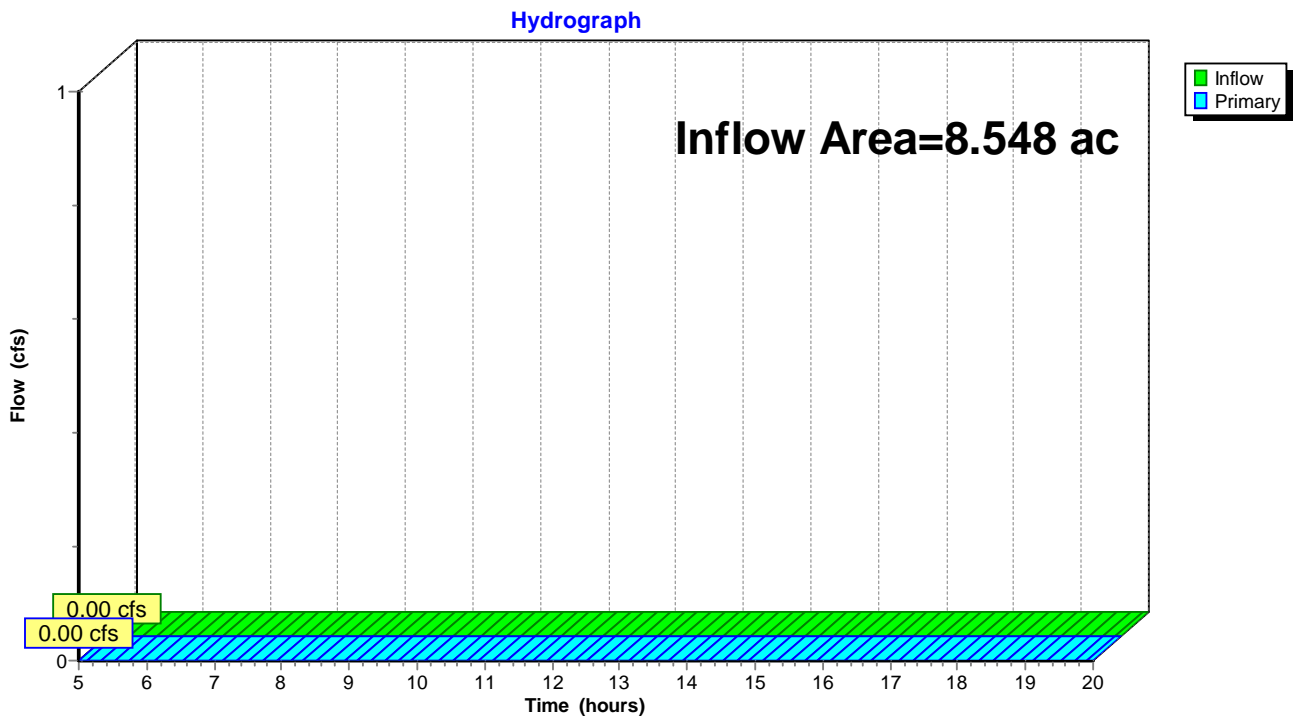


### Summary for Link DP-2: Design Point #2

Inflow Area = 8.548 ac, 0.00% Impervious, Inflow Depth = 0.00" for 10-Year event  
Inflow = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af  
Primary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

### Link DP-2: Design Point #2

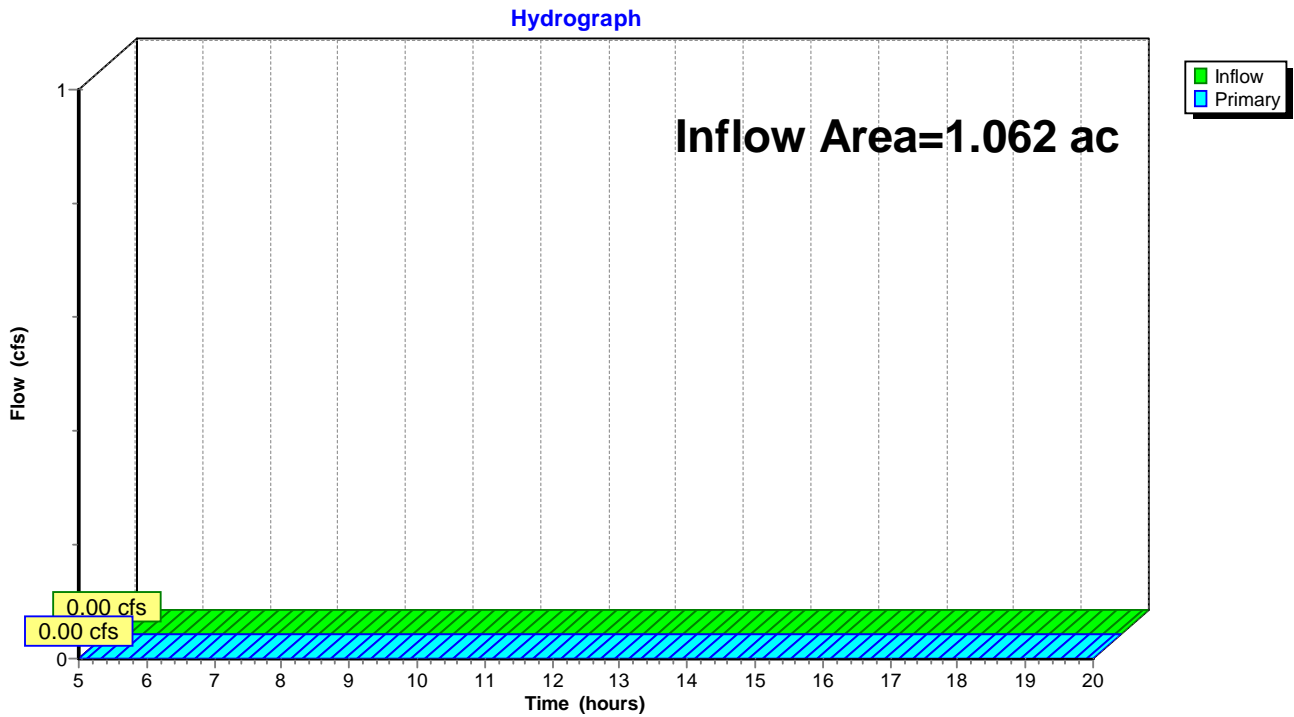


### Summary for Link DP-3: Design Point #3

Inflow Area = 1.062 ac, 0.00% Impervious, Inflow Depth = 0.00" for 10-Year event  
Inflow = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af  
Primary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

### Link DP-3: Design Point #3



**Summary for Subcatchment P-1: P-1**

Runoff = 2.04 cfs @ 12.06 hrs, Volume= 0.159 af, Depth> 0.49"

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-Year Rainfall=5.75"

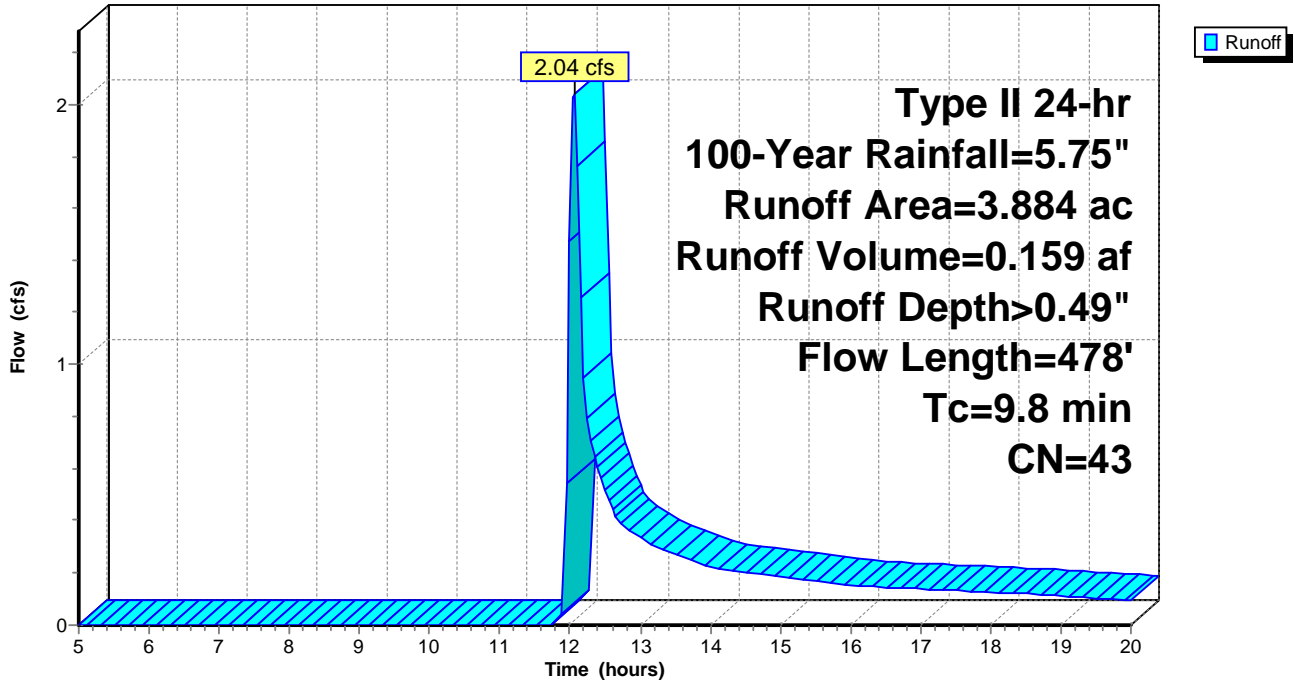
Area (ac)	CN	Description
0.420	68	<50% Grass cover, Poor, HSG A
2.545	36	Woods, Fair, HSG A
0.106	98	Paved parking, HSG A
* 0.245	75	Limited Use Pervious Gravel
0.568	30	Meadow, non-grazed, HSG A
3.884	43	Weighted Average
3.778		97.27% Pervious Area
0.106		2.73% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.7	83	0.2888	0.21		<b>Sheet Flow,</b> Woods: Light underbrush n= 0.400 P2= 2.87"
0.6	17	0.5880	0.44		<b>Sheet Flow,</b> Grass: Short n= 0.150 P2= 2.87"
0.4	44	0.0730	1.89		<b>Shallow Concentrated Flow,</b> Short Grass Pasture Kv= 7.0 fps
0.1	62	0.0348	8.97	44.85	<b>Trap/Vee/Rect Channel Flow,</b> Bot.W=2.00' D=1.00' Z= 3.0 '/' Top.W=8.00' n= 0.022 Earth, clean & straight
0.1	61	0.0759	12.50	9.82	<b>Pipe Channel, RCP_Round 12"</b> 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.013 Corrugated PE, smooth interior
1.9	211	0.1343	1.83		<b>Shallow Concentrated Flow,</b> Woodland Kv= 5.0 fps
9.8	478	Total			



Subcatchment P-1: P-1

Hydrograph



**Summary for Subcatchment P-2: E-2**

Runoff = 0.12 cfs @ 13.92 hrs, Volume= 0.063 af, Depth> 0.09"

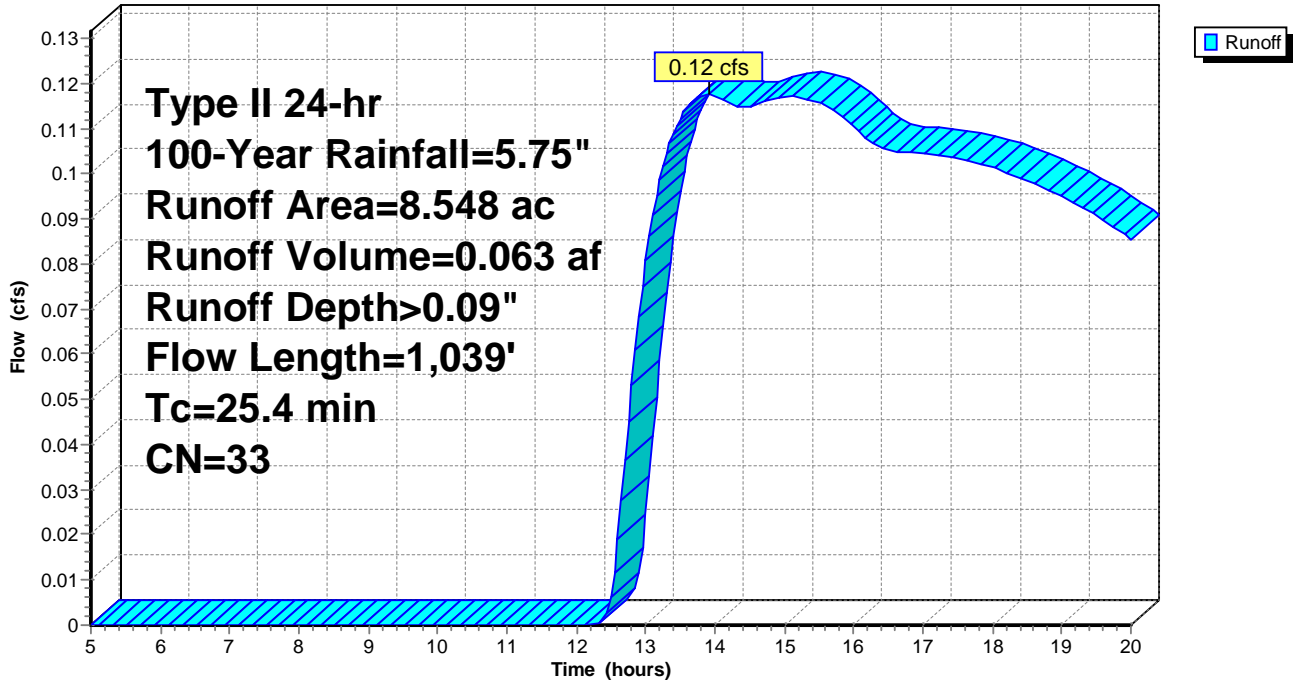
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs  
 Type II 24-hr 100-Year Rainfall=5.75"

Area (ac)	CN	Description
2.221	36	Woods, Fair, HSG A
0.227	96	Gravel surface, HSG A
6.100	30	Meadow, non-grazed, HSG A
8.548	33	Weighted Average
8.548		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.7	100	0.0212	0.11		<b>Sheet Flow,</b> Grass: Dense n= 0.240 P2= 2.87"
1.8	115	0.0223	1.05		<b>Shallow Concentrated Flow,</b> Short Grass Pasture Kv= 7.0 fps
0.7	39	0.0359	0.95		<b>Shallow Concentrated Flow,</b> Woodland Kv= 5.0 fps
0.5	78	0.3330	2.89		<b>Shallow Concentrated Flow,</b> Woodland Kv= 5.0 fps
6.4	586	0.0473	1.52		<b>Shallow Concentrated Flow,</b> Short Grass Pasture Kv= 7.0 fps
1.3	121	0.1000	1.58		<b>Shallow Concentrated Flow,</b> Woodland Kv= 5.0 fps
25.4	1,039	Total			

### Subcatchment P-2: E-2

Hydrograph



**Summary for Subcatchment P-3: E-3**

Runoff = 0.02 cfs @ 13.49 hrs, Volume= 0.010 af, Depth> 0.12"

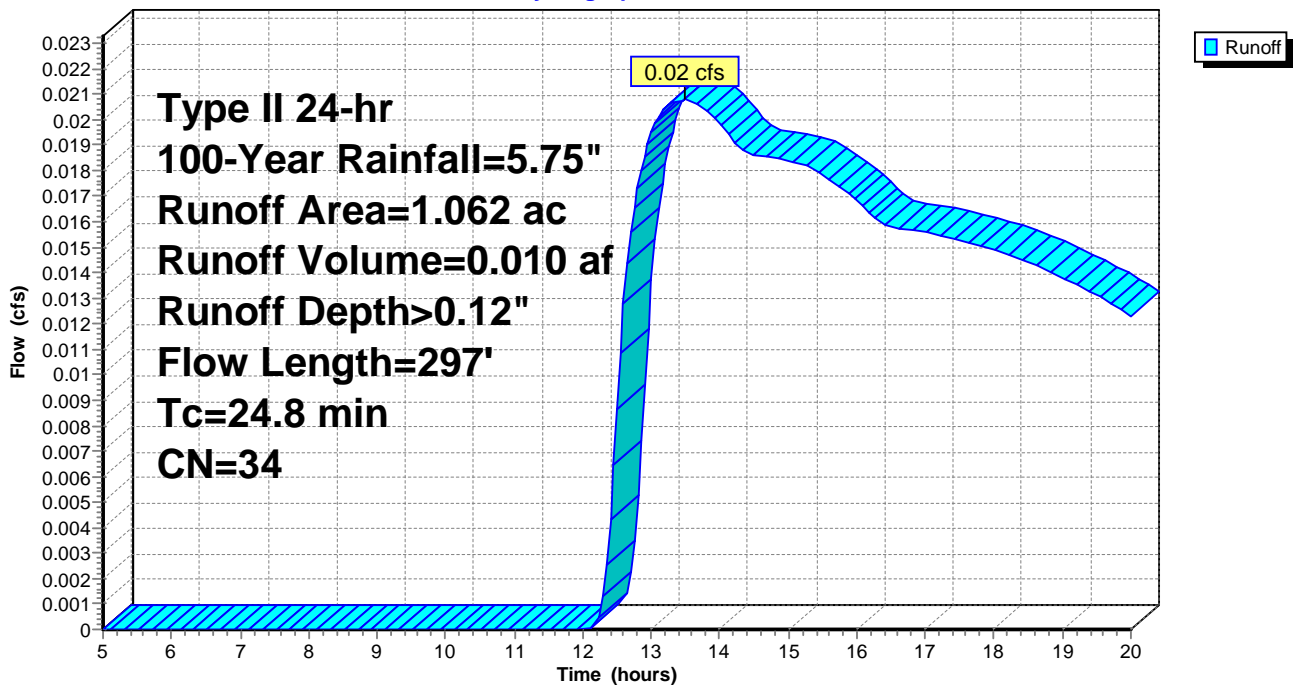
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs  
 Type II 24-hr 100-Year Rainfall=5.75"

Area (ac)	CN	Description
0.731	36	Woods, Fair, HSG A
0.331	30	Meadow, non-grazed, HSG A
1.062	34	Weighted Average
1.062		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
22.4	100	0.0207	0.07		<b>Sheet Flow,</b> Woods: Light underbrush n= 0.400 P2= 2.87"
0.4	38	0.0500	1.57		<b>Shallow Concentrated Flow,</b> Short Grass Pasture Kv= 7.0 fps
1.5	127	0.0427	1.45		<b>Shallow Concentrated Flow,</b> Short Grass Pasture Kv= 7.0 fps
0.5	32	0.0387	0.98		<b>Shallow Concentrated Flow,</b> Woodland Kv= 5.0 fps
24.8	297	Total			

**Subcatchment P-3: E-3**

Hydrograph

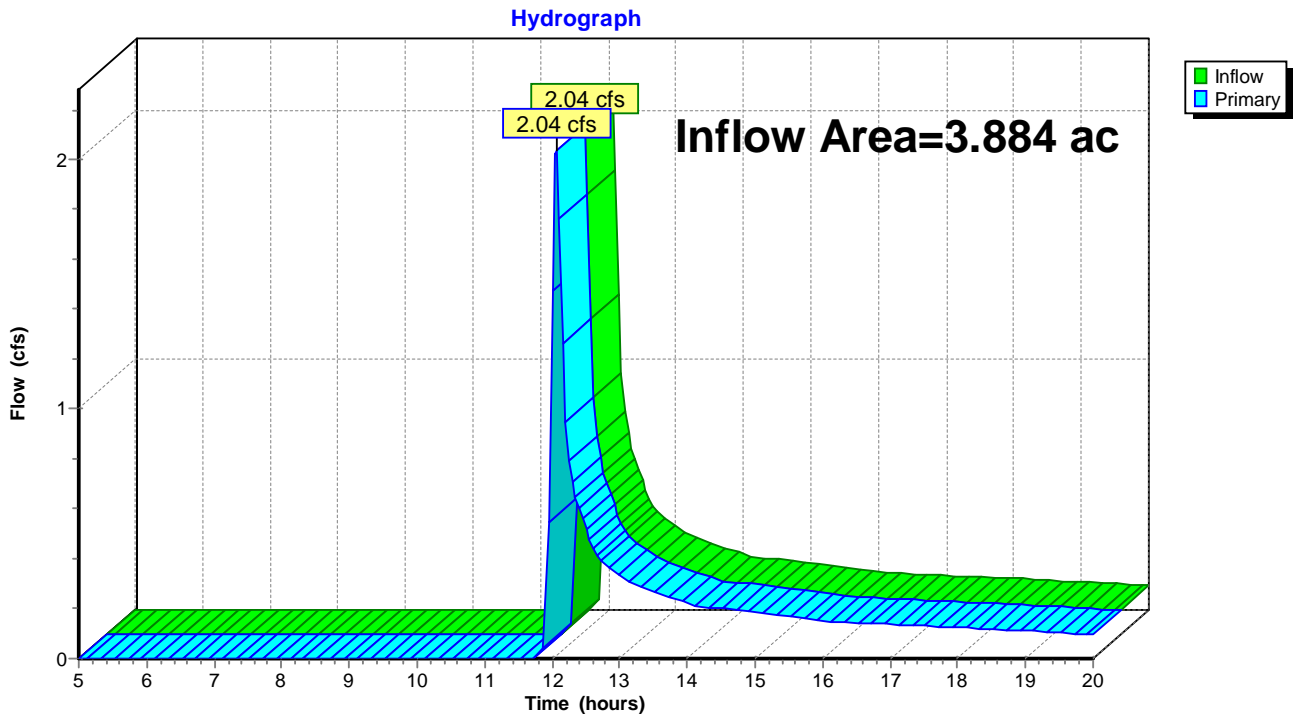


### Summary for Link DP-1: Design Point #1

Inflow Area = 3.884 ac, 2.73% Impervious, Inflow Depth > 0.49" for 100-Year event  
Inflow = 2.04 cfs @ 12.06 hrs, Volume= 0.159 af  
Primary = 2.04 cfs @ 12.06 hrs, Volume= 0.159 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

### Link DP-1: Design Point #1



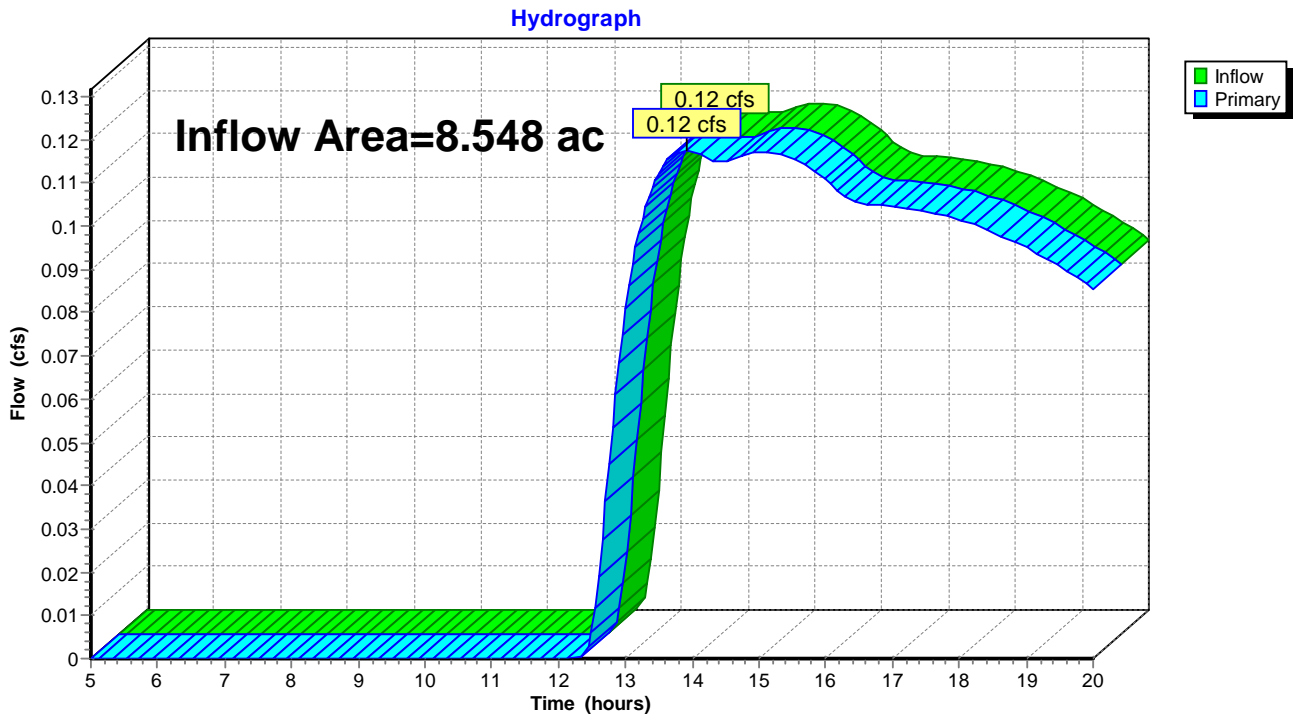


### Summary for Link DP-2: Design Point #2

Inflow Area = 8.548 ac, 0.00% Impervious, Inflow Depth > 0.09" for 100-Year event  
Inflow = 0.12 cfs @ 13.92 hrs, Volume= 0.063 af  
Primary = 0.12 cfs @ 13.92 hrs, Volume= 0.063 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

### Link DP-2: Design Point #2

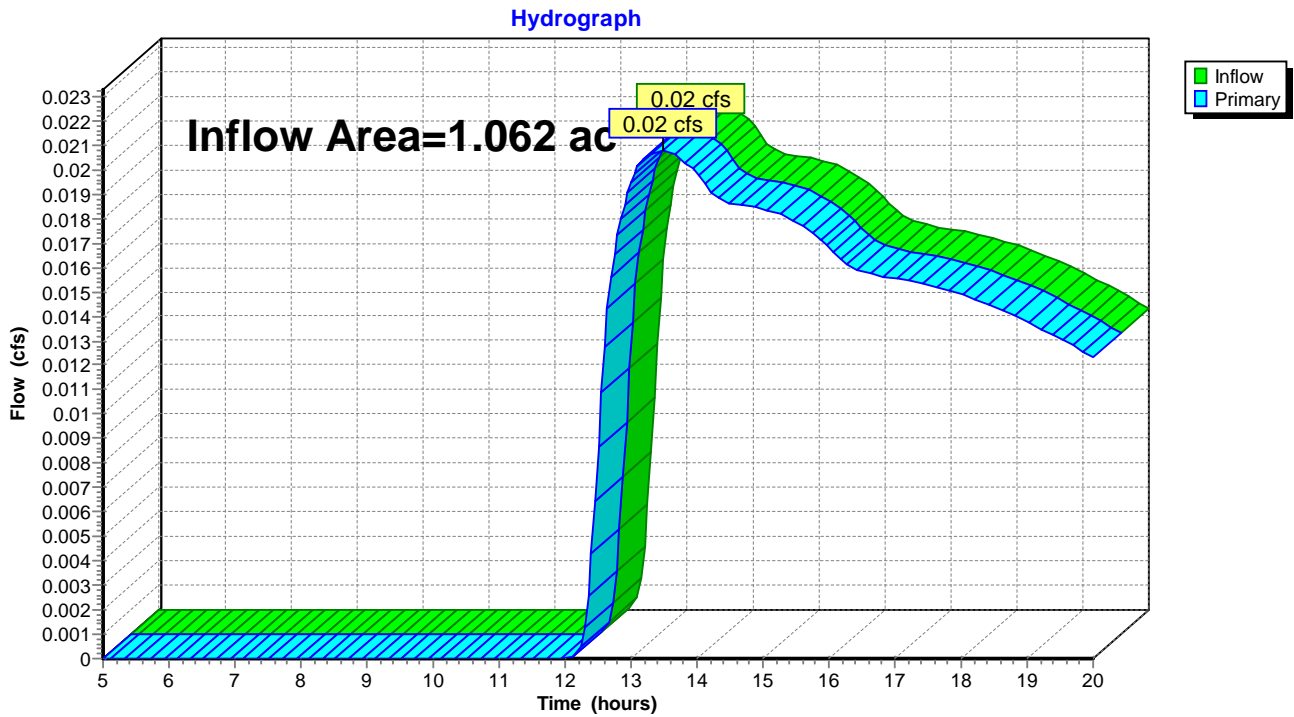


### Summary for Link DP-3: Design Point #3

Inflow Area = 1.062 ac, 0.00% Impervious, Inflow Depth > 0.12" for 100-Year event  
Inflow = 0.02 cfs @ 13.49 hrs, Volume= 0.010 af  
Primary = 0.02 cfs @ 13.49 hrs, Volume= 0.010 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

### Link DP-3: Design Point #3





# Appendix R-3

## Water Quality Volume Calculations

Is this project subject to Chapter 10 of the NYS Design Manual (i.e. WQv is equal to post-development 1 year runoff volume)?.....

Design Point:		
P=	1.06	inch

Breakdown of Subcatchments						
Catchment Number	Total Area (Acres)	Impervious Area (Acres)	Percent Impervious %	Rv	WQv (ft <sup>3</sup> )	Description
1	1.77	0.20	12%	0.15	1,043	Dry Swale
2	0.68	0.22	32%	0.34	889	Dry Swale
3						
4						
5						
6						
7						
8						
9						
10						
Subtotal (1-30)	2.45	0.42	17%	0.21	1,931	Subtotal 1
Total	2.45	0.42	17%	0.21	1,931	Initial WQv

Identify Runoff Reduction Techniques By Area			
Technique	Total Contributing Area	Contributing Impervious Area	Notes
	(Acre)	(Acre)	
Conservation of Natural Areas	0.00	0.00	<i>minimum 10,000 sf</i>
Riparian Buffers	0.00	0.00	<i>maximum contributing length 75 feet to 150 feet</i>
Filter Strips	0.00	0.00	
Tree Planting	0.00	0.00	<i>Up to 100 sf directly connected impervious area may be subtracted per tree</i>
Total	0.00	0.00	

Recalculate WQv after application of Area Reduction Techniques					
	Total Area (Acres)	Impervious Area (Acres)	Percent Impervious %	Runoff Coefficient Rv	WQv (ft <sup>3</sup> )
"<<Initial WQv"	2.45	0.42	17%	0.21	1,931
Subtract Area	0.00	0.00			
WQv adjusted after Area Reductions	2.45	0.42	17%	0.21	1,931
Disconnection of Rooftops		0.00			
Adjusted WQv after Area Reduction and Rooftop Disconnect	2.45	0.42	17%	0.21	1,931
WQv reduced by Area Reduction techniques					0

# Minimum RRv

Enter the Soils Data for the site

Soil Group	Acres	S
A	0.41	55%
B		40%
C		30%
D	0.43	20%
Total Area	0.84	

Calculate the Minimum RRv

S =	0.37	
Impervious =	0.42	<i>acre</i>
Precipitation	1.06	<i>in</i>
Rv	0.95	
Minimum RRv	572	<i>ft3</i>
	0.01	<i>af</i>

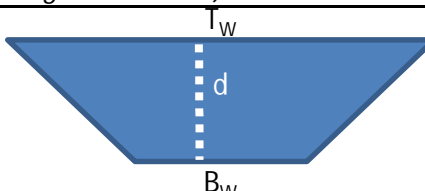


# NOI QUESTIONS

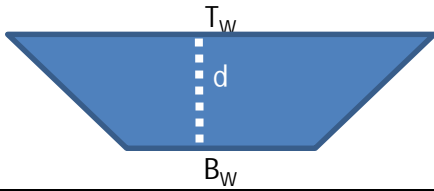
#	NOI Question	Reported Value	
		cf	af
28	Total Water Quality Volume (WQv) Required	1931	0.044
30	Total RRV Provided	1185	0.027
31	Is RRV Provided $\geq$ WQv Required?	No	
32	Minimum RRV	572	0.013
32a	Is RRV Provided $\geq$ Minimum RRV Required?	Yes	
33a	Total WQv Treated	1634	0.038
34	Sum of Volume Reduced & Treated	2820	0.065
34	Sum of Volume Reduced and Treated	2820	0.065
35	Is Sum RRV Provided and WQv Provided $\geq$ WQv Required?	Yes	

Apply Peak Flow Attenuation			
36	Channel Protection	<i>Cpv</i>	
37	Overbank	<i>Qp</i>	
37	Extreme Flood Control	<i>Qf</i>	
	Are Quantity Control requirements met?	Yes	Plan Completed

# Dry Swale Worksheet

Design Point:							
Enter Site Data For Drainage Area to be Treated by Practice							
Catchment Number	Total Area (Acres)	Impervious Area (Acres)	Percent Impervious %	Rv	WQv (ft <sup>3</sup> )	Precipitation (in)	Description
1	1.77	0.20	0.12	0.15	1042.56	1.06	Dry Swale
Enter Impervious Area Reduced by Disconnection of Rooftops			12%	0.15	1,043	<<WQv after adjusting for Disconnected Rooftops	
Pretreatment Provided				Pretreatment Technique			
Pretreatment (10% of WQv)			104	ft <sup>3</sup>	Check Dam		
Calculate Available Storage Capacity							
Bottom Width	2	ft	Design with a bottom width no greater than eight feet to avoid potential gullyng and channel braiding, but no less than two feet				
Side Slope (X:1)	3	Okay	Channels shall be designed with moderate side slopes (flatter than 3:1) for most conditions. 2:1 is the absolute maximum side slope				
Longitudinal Slope	4%	Okay	Maximum longitudinal slope shall be 4%				
Flow Depth	1	ft	Maximum ponding depth of one foot at the mid-point of the channel, and a maximum depth of 18" at the end point of the channel (for storage of the WQv)				
Top Width	8	ft					
Area	5.00	sf					
Minimum Length	188	ft					
Actual Length	52	ft					
End Point Depth check	1.50	Okay	A maximum depth of 18" at the end point of the channel (for storage of the WQv)				
Storage Capacity	364	ft <sup>3</sup>					
Soil Group (HSG)			A				
Runoff Reduction							
Is the Dry Swale contributing flow to another practice?			No	Select Practice	N/A		
RRv	146	ft <sup>3</sup>	Runoff Reduction equals 40% in HSG A and B and 20% in HSG C and D up to the WQv				
Volume Treated	897	ft <sup>3</sup>	This is the difference between the WQv calculated and the runoff reduction achieved in the swale				
Volume Directed	0	ft <sup>3</sup>	This volume is directed another practice				
Volume v	Error		Check to be sure that channel is long enough to store WQv				

# Dry Swale Worksheet

Design Point:							
Enter Site Data For Drainage Area to be Treated by Practice							
Catchment Number	Total Area (Acres)	Impervious Area (Acres)	Percent Impervious %	Rv	WQv (ft <sup>3</sup> )	Precipitation (in)	Description
2	0.68	0.22	0.32	0.34	888.56	1.06	Dry Swale
Enter Impervious Area Reduced by Disconnection of Rooftops			32%	0.34	889	<<WQv after adjusting for Disconnected Rooftops	
Pretreatment Provided				Pretreatment Technique			
Pretreatment (10% of WQv)			89	ft <sup>3</sup>	Check Dam		
Calculate Available Storage Capacity							
Bottom Width	2	ft	Design with a bottom width no greater than eight feet to avoid potential gullyng and channel braiding, but no less than two feet				
Side Slope (X:1)	3	Okay	Channels shall be designed with moderate side slopes (flatter than 3:1) for most conditions. 2:1 is the absolute maximum side slope				
Longitudinal Slope	4%	Okay	<i>Maximum longitudinal slope shall be 4%</i>				
Flow Depth	1	ft	<i>Maximum ponding depth of one foot at the mid-point of the channel, and a maximum depth of 18" at the end point of the channel (for storage of the WQv)</i>				
Top Width	8	ft					
Area	5.00	sf					
Minimum Length	160	ft					
Actual Length	214	ft					
End Point Depth check	1.00	Okay	<i>A maximum depth of 18" at the end point of the channel (for storage of the WQv)</i>				
Storage Capacity	1,159	ft <sup>3</sup>					
Soil Group (HSG)			A				
Runoff Reduction							
Is the Dry Swale contributing flow to another practice?			No	Select Practice	N/A		
RRv	464	ft <sup>3</sup>	Runoff Reduction equals 40% in HSG A and B and 20% in HSG C and D up to the WQv				
Volume Treated	425	ft <sup>3</sup>	This is the difference between the WQv calculated and the runoff reduction achieved in the swale				
Volume Directed	0	ft <sup>3</sup>	This volume is directed another practice				
Volume v	Okay	Check to be sure that channel is long enough to store WQv					



# Appendix R-4

## NRCS Soils Report

# Custom Soil Resource Report for Essex County, New York



# Preface

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Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (<http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/>) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (<https://offices.sc.egov.usda.gov/locator/app?agency=nrcs>) or your NRCS State Soil Scientist ([http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2\\_053951](http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951)).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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# How Soil Surveys Are Made

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Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

## Custom Soil Resource Report

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

## Custom Soil Resource Report

identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

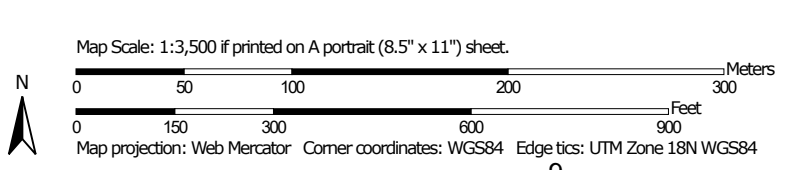
# Soil Map

---

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.



# Custom Soil Resource Report Soil Map



### MAP LEGEND

**Area of Interest (AOI)**

 Area of Interest (AOI)




















**Soils**

 Soil Map Unit Polygons

 Soil Map Unit Lines

 Soil Map Unit Points

**Special Point Features**

-  Blowout
-  Borrow Pit
-  Clay Spot
-  Closed Depression
-  Gravel Pit
-  Gravelly Spot
-  Landfill
-  Lava Flow
-  Marsh or swamp
-  Mine or Quarry
-  Miscellaneous Water
-  Perennial Water
-  Rock Outcrop
-  Saline Spot
-  Sandy Spot
-  Severely Eroded Spot
-  Sinkhole
-  Slide or Slip
-  Sodic Spot

-  Spoil Area
-  Stony Spot
-  Very Stony Spot
-  Wet Spot
-  Other
-  Special Line Features

**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 1:24,000.

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: Essex County, New York  
 Survey Area Data: Version 20, Jun 11, 2020

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jun 28, 2012—Mar 29, 2017

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.

## Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
DuE	Dunkirk silt loam, 25 to 45 percent slopes	0.4	1.3%
HcD	Howard very cobbly loam, 15 to 25 percent slopes	8.3	25.4%
HgB	Howard gravelly loam, 2 to 8 percent slopes	22.0	67.6%
RmA	Rippowam fine sandy loam, 0 to 3 percent slopes	1.9	5.7%
<b>Totals for Area of Interest</b>		<b>32.5</b>	<b>100.0%</b>

## Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

## Custom Soil Resource Report

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

## Essex County, New York

### DuE—Dunkirk silt loam, 25 to 45 percent slopes

#### Map Unit Setting

*National map unit symbol:* bmgx  
*Elevation:* 100 to 510 feet  
*Mean annual precipitation:* 26 to 36 inches  
*Mean annual air temperature:* 45 to 48 degrees F  
*Frost-free period:* 130 to 150 days  
*Farmland classification:* Not prime farmland

#### Map Unit Composition

*Dunkirk and similar soils:* 85 percent  
*Minor components:* 15 percent  
*Estimates are based on observations, descriptions, and transects of the mapunit.*

#### Description of Dunkirk

##### Setting

*Landform:* Lake plains  
*Landform position (two-dimensional):* Backslope  
*Landform position (three-dimensional):* Riser  
*Down-slope shape:* Convex  
*Across-slope shape:* Convex  
*Parent material:* Silty glaciolacustrine deposits derived from igneous and sedimentary rock

##### Typical profile

*Ap - 0 to 6 inches:* silt loam  
*E - 6 to 10 inches:* silt loam  
*E/B - 10 to 15 inches:* silt loam  
*B/E - 15 to 21 inches:* silt loam  
*Bt1 - 21 to 29 inches:* silty clay loam  
*Bt2 - 29 to 35 inches:* silt loam  
*BC - 35 to 42 inches:* silt loam  
*C - 42 to 72 inches:* silty clay loam

##### Properties and qualities

*Slope:* 25 to 45 percent  
*Depth to restrictive feature:* More than 80 inches  
*Drainage class:* Well drained  
*Runoff class:* Medium  
*Capacity of the most limiting layer to transmit water (Ksat):* Moderately low to high  
(0.06 to 1.98 in/hr)  
*Depth to water table:* More than 80 inches  
*Frequency of flooding:* None  
*Frequency of ponding:* None  
*Calcium carbonate, maximum content:* 15 percent  
*Available water capacity:* High (about 11.7 inches)

##### Interpretive groups

*Land capability classification (irrigated):* None specified  
*Land capability classification (nonirrigated):* 6e  
*Hydrologic Soil Group:* C

## Custom Soil Resource Report

*Ecological site:* F101XY008NY - Well Drained Lake Plain  
*Hydric soil rating:* No

### Minor Components

#### Hartland

*Percent of map unit:* 5 percent  
*Hydric soil rating:* No

#### Factoryville

*Percent of map unit:* 4 percent  
*Hydric soil rating:* No

#### Vergennes

*Percent of map unit:* 3 percent  
*Hydric soil rating:* No

#### Unnamed

*Percent of map unit:* 2 percent  
*Hydric soil rating:* No

#### Collamer

*Percent of map unit:* 1 percent  
*Hydric soil rating:* No

## HcD—Howard very cobbly loam, 15 to 25 percent slopes

### Map Unit Setting

*National map unit symbol:* 119hs  
*Elevation:* 100 to 510 feet  
*Mean annual precipitation:* 26 to 36 inches  
*Mean annual air temperature:* 45 to 48 degrees F  
*Frost-free period:* 130 to 150 days  
*Farmland classification:* Not prime farmland

### Map Unit Composition

*Howard and similar soils:* 85 percent  
*Minor components:* 15 percent  
*Estimates are based on observations, descriptions, and transects of the mapunit.*

### Description of Howard

#### Setting

*Landform:* Outwash terraces, kame terraces  
*Landform position (two-dimensional):* Backslope  
*Landform position (three-dimensional):* Riser  
*Down-slope shape:* Convex  
*Across-slope shape:* Convex  
*Parent material:* Gravelly outwash derived from limestone

#### Typical profile

*Oe - 0 to 1 inches:* moderately decomposed plant material



## Custom Soil Resource Report

*A - 1 to 4 inches: very cobbly loam*  
*E - 4 to 11 inches: cobbly loam*  
*B/E - 11 to 15 inches: very cobbly loam*  
*Bt - 15 to 22 inches: very cobbly loam*  
*2C1 - 22 to 35 inches: extremely cobbly loamy sand*  
*2C2 - 35 to 72 inches: extremely gravelly loamy sand*

### Properties and qualities

*Slope: 15 to 25 percent*  
*Depth to restrictive feature: More than 80 inches*  
*Drainage class: Well drained*  
*Runoff class: Medium*  
*Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high*  
*(0.57 to 5.95 in/hr)*  
*Depth to water table: More than 80 inches*  
*Frequency of flooding: None*  
*Frequency of ponding: None*  
*Calcium carbonate, maximum content: 20 percent*  
*Available water capacity: Low (about 3.1 inches)*

### Interpretive groups

*Land capability classification (irrigated): None specified*  
*Land capability classification (nonirrigated): 7s*  
*Hydrologic Soil Group: A*  
*Hydric soil rating: No*

### Minor Components

#### Colonie

*Percent of map unit: 5 percent*  
*Hydric soil rating: No*

#### Nellis

*Percent of map unit: 4 percent*  
*Hydric soil rating: No*

#### Pittsfield

*Percent of map unit: 2 percent*  
*Hydric soil rating: No*

#### Chatfield

*Percent of map unit: 2 percent*  
*Hydric soil rating: No*

#### Factoryville

*Percent of map unit: 1 percent*  
*Hydric soil rating: No*

#### Unnamed

*Percent of map unit: 1 percent*  
*Hydric soil rating: No*

## HgB—Howard gravelly loam, 2 to 8 percent slopes

### Map Unit Setting

*National map unit symbol:* 119hv

*Elevation:* 100 to 510 feet

*Mean annual precipitation:* 26 to 36 inches

*Mean annual air temperature:* 45 to 48 degrees F

*Frost-free period:* 130 to 150 days

*Farmland classification:* Farmland of statewide importance

### Map Unit Composition

*Howard and similar soils:* 85 percent

*Minor components:* 15 percent

*Estimates are based on observations, descriptions, and transects of the mapunit.*

### Description of Howard

#### Setting

*Landform:* Kame terraces, outwash terraces

*Landform position (two-dimensional):* Summit, shoulder

*Landform position (three-dimensional):* Tread

*Down-slope shape:* Convex

*Across-slope shape:* Convex

*Parent material:* Gravelly outwash derived from limestone

#### Typical profile

*Oe - 0 to 1 inches:* moderately decomposed plant material

*A - 1 to 4 inches:* very gravelly loam

*E - 4 to 11 inches:* gravelly loam

*B/E - 11 to 15 inches:* very gravelly loam

*Bt - 15 to 22 inches:* very gravelly loam

*2C1 - 22 to 35 inches:* extremely gravelly loamy sand

*2C2 - 35 to 72 inches:* extremely gravelly loamy sand

#### Properties and qualities

*Slope:* 2 to 8 percent

*Depth to restrictive feature:* More than 80 inches

*Drainage class:* Well drained

*Runoff class:* Low

*Capacity of the most limiting layer to transmit water (Ksat):* Moderately high to high  
(0.57 to 5.95 in/hr)

*Depth to water table:* More than 80 inches

*Frequency of flooding:* None

*Frequency of ponding:* None

*Calcium carbonate, maximum content:* 20 percent

*Available water capacity:* Low (about 3.1 inches)

#### Interpretive groups

*Land capability classification (irrigated):* None specified

*Land capability classification (nonirrigated):* 2s

## Custom Soil Resource Report

*Hydrologic Soil Group: A*  
*Hydric soil rating: No*

### Minor Components

#### Colonie

*Percent of map unit: 5 percent*  
*Hydric soil rating: No*

#### Factoryville

*Percent of map unit: 4 percent*  
*Hydric soil rating: No*

#### Nellis

*Percent of map unit: 2 percent*  
*Hydric soil rating: No*

#### Pittsfield

*Percent of map unit: 2 percent*  
*Hydric soil rating: No*

#### Deerfield

*Percent of map unit: 1 percent*  
*Hydric soil rating: No*

#### Unnamed

*Percent of map unit: 1 percent*  
*Hydric soil rating: No*

## RmA—Rippowam fine sandy loam, 0 to 3 percent slopes

### Map Unit Setting

*National map unit symbol: 1vk0f*  
*Elevation: 100 to 510 feet*  
*Mean annual precipitation: 26 to 36 inches*  
*Mean annual air temperature: 45 to 48 degrees F*  
*Frost-free period: 130 to 150 days*  
*Farmland classification: Farmland of statewide importance*

### Map Unit Composition

*Rippowam and similar soils: 85 percent*  
*Minor components: 15 percent*  
*Estimates are based on observations, descriptions, and transects of the mapunit.*

### Description of Rippowam

#### Setting

*Landform: Flood plains*  
*Landform position (two-dimensional): Toeslope*  
*Landform position (three-dimensional): Dip*  
*Down-slope shape: Convex*  
*Across-slope shape: Convex*

## Custom Soil Resource Report

*Parent material:* Loamy alluvium derived from igneous and sedimentary rock

### Typical profile

*Oe - 0 to 2 inches:* mucky peat  
*Ap - 2 to 11 inches:* fine sandy loam  
*Cg1 - 11 to 21 inches:* fine sandy loam  
*Cg2 - 21 to 29 inches:* fine sandy loam  
*Cg3 - 29 to 36 inches:* fine sandy loam  
*Cg4 - 36 to 43 inches:* fine sandy loam  
*Cg5 - 43 to 72 inches:* very gravelly loamy sand

### Properties and qualities

*Slope:* 0 to 3 percent  
*Depth to restrictive feature:* More than 80 inches  
*Drainage class:* Poorly drained  
*Runoff class:* Very high  
*Capacity of the most limiting layer to transmit water (Ksat):* Moderately high to high  
(0.20 to 5.95 in/hr)  
*Depth to water table:* About 0 to 12 inches  
*Frequency of flooding:* FrequentNone  
*Frequency of ponding:* None  
*Available water capacity:* Moderate (about 6.5 inches)

### Interpretive groups

*Land capability classification (irrigated):* None specified  
*Land capability classification (nonirrigated):* 4w  
*Hydrologic Soil Group:* A/D  
*Hydric soil rating:* Yes

### Minor Components

#### Pootatuck

*Percent of map unit:* 5 percent  
*Hydric soil rating:* No

#### Unnamed

*Percent of map unit:* 4 percent  
*Hydric soil rating:* No

#### Fluvaquents-udifluvents

*Percent of map unit:* 3 percent  
*Landform:* Flood plains  
*Landform position (two-dimensional):* Toeslope  
*Landform position (three-dimensional):* Dip, rise  
*Down-slope shape:* Concave  
*Across-slope shape:* Concave  
*Hydric soil rating:* No

#### Gougeville

*Percent of map unit:* 3 percent  
*Landform:* Deltas  
*Landform position (two-dimensional):* Toeslope  
*Landform position (three-dimensional):* Tread  
*Down-slope shape:* Concave  
*Across-slope shape:* Concave  
*Hydric soil rating:* Yes

## Custom Soil Resource Report

# Soil Information for All Uses

---

## Soil Properties and Qualities

The Soil Properties and Qualities section includes various soil properties and qualities displayed as thematic maps with a summary table for the soil map units in the selected area of interest. A single value or rating for each map unit is generated by aggregating the interpretive ratings of individual map unit components. This aggregation process is defined for each property or quality.

## Soil Qualities and Features

Soil qualities are behavior and performance attributes that are not directly measured, but are inferred from observations of dynamic conditions and from soil properties. Example soil qualities include natural drainage, and frost action. Soil features are attributes that are not directly part of the soil. Example soil features include slope and depth to restrictive layer. These features can greatly impact the use and management of the soil.

## Hydrologic Soil Group

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.



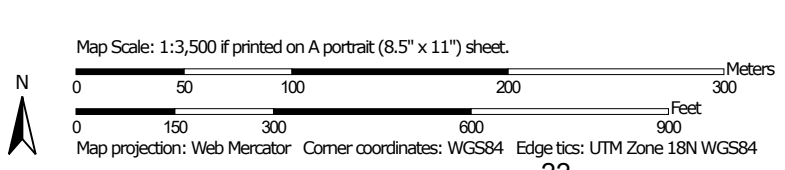
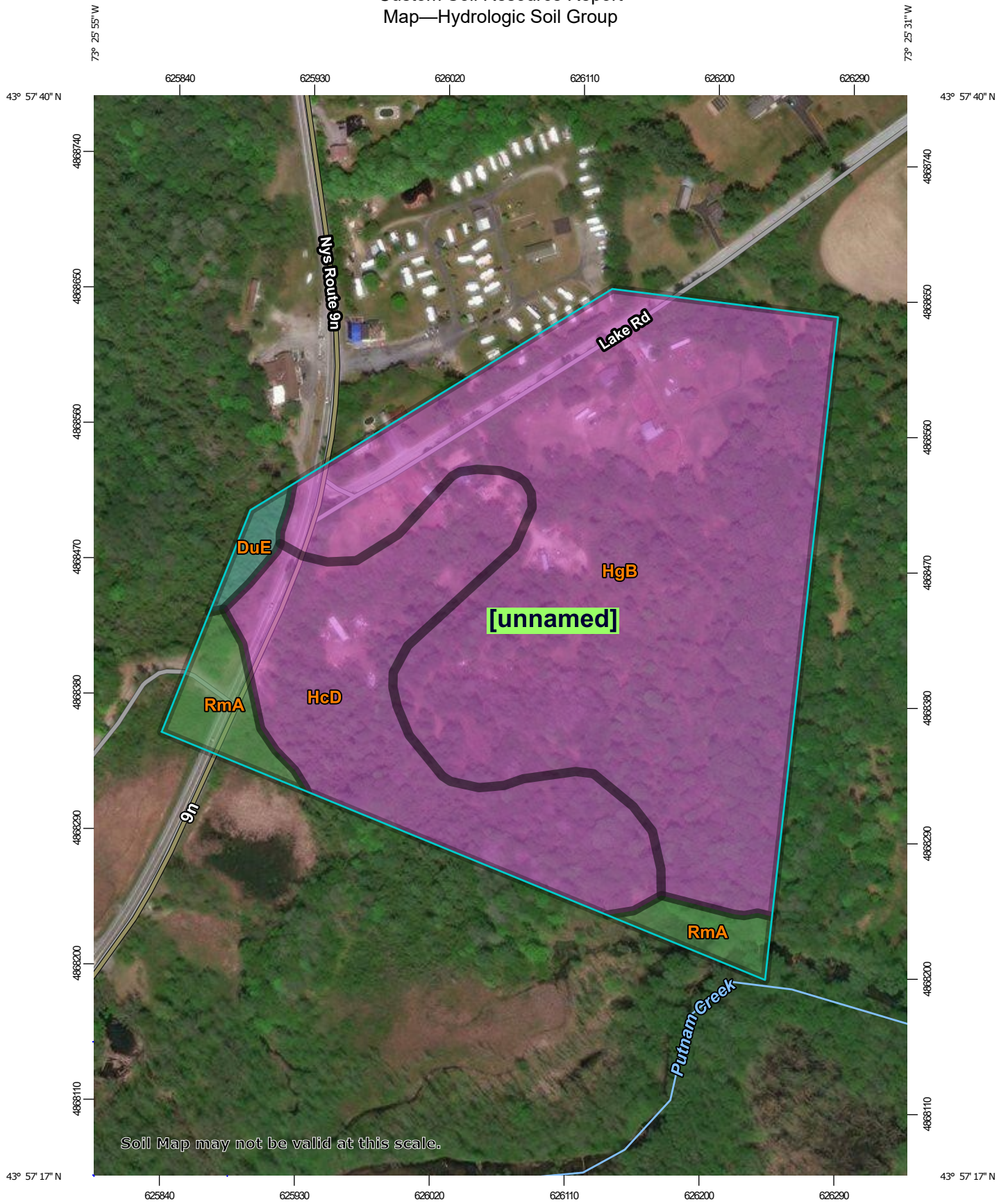
## Custom Soil Resource Report

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.

Custom Soil Resource Report  
Map—Hydrologic Soil Group



### 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
- Soils**
  -  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 1:24,000.

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: Essex County, New York  
 Survey Area Data: Version 20, Jun 11, 2020

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jun 28, 2012—Mar 29, 2017

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.

**Table—Hydrologic Soil Group**

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
DuE	Dunkirk silt loam, 25 to 45 percent slopes	C	0.4	1.3%
HcD	Howard very cobbly loam, 15 to 25 percent slopes	A	8.3	25.4%
HgB	Howard gravelly loam, 2 to 8 percent slopes	A	22.0	67.6%
RmA	Rippowam fine sandy loam, 0 to 3 percent slopes	A/D	1.9	5.7%
<b>Totals for Area of Interest</b>			<b>32.5</b>	<b>100.0%</b>

**Rating Options—Hydrologic Soil Group**

*Aggregation Method: Dominant Condition*

*Component Percent Cutoff: None Specified*

*Tie-break Rule: Higher*

# References

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- American Association of State Highway and Transportation Officials (AASHTO). 2004. Standard specifications for transportation materials and methods of sampling and testing. 24th edition.
- American Society for Testing and Materials (ASTM). 2005. Standard classification of soils for engineering purposes. ASTM Standard D2487-00.
- Cowardin, L.M., V. Carter, F.C. Golet, and E.T. LaRoe. 1979. Classification of wetlands and deep-water habitats of the United States. U.S. Fish and Wildlife Service FWS/OBS-79/31.
- Federal Register. July 13, 1994. Changes in hydric soils of the United States.
- Federal Register. September 18, 2002. Hydric soils of the United States.
- Hurt, G.W., and L.M. Vasilas, editors. Version 6.0, 2006. Field indicators of hydric soils in the United States.
- National Research Council. 1995. Wetlands: Characteristics and boundaries.
- Soil Survey Division Staff. 1993. Soil survey manual. Soil Conservation Service. U.S. Department of Agriculture Handbook 18. [http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2\\_054262](http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_054262)
- Soil Survey Staff. 1999. Soil taxonomy: A basic system of soil classification for making and interpreting soil surveys. 2nd edition. Natural Resources Conservation Service, U.S. Department of Agriculture Handbook 436. [http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2\\_053577](http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053577)
- Soil Survey Staff. 2010. Keys to soil taxonomy. 11th edition. U.S. Department of Agriculture, Natural Resources Conservation Service. [http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2\\_053580](http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053580)
- Tiner, R.W., Jr. 1985. Wetlands of Delaware. U.S. Fish and Wildlife Service and Delaware Department of Natural Resources and Environmental Control, Wetlands Section.
- United States Army Corps of Engineers, Environmental Laboratory. 1987. Corps of Engineers wetlands delineation manual. Waterways Experiment Station Technical Report Y-87-1.
- United States Department of Agriculture, Natural Resources Conservation Service. National forestry manual. [http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/home/?cid=nrcs142p2\\_053374](http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/home/?cid=nrcs142p2_053374)
- United States Department of Agriculture, Natural Resources Conservation Service. National range and pasture handbook. <http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/landuse/rangepasture/?cid=stelprdb1043084>

## Custom Soil Resource Report

United States Department of Agriculture, Natural Resources Conservation Service. National soil survey handbook, title 430-VI. [http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/scientists/?cid=nrcs142p2\\_054242](http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/scientists/?cid=nrcs142p2_054242)

United States Department of Agriculture, Natural Resources Conservation Service. 2006. Land resource regions and major land resource areas of the United States, the Caribbean, and the Pacific Basin. U.S. Department of Agriculture Handbook 296. [http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2\\_053624](http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053624)

United States Department of Agriculture, Soil Conservation Service. 1961. Land capability classification. U.S. Department of Agriculture Handbook 210. [http://www.nrcs.usda.gov/Internet/FSE\\_DOCUMENTS/nrcs142p2\\_052290.pdf](http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_052290.pdf)





# Appendix S

## Cultural/Historic Resources Review



**Parks, Recreation,  
and Historic Preservation**

**ANDREW M. CUOMO**  
Governor

**ERIK KULLESEID**  
Commissioner

November 03, 2020

Stephanie Parsons  
Natural Resource Scientist  
Bergmann  
280 East Broad Street  
Suite 200  
Rochester, NY 14604

Re: USACE  
Crown Point Solar Project  
Town of Crown Point, Essex County, NY  
20PR06898

Dear Stephanie Parsons:

Thank you for requesting the comments of the State Historic Preservation Office (SHPO). We have reviewed the project in accordance with Section 106 of the National Historic Preservation Act of 1966. These comments are those of the SHPO and relate only to Historic/Cultural resources. They do not include potential environmental impacts to New York State Parkland that may be involved in or near your project. Such impacts must be considered as part of the environmental review of the project pursuant to the National Environmental Policy Act and/or the State Environmental Quality Review Act (New York Environmental Conservation Law Article 8).

Based upon this review, it is the opinion of the New York SHPO that no historic properties, including archaeological and/or historic resources, will be affected by this undertaking.

If further correspondence is required regarding this project, please be sure to refer to the OPRHP Project Review (PR) number noted above.

Sincerely,

R. Daniel Mackay  
Deputy State Historic Preservation Officer  
Division for Historic Preservation

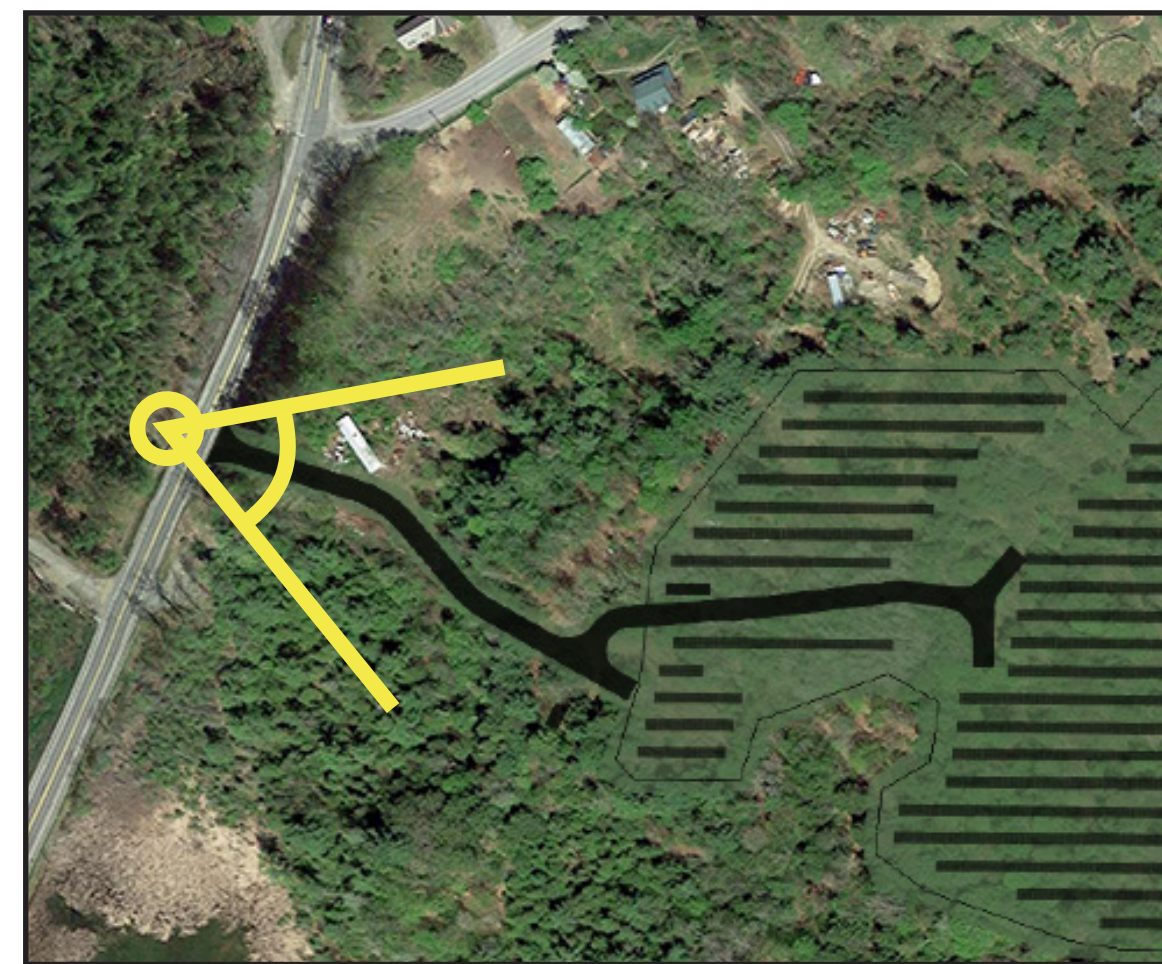




Existing



Proposed

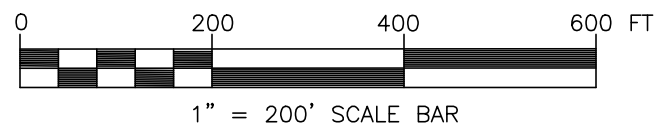


Location 1

NY-22, looking east







# PHOTO LOCATION MAP

NEW YORK STATE OF OPPORTUNITY  
Adirondack Park Agency  
FINAL  
P2021-0084



**BERGMANN**  
ARCHITECTS ENGINEERS PLANNERS





Photo 1: View from Lake Road. Facing south.

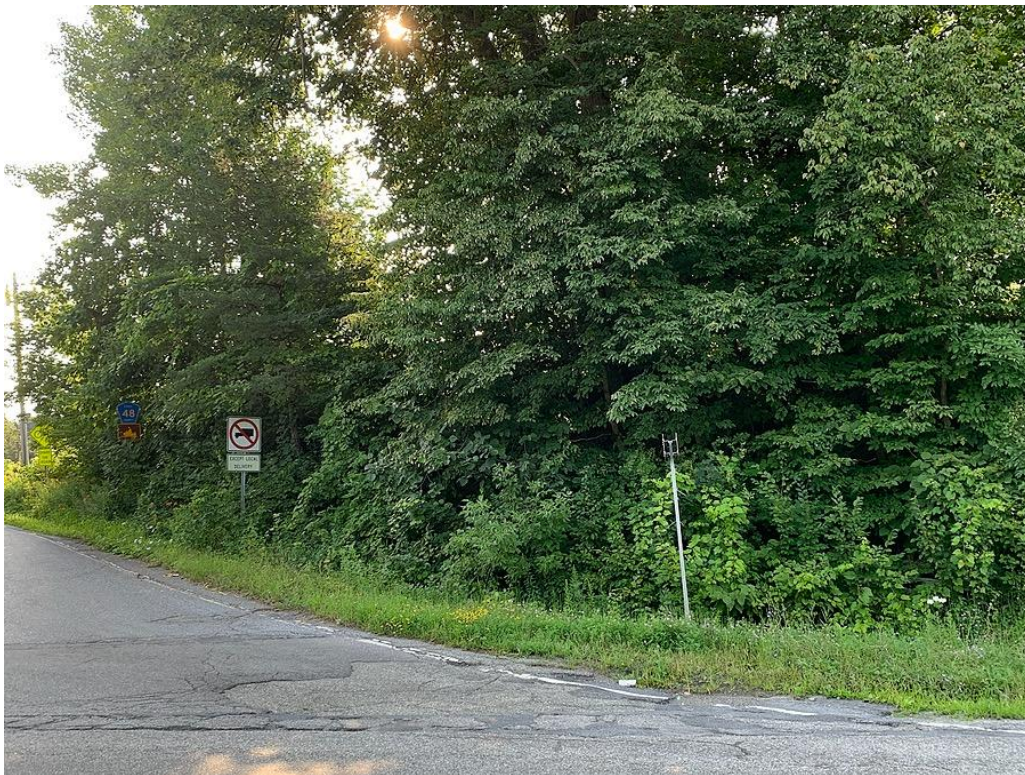


Photo 2: View from Lake Road and Route 22 Intersection. Facing east.







Photo 3: View between proposed driveway and intersection. Facing east.



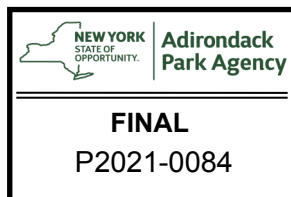


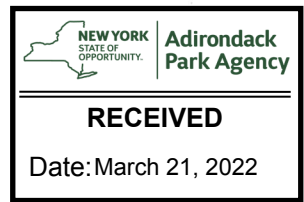


Photo 1: View of evergreen vegetative buffer on southern end of the Project Site from 9N/22, facing north.



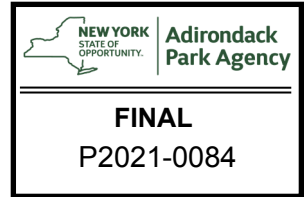
Photo 2: View of evergreen vegetative buffer on southern end of the Project Site, moving south on 9N/22, facing north.





# FOREST MANAGEMENT PLAN

FOR  
Yellow 10 LLC  
of  
2 Winner's Circle Suite 102  
Albany, NY 12203  
Property of Bert Barber



Prepared by  
**Newman Forest & Wildlife Management LLC**  
Daniel Newman – Forester  
100 Sugar Bush Road  
Windsor, NY 13865  
Cell (607) 427-3047  
Home/ Fax (607) 655-1411



As the owner I (we) have reviewed this management plan my (our) forester and I (we) understand the contents and agree that it reflects my (our) goals and intentions for the management of this property. This Forest Management Plan shall be utilized and effective throughout the duration of the life of the solar project on the parcel.

Bert Barber  
Landowner signature

03/10/2022  
Date

Daniel L. Newman-ACF  
Daniel L. Newman-ACF (Mar 14, 2022 11:53 EDT)  
Forester

Mar 14, 2022  
Date






# Forestry Management Plan, updated (03.09.2022)

Final Audit Report

2022-03-14

Created:	2022-03-11
By:	Cipriani Energy (ciprianius@solrealgroup.com)
Status:	Signed
Transaction ID:	CBJCHBCAABAAy313A_G0UiHfYTulVKzuG4n9FyLhU9H

## "Forestry Management Plan, updated (03.09.2022)" History

-  Document created by Cipriani Energy (ciprianius@solrealgroup.com)  
2022-03-11 - 2:36:58 PM GMT - IP address: 72.224.107.204
-  Document emailed to Daniel L. Newman-ACF (newmanforestwildlife@live.com) for signature  
2022-03-11 - 2:37:29 PM GMT
-  Email viewed by Daniel L. Newman-ACF (newmanforestwildlife@live.com)  
2022-03-11 - 3:08:22 PM GMT - IP address: 174.197.208.135
-  Document e-signed by Daniel L. Newman-ACF (newmanforestwildlife@live.com)  
Signature Date: 2022-03-14 - 3:53:55 PM GMT - Time Source: server- IP address: 96.61.145.234
-  Agreement completed.  
2022-03-14 - 3:53:55 PM GMT









Legend

● Maple Ridge Park

📍 12 Lake Rd



## Yellow 10 LLC Forest Management Plan

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5.....	Invasives
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8-11.....	Stand Reports
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12.....	Work Schedule
13-14.....	Definitions of Terms
15-16.....	Food Plot info & Tips
17-19.....	Stand Summary & Tract Summary
20-24.....	Stand Maps
25-36.....	Soil Report & Map
37-38.....	NYS DEC Stumpage Report
39-43.....	Potential Invasives /Hemlock/Lantern Fly
44.....	Forestry Tables/Forestry 101
45-48.....	Indiana Bat Research
49-50.....	What is TSI
51-60.....	Recommendation for bat boxes
61.....	Abbreviations

## **Description of the Property**

This is a flat to Moderately Sloped 16.3 acres in the Southern Adirondack Region of NY. The mostly forested parcel is located off of Lake Road in the town of Crown Point. The property is in Essex County and the tax map number is 117.19-2-1.000. The Log landings are located off of County Route 22 and Lake Road. One is near the house on Lake Road and other off of County 22. "L" on the map delineates the best place for these to be.

Most of the Barber property is wooded, there is 8.3 acres of open area consisting of cleared area for a solar farm and fenced in forested animal pasture or silvo pasture. The most interesting aspect of the property is the history of the property being an old town landfill and now being repurposed as a solar farm. The landowner plans to graze animals within the openings. Artificial roosts will be placed on the north, east, and west sides of the solar panel field.

Cedar and White Pine are the major tree species along with Hemlock, Oak and Aspen. The majority of the valuable timber is in 10–12-inch diameter class. There are two landing sites on the property. The property was recently thinned heavily and mostly pole timber remains with some larger trees in stand 2.

The property boundary lines are in need of fresh paint and corners delineated. It looks as if all corner pins are present and some type of monumentation is there. Property lines should be remarked every 5 years with and good visible forestry paint to establish property boundaries.

Daniel Newman-ACF,NYICF  
Newman Forest & Wildlife Management LLC  
11/10/2021

## **Landowner's Goals**

Yellow 10 LLC wants to manage their property to improve aesthetics, access, timber resource and wildlife habitat. The landowner's goal is to add a solar farm to the pre -existing agricultural use alpaca, equine, and cattle farm. They intend to add more silviculture i.e Christmas tree plantation, hay barn to be erected, Adirondack lean to and an off grid A frame camp. Any future accessory structures will be outside of the 100-foot undisturbed vegetative buffer for the wetlands.

It is understood that through proper management of their forest resources these objectives can be achieved. The property will primarily be used as a solar farm and recreation but timber value, timber harvest, and protecting the soil and water resources are also concerns.

The property has been divided into forest stands based on species composition and/or age class. This plan gives a description of each stand and what management is recommended for each stand.

Yellow 10 LLC's goal is improve the habitat for any potential Endangered Indiana bats along with repurposing the old landfill property.

After solar farm removal in the future the land will remain pastureland for Alpaca. This will allow tree growth for shade and ideal future habitat revitalization to continue to improve.

### **Cruise Methods**

The volumes and basal areas reflected in this report were calculated by use of the Bitterlitsch method by using a 10-factor prism. Plots were taken in each of the stands and the results of the volumes and sizes by species of each of the plots were calculated and are reported herein.

### **Silvicultural Systems**

There are two ways in which a forest stand may be managed, as an even-aged or uneven-aged stand. The age of a stand refers to the difference in ages of the trees within a stand. If most of the trees are relatively close in age, about 15 years, the stand is considered even aged. This generally occurs after a clear-cut, fire, or in a field that has reverted to woods. An uneven aged stand is one that consists of several different age classes. This occurs in older forest stands where mortality, wind, or timber harvesting has created opening in the forest canopy, allowing seedling to grow up under an existing forest stand.

### **Wildlife Management**

Wildlife management is primarily accomplished through the manipulation of habitat and controlled harvests. Habitat manipulation can be as simple as the installing bluebird houses or as complex as a large-scale vegetation conversion. Understanding the habitat requirements for the various species is key to wildlife management. Many species of wildlife use several different successional stages of a forest. These different stages can be maintained though an activity such as a timber harvest. By maintaining several vegetational stages in a relative close proximity, the more diverse the habitat is and can provide the greatest benefits to the greatest number of wildlife species. The addition of features such as food plots, watering holes, brush piles, and snag / den trees may also assist the landowner in achieving the wildlife goals and objectives.

Evidence of, or species likely to be present include but are not limited to; white-tailed deer, black bear, wild turkey, fox, eastern coyote, bobcat, squirrel, raptors, reptiles, invertebrates, and a variety of song birds.

It is the owners' objective to make his property more attractive for the wildlife found here. Favoring trees that produce a hard mast, food for the wildlife, will do this. Trees such as Red and White Oak, Black Cherry and American beech that are healthy should be maintained and released to promote mast production.

When undertaking activities to improve wildlife habitat attention to more valuable timber producing trees must be given and a decision made as to which goal is more important. Also, one has to pay attention to releasing trees such as black cherry; this is because if cherry is released too much of it will start to produce epicormic branches and greatly decrease the economic value of the tree.

Funding for project to promote wildlife habitat may be available through the Natural Resource Conservation Service (N.R.C.S).

Owners will install bat boxes, Plant Balsam trees for their Christmas tree plantation and cut firewood that will promote growth for wildlife habitat with each practice. Firewood cutting should be limited to Oct 1 – March 31.

### **Cost Share Programs**

Several of the practices recommended within this plan may qualify for cost-share assistance. If qualified, application must be made, and approval granted prior to conducting any recommended practices. In order to obtain cost share assistance a landowner must file appropriate paperwork with The Natural Resource Conservation Service. Cost share money is not guaranteed. Cost share is allocated annually and at varying amounts.

Application for cost share under the Natural Resource Conservation Service may be made by contacting:

The Natural Resource Conservation (N.R.C.S)  
Service Center  
7413 County House Road  
Auburn, NY 13021  
(315)-704-6215

### **Spring Seeps**

The development of spring seeps can increase the value of your property for wildlife. Seeps can be especially valuable in the wintertime if they flow enough water keep the ground from freezing and becoming buried with snow. This allows the wildlife to find food easily in the winter and early spring when good food sources are scarce. The enhancement of a seep can be as simple as opening up the seep so that it flows enough not to freeze.

With the wetlands on the property there is area for turkeys and deer to winter. Invasives are present and need to be controlled so wet areas are full of native browse.

### **Thinning**

A thinning would reduce the number of trees per acre; this would encourage the remaining tree to grow faster and reduces the stands susceptibility to insect infestation and disease. This is mainly due to the practice of removing the smaller, poorly formed, and unhealthy trees during a thinning.

Snag trees will be removed for the safety of the humans and livestock. The property is known for high winds which can result in “widow makers”.

### **Establishment of Natural Regeneration**

Where undesirable species such as dying beech, striped maple and ferns invade the understory it is difficult to establish regeneration of desirable species such as black cherry and other commercially valuable species. As a stand is harvested and they cannot naturally regenerate, due to ferns or striped maple, it can quickly go from a commercially valuable stand to a scrub brush stand. If this occurs it might be necessary to treat the stand chemically and kill the unwanted species or clear an area of the stand mechanically and start over again either naturally or by reforestation.

### **Reforestation**

If reforestation is needed to get a stand to start growing through the planting of native species several steps should be taken to ensure the planting is successful. The first step is to properly prepare the site by removing all the competing species. The trees should be planted in appropriate spacing depending on species. If deer browse is an issue either a deer fence needs to be erected or tree shelter need to be installed over the trees.

I have planted very valuable Grafted Black Walnut trees and the best deer repellent I have used to deter browsing is a mix of Eggs and Whole Milk sprayed at certain times of the year. This method really seems to work well. Give us a call and we can help!

### **Recreation and Aesthetics**

The property is currently used for hunting, relaxing, and pride of ownership and simply enjoying the solitude nature provides. Timber management can enhance the recreational opportunities through the creation of trails throughout the property while maintaining the aesthetic values of the property.

Yellow 10 LLC has plans to rehabilitate the property and make habitat suitable for the rare plants and animals which includes planting trees like sugar maples and Shagbark Hickory. They have recently planted some around the property. Fencing will be upgraded, and new fencing will be installed which will require tree removal.

### **Potential for Rare and endangered species**

The search was done through The New York State DEC Environmental Resource Mapper for the Location around 12 Lake Road, Crown Point, NY



I included my search map showing the areas of Significant Natural Communities in Pink and Rare and Endangered Plants and Animals in Orange.

### **Ginseng and Mushrooms**

I didn't notice and ginseng on the property but there is potential in hard maple and basswood areas. It usually grows in the older section of the woods.

I didn't notice any special mushrooms on the property but there may be some exotics, some edibles, and some poisonous ones. I have recently taken interest in mushrooms and enjoy looking for them with my kids. We like to find chicken of the woods. They are very good eating and a good one to start with.

### **Forest Health and Fire Protection**

The only disease readily found on the property was emerald ash borer. Other than that, the forest is in good health. Occasionally high populations of insects or disease pathogens encounter favorable conditions and outbreaks occur. Periodic inspections and a healthy, vigorous stands of trees are the best defense against major problems. In my travels through the property, I did observe a few invasive species, and periodic inspections should be carried out to insure that invasive species don't take a hold on the property after any eradication effort takes place.

The goal of management is to have a healthy viable forest, which provides a diversity of species and habitat for wildlife. Due to the nature of the northern hardwood forests and relatively moist conditions that they live in the chances, of a forest fire happening naturally is rare.

### **Invasive Species**

I did notice Invasive species during my field visit. Periodic inspections and vigilance to eliminate them when you see them are always good ideas. The most common these days are multiflora rose and honeysuckle. These two I tend to see in these parts of New York. There is a overwhelming amount of multiflora rose and honey suckle on the property. These need to be controlled potentially with herbicide so proper regeneration can happen.

Cutting down the multiflora rose to a more manageable level so that it can be sprayed with a herbicide is good route to take in controlling it. There is good regen where the canopy was opened so potential is there. Removing invasives should be first step.

### **Access for Future Timber Harvest**

Access for future timber harvest should be accessed off of State Route 22. The current log landing is suitable for a small harvest. The new roads established during the next harvest will establish better access to farther portions of the property.

### **Landing area for Forest Products**

There is a small current log landing near the house and off of State Route 22.

### **Landing Area**

During forest management activities the forest products sold are loaded onto trucks on a landing area. This area should be just large enough to accommodate the equipment expected to be used in the harvest operation. The landing should be located on a gently sloping area and where it is not readily visible from the road or other sensitive areas. Upon completion of the harvest activity the landing should be graded, seeded and mulched to prevent erosion of the soil. The landing area is off the road and not visible which is a plus.

### **Soil and Water Conservation**

The property is in pretty good shape and does not need soil erosion structures at this time. They can wait until the next time a harvest is completed for areas that are in minor need of them. All the old logging roads have good vegetation holding the soil and preventing erosion.

The relatively flat to rolling topography on this property requires care and attention to details in harvesting, road layout and construction. The soils listed for the Yellow 10 LLC property are in the Essex County Soil Survey and as follows in the Soils Report.

Additional information on soils may be obtained through the county soil and water conservation office:

Essex County Soil and Water Conservation District  
8053 U.S 9  
Lewis, NY 12950

### **Access trail**

An existing trail system throughout the property serves to enhance the value of the property to the landowner in many ways. Trail systems allow access to the different areas of the property so that work can be done within the property. They also aid in fire prevention activities should the need arise. With a well-established and maintained trail system people can hike without getting lost, wildlife can utilize the trails to move through the woods quickly and quietly. Trails need to be carefully laid out in order to avoid environmentally sensitive areas.

There is not many trails around the property. The ones there are, are in good shape erosion wise and have vegetation holding them together. What they need is to be cleaned out of small branches and cleaned up as to access the back corners of property. There are plans to improve roads very soon.

An Adirondack lean-to will be put on the south-east corner. It is planned to coincide with the existing trail system.

**Skid trails**

Timber harvesting equipment used to transport logs from the woods should be confined to designated trails. This will protect residual timber, reduce impact on soil and water resources and improve post-harvest aesthetics. Although the standards for a skid trail are lower than that of an access road, attention to detail in layout and construction is critical.

Skid trails are generally roughed-in using a dozer. Primary trails should be 15% slope or less. For short distances (<100') grades can run up to 20%, but must be reduced to <15% for a minimum of 300' above and below the increased grade.

The chart below identifies the recommended spacing:

Skid trail grade %	Distance between water bars in feet
1	400
2	245
5	125
10	78
15	58
20	47
25	40

To properly stabilize skid trails, water bars must be installed after logging is complete. Water bars are narrow ridges (like "speed Bumps") of soil material constructed across trails. The structures are usually built using a bulldozer. To effectively move water from the trail, water bars should be installed at about a 30-degree down-slope. The down slope end must be kept open to allow water to flow out. Water bars need to be installed on either end of a steep slope. See appendix for proper construction of water bars.

**Riparian/Wetland Areas**

There are many areas on the property that are classified as wetlands. To protect the water resource SMZ's are to be designated prior to road construction or harvesting, and protected during harvest operations. The following are guidelines to identify and protect SMZ's in these areas.

Discourage any disturbance within 10 feet of a water body.

Trees to be felled away from streams and wetlands.

Operate log skidders at least 50 feet from a stream, pond or wetland; 150 feet for slopes greater than 30 %

**The property has no federally protected wetlands in a search in NYS Environmental Explorer.**

The purpose is to protect the stream and sensitive soils around the deep drop-offs associated with the stream area.

The known occurrence of Indiana Bats in the area will put extra attention on conserving any known swamps and wet areas on the property.

### **Forest type map**

The forest type map of the property has a lot of information that is represented by symbols. Each stand has a block of information. The stands are numbered and used for identification purposes. Approximate acreage is given to the stand. Type is the forest type. The forest type is based upon observed associations between species and is documented by a classification system. Size class is the classification of trees sizes based on diameter range. The accepted size classes are:

Seedling/Sapling	(SS): <4"
Pole Timber	(PT): 4 – 11"
Saw Timber	(ST): 12"+

Site class is a determination on the land's ability to produce forest crops with "I" being the best site and "III" being the site least suitable for good tree growth. I provided a few stand maps as well as a blank for landowners to make their own so they can document important areas.

### **Forest work schedule**

At the end of the plan a work schedule has been included showing when work has been scheduled in each area and what cost sharing monies are being applied for.

### **Stand Reports**

#### **Stand 1**

Acres: 2.5

Site Class: 2

Basal area: 72

Trees per acre: 175 trees/ac

Species composition: Northern White Cedar 42% White Pine 19% ,Red Oak 14%, Aspen 8.3% Cottonwood 5.6%

Diameter class: Pole Timber

Average DBH 8.7

Management: Even Age

#### **Stand Description**

This is a 2.5 acre Cedar/ White Pine Pole timber stand. The main species within the stand is Cedar and White Pine. The topography of the stand is gently to rolling. This stand is in good health and has some decent quality red oak coming. The stand was

recently heavily thinned of the larger diameter trees. There are no restrictions on Stand 1 (2.5 acres)

The stand has some standing snags which will be suitable for bat roosting sites.

**Soils:**

Soil Type is defined in soil report.

**Soil Descriptions:** Within soil report

Soils here are 1-2 feet deep. This stand drains poorly and would hold up to forest management activities well in the dry of late summer or hardness of winter. I always recommend harvests when ground tends to be the hardest in the cold of winter or dry of early fall. Our weather is ever changing and the dry of early fall seems to be best time for a harvest. **With Known Indiana Bats to be in the area any harvesting of trees 4 dbh” in diameter and up should be done only from October 1<sup>st</sup> to April 1<sup>st</sup>.**

Management objective and treatment

The objective for this stand is to maintain the present forest type. This stand needs the invasives controlled before any canopy thinnings are conducted again. Multiflora rose and honey suckle should be mechanically chopped for one years and a herbicide in year two to eradicate. The stocking levels are currently adequate.

Removing Invasives would be step 1 to getting stands back to good health and thriving. Planting some shagbark hickory saplings in the areas that are cleared of invasives will be good for future Indiana Bat Habitat. Along with Hickory and Black Locust because of their exfoliating bark are preferred by the bats.

The standing snags should be left alone for bat roosting sites. Some shagbark hickory could be planted for future bat roosting sites. Installing some artificial bat roosting sites would help in this stand because of the lack of larger trees in the stand.

**Treatment**

Mechanical or chemical treatment of Multiflora rose and Honey Suckle to encourage better Regeneration of young trees. Planting some Sugar Maples for the future in these openings from eradication of Invasives along with shagbark hickory.

Identifying potential roost trees and marking them for protection should be a part of first few years of management.

**Stand 2**

Acres: 5

Site Class: 2

Basal area: 85 ft/ ac

Species composition: Cedar/ Hemlock

Diameter class: Pole timber

Average Dbh: 10.3

Trees Per Acre: 146

Management: Even Age



### Stand Description

This stand is on gentle slope to the west and moderate slope to the east with decent access with one maintained trail. Oak is the dominant species on the neighbors but most has been cut harvested now cedar and hemlock remain. Stand is along the southern border.

Soils: Within soils report

Soil Descriptions: In soils report

### Management objective and treatment

The objective for this stand is to maintain the present forest type under an even-aged management. This is a recently high graded stand and has some potential in scattered hardwoods that show signs of good quality and nice timber on the neighbors.

There are some larger cottonwood and locust within the stand which could be Indiana Bat roosting sites. This stand looks to be in good health with some younger hardwoods remaining like sugar maple and Yellow Birch.

This stand is where the Adirondack lean- to will be added. It will be 50 feet from the creeks edge on pre existing trail, no soil will be disturbed. Stand 2 will have no tree cutting for the duration of the lease for trees 4-inches diameter at breast height (dbh) No cutting on Stand 2, forever wild, not pasture land.

### Treatment

In the non-grazing areas, but not in non-grazing areas, as delineated on the map the following will apply: identifying the trees that are detrimental or less attractive to bat roosting and marking them for elimination and replanting favorable trees should be done year one.

Girdling some of the larger potential roost trees that are of poor health to add to the potential roost sites could be accomplished in the early years of the plan. Girdling of 2-3 - --10" and greater in diameter roost trees would be adequate per acre.

A forest inventory of potential roost trees should be done in year one before any girdling is done.

Maintain a supply of large diameter cull trees for long term retention. 18" and greater preferred.

-2 trees/acre less than 10 inches dbh

-4 trees/acre between 10 and 18" dbh

-1 tree/acre greater than 18" dbh

Maintain a 25-foot forested buffers along streams and wetlands. Preferably interconnected to forest stands of suitable foraging habitat.

Hickories and Black Locust are favored trees and any trees with exfoliating bark.

Installing artificial bat roosting sites would be ideal in these areas.

Red Cedar will be thinned due to over stocking. Timber will be used as fence posts on the property. Stand 1 will be pastureland for cattle and/or equine.

### **Recommended Practices and Cost Share Source**

It must be understood that cost sharing of any of the following practices are subject to available funds and there is no guarantee of any funding stated from potential source.

<u>Practice</u>	<u>Stand Number</u>	<u>Potential cost share source</u>
F.S.I. 666	2,1	N.R.C.S
Designation of trees	2,1	N.R.C.S

Management Plan Work schedule

**Owner:** Yellow 10 LLC

**Mailing Address:** 125 Wolf Road Suite 312 City: Colonie State: NY Zip Code: 12205

**Property:** 12 Lake Road, Crown Point, NY 12928

**Telephone (home): (cell): (518)-390-4004 County: Essex Town: Crown Point**

---

Municipal code\_214200\_ \_\_\_\_ ID code\_\_\_\_ Roll year

Roll ID \_\_\_\_

Tax Map numbers: 117.19-2-1.000

Deed (Liber page): \_\_\_\_\_

←-----Crown Point-----→Essex

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2022	to	2023	Animal Shelter erected on Lake Road by tree farm, Fencing as Time Permits, Balsam trees for Christmas tree plantation, bat boxes2023
	to	2024	Adirondack lean-to may be erected from cedar on the property
2024	to	2025	no treatment
2025	to	2026	Off grid A-Frame at staging house site will be built
2026	to	2027	5 year update Paint Boundary Lines
2027	to	2028	No Treatment
2028	to	2029	no treatment
2029	to	2030	no treatment
2030	to	2031	no treatment
2031	to	2032	10 year update (paint boundary lines)
2032	to	2033	no treatment
2033	to	2034	no treatment
2034	to	2035	no treatment
2035	to	2036	no treatment
2036	to	2037	15 year update
2037	to	2038	no treatment
Periodically through out			cut firewood, food plots, watering holes, brush piles,

## **DEFINITION OF TERMS**

### **Forest Stand**

**s:** an Aggregation of trees or other growth occupying a specific area and sufficiently uniform in species composition, arrangement or condition so as to be distinguishable from adjacent areas.

**Silviculture:** The method of managing forest stands to improve growth rates and quality of trees.

**Basal Area/Density:** The total cross sectional area of all living tree stems expressed as square feet per acre and measured at a point four and a half feet above the ground.

**Site class:** The classification of the stand in terms of the inherent capacity to grow crops for commercial harvest cuttings.

**Pathogens:** Forms of disease that affects certain species of trees.

**Diameter Class:** one of several classifications of tree stems in a stand.

**Seedling-sapling (ss):** The majority of dominant and co-dominant trees are less than 5.5 inches in DBH.

**Pole timber (pt):** The majority of dominant and co-dominant trees are between 5.6 inches and 11.5 inches DBH.

**Saw timber (st):** The majority of dominant and co-dominant trees are 11.6 inches DBH and larger.

**Diameter at breast height (DBH):** The diameter of a tree measured four and a half feet from the ground.

**Stabilization Structures:** Those devices used to prevent or reduce erosion to the forest stand and/or roads.

**Commercial Thinning:** Removal of those trees that have a value for the market place.

**Non-Commercial thinning:** removal of those trees with no value for the market place.

**Thinning:** That type of silvicultural operation that removes a limited number of stems from a stand for the purpose of enhancing the growth in the remaining stems.

**Riparian Zone:** an area of three-dimensional ecotones of interaction that include terrestrial and aquatic ecosystems that extend down into the groundwater, up above the canopy, outward across the floodplain, up the near-slopes that drain to the water, laterally into the terrestrial ecosystem, and along the watercourse at a variable width

NYSBMP: New York State Best Management Practices

SMZ: Stream-side Management Zone



## **Food Plots**

I have included some info in this management plan about food plots. Types of plants that can be planted and their appropriate PH levels. Soil testing first is one of the most important time and money savings things you can do!

I have a lot of tips and ideas I have learned throughout my ten years of planting all kinds of foodplots and all types of see varieties!

Here are a few tips that are important to know.

Turnips (After November 10<sup>th</sup>)

1. Turnips (late season attraction- annual) turnips need a good somewhat deeper seed bed that's loose so when they grow and expand in the soil so they can grow deeper. If its rocky and no fluff to the soil, they won't grow well. A seed bed that's been turned over for more than 2 years can work well.
2. Adding an all nitrogen (urea) fertilizer 30 days after planting can give turnips a huge boost in growth. Be cautious though if there is a good amount of grass seed in seed bed the nitrogen will also encourage the grass and you will be spraying for grass in the spring.
3. Most all the name seed varieties are as good or better than generic seed and are modified to be cold tolerant and graze tolerant. Spend a bit more money and get more yield!!
4. Turnips should be on rotation. 2 years in a row is most they can do in one spot.

Clover

Early-mid season attraction (perennial) most cost effective plot out there. Can last 5-7 years with good maintenance.

1. Clover is harder to get established in year one and must be planted in May to early June to get established. The second year of a clover plot is the best year. Especially if planted later.
2. You can get by liming and fertilizing every other year but should add some lime and fertilizer every year. Some soils depending on slope and depth hold the PH better than others.
3. Mowing, Mowing and mowing is the most important weed controller in clover. On average a clover plot in our area of the Northeast must be mowed 6-8 times a season. When weed plants makes a seed head you will just spread it around by mowing. Mow more so they don't get established. Don't wait until plot is a 12" or higher to mow.
4. Frost seeding works well each year in March to help keep plot going.
5. Grass is the biggest competitor to clover use Whitetail institute arrest to control grasses. Only spray when the temp is above 75 degrees. That's when it's the most effective.

Ask about other food plot types as well, I enjoy helping anyone I can through my experiences!

Daniel Newman-ACF,NYICF

125 Wolf Road suite 312  
 Colonie, NY 12205

### TRACT SUMMARY

**TRACT INFO**                      2 STANDS

ACRES 7.5                              20 PTS

**STATISTICAL ANALYSIS**

Confidence Interval	90%	VOLUME PER ACRE			
		BA	TPA	MBF	CORDS
Average		78.5	160.8	0.49	5.13
Sampling Error		12.1%	16.5%	46.6%	13.7%
Probable Lower Limit		69.0	134.2	0.26	4.44
Probable Upper Limit		88.0	187.4	0.72	5.82

**SPECIES COMPOSITION**

						VOLUME PER ACRE		TOTAL TRACT VOLUME	
	BA	TPA	AVG DBH	AVG MHT	MBF	CORDS	MBF	CORDS	
	78.5	160.8	9.5		0.49	5.13	3.69	38.46	
Northern White Cedar	28.5	36.3%	76.7	8.3	8.4	0.03	1.75	0.22	13.14
white pine	12.5	15.9%	28.4	9.0	8.0		0.88		6.58
eastern hemlock	12.0	15.3%	14.7	12.2	10.7	0.33	0.76	2.46	5.66
Red Oak	5.0	6.4%	12.0	8.8	9.6	0.04	0.19	0.32	1.46
Bigtooth Aspen	4.5	5.7%	4.8	13.1	9.8	0.05	0.24	0.34	1.83
Black Birch	4.0	5.1%	7.2	10.1	10.0		0.39		2.93
Eastern Cottonwood	4.0	5.1%	6.4	10.7	9.0	0.05	0.24	0.36	1.83
Basswood	2.5	3.2%	1.9	15.5	9.6		0.20		1.47
sugar maple	2.5	3.2%	3.6	11.3	8.0		0.24		1.83
Honeylocust	2.0	2.5%	1.7	14.7	10.0		0.16		1.19
Black Cherry	0.5	0.6%	2.5	6.0	8.0		0.02		0.18
White Oak	0.5	0.6%	0.9	10.0	8.0		0.05		0.37

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 Windsor, NY 13865



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 Colonie, NY 12205

**STAND SUMMARY**

**STAND 1**

Sampling Method: Variable Radius Plots

ACRES 2.5

Basal Area Factor: 10.00 10 PTS

**STATISTICAL ANALYSIS**

Confidence Interval	90%	VOLUME PER ACRE				
		BA	TPA	DBH	MBF	CORDS
Average		72.0	175.4	8.7	0.26	4.72
Sampling Error		17.7%	22.1%		102.8%	16.8%
Probable Lower Limit		59.2	136.6			3.92
Probable Upper Limit		84.8	214.1		0.54	5.51

**SPECIES COMPOSITION**

	BA		TPA	AVG DBH	AVG MHT	VOLUME PER ACRE		TOTAL STAND VOLUME	
		%				MBF	CORDS	MBF	CORDS
	72.0		175.4	8.7		0.26	4.72	0.66	11.80
Northern White Cedar	30.0	41.7%	90.4	7.8	8.0		1.90		4.76
white pine	14.0	19.4%	35.3	8.5	8.0		1.02		2.56
Red Oak	10.0	13.9%	23.9	8.8	9.6	0.13	0.58	0.32	1.46
Bigtooth Aspen	6.0	8.3%	6.4	13.1	10.7	0.14	0.29	0.34	0.73
Eastern Cottonwood	4.0	5.6%	3.6	14.2	8.0		0.29		0.73
Basswood	3.0	4.2%	2.3	15.4	8.0		0.22		0.55
Black Birch	2.0	2.8%	6.0	7.8	8.0		0.15		0.37
Honeylocust	2.0	2.8%	2.2	12.9	12.0		0.18		0.46
Black Cherry	1.0	1.4%	5.1	6.0	8.0		0.07		0.18

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**STAND SUMMARY**

**STAND 2**

Sampling Method: Variable Radius Plots

ACRES 5.0

Basal Area Factor: 10.00 10 PTS

**STATISTICAL ANALYSIS**

Confidence Interval	90%	VOLUME PER ACRE				
		BA	TPA	DBH	MBF	CORDS
Average		85.0	146.3	10.3	0.61	5.33
Sampling Error		18.0%	28.1%		64.7%	23.4%
Probable Lower Limit		69.7	105.1		0.21	4.08
Probable Upper Limit		100.3	187.4		1.00	6.58

**SPECIES COMPOSITION**

	SPECIES COMPOSITION		VOLUME PER ACRE				TOTAL STAND VOLUME		
	BA	TPA	AVG DBH	AVG MHT	MBF	CORDS	MBF	CORDS	
	85.0	146.3	10.3		0.61	5.33	3.03	26.67	
Northern White Cedar	27.0	31.8%	62.9	8.9	8.9	0.04	1.68	0.22	8.38
eastern hemlock	24.0	28.2%	29.5	12.2	10.7	0.49	1.13	2.46	5.66
white pine	11.0	12.9%	21.5	9.7	8.0		0.80		4.02
Black Birch	6.0	7.1%	8.3	11.5	10.7		0.51		2.57
sugar maple	5.0	5.9%	7.2	11.3	8.0		0.37		1.83
Eastern Cottonwood	4.0	4.7%	9.2	8.9	10.0	0.07	0.22	0.36	1.10
Bigtooth Aspen	3.0	3.5%	3.2	13.1	8.0		0.22		1.10
Basswood	2.0	2.4%	1.5	15.6	12.0		0.18		0.92
Honeylocust	2.0	2.4%	1.2	17.7	8.0		0.15		0.73
White Oak	1.0	1.2%	1.8	10.0	8.0		0.07		0.37

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United States  
Department of  
Agriculture

NRCS

Natural  
Resources  
Conservation  
Service

A product of the National  
Cooperative Soil Survey,  
a joint effort of the United  
States Department of  
Agriculture and other  
Federal agencies, State  
agencies including the  
Agricultural Experiment  
Stations, and local  
participants

# Custom Soil Resource Report for Essex County, New York

Yellow 10 LLC



November 10, 2021



# Preface

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Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (<http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/>) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (<https://offices.sc.egov.usda.gov/locator/app?agency=nrcs>) or your NRCS State Soil Scientist ([http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2\\_053951](http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951)).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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# How Soil Surveys Are Made

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Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil



## Custom Soil Resource Report

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

## Custom Soil Resource Report

identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

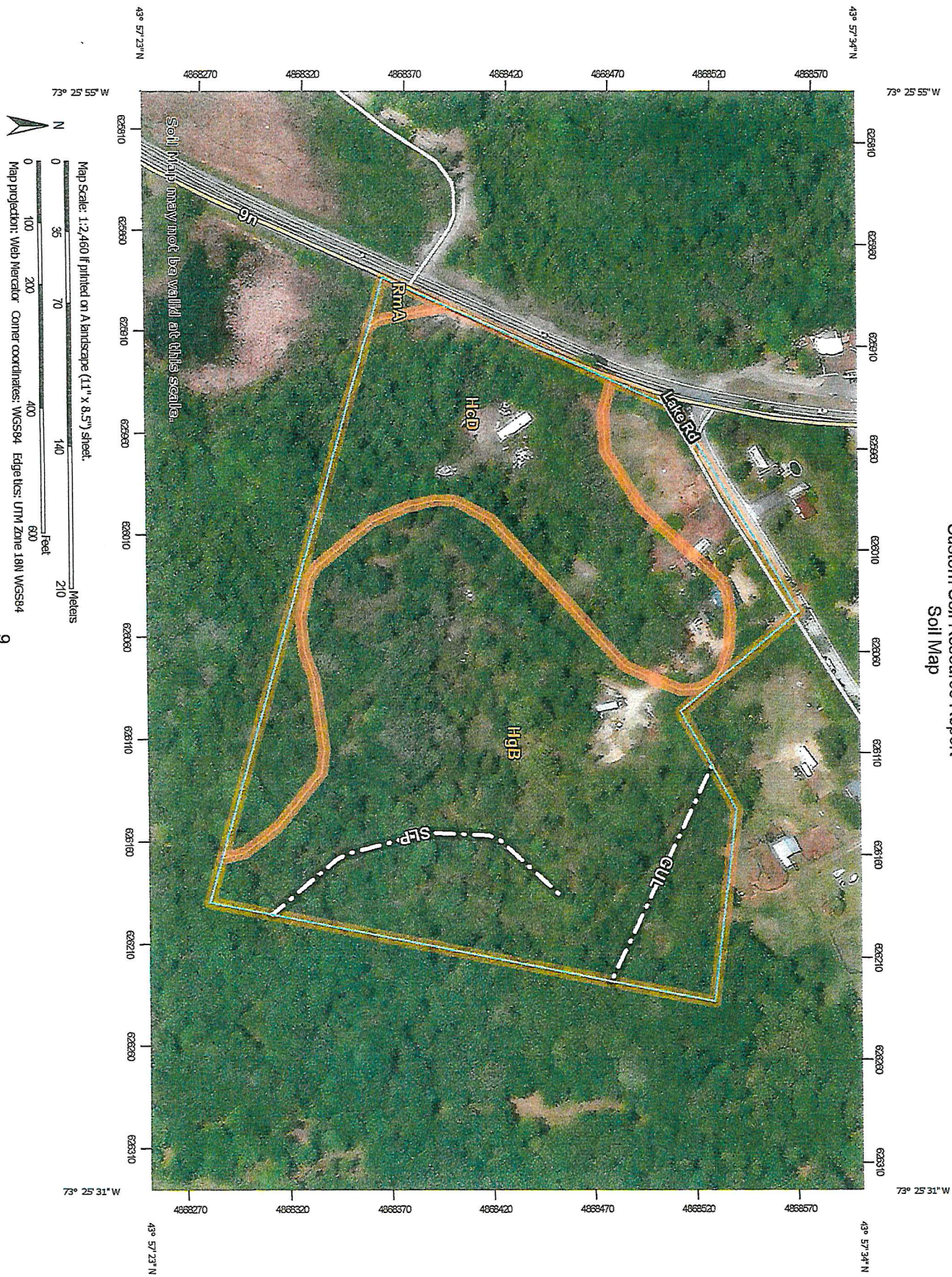
## Soil Map

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The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.



Custom Soil Resource Report  
Soil Map





### MAP LEGEND

	Area of Interest (AOI)		Spoil Area
	Area of Interest (AOI)		Stony Spot
	Soils		Very Stony Spot
	Soil Map Unit Polygons		Wet Spot
	Soil Map Unit Lines		Other
	Soil Map Unit Points		Special Line Features
	Special Point Features		Water Features
	Blowout		Streams and Canals
	Borrow Pit		Transportation
	Clay Spot		Rails
	Closed Depression		Interstate Highways
	Gravel Pit		US Routes
	Gravelly Spot		Major Roads
	Landfill		Local Roads
	Lava Flow		Background
	Marsh or swamp		Aerial Photography
	Mine or Quarry		
	Miscellaneous Water		
	Perennial Water		
	Rock Outcrop		
	Saline Spot		
	Sandy Spot		
	Severely Eroded Spot		
	Sinkhole		
	Slide or Slip		
	Sodic Spot		

### MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

**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: Essex County, New York  
 Survey Area Data: Version 21, Sep 1, 2021

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jun 28, 2012—Mar 29, 2017

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.

## Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
HcD	Howard very cobbly loam, 15 to 25 percent slopes	5.2	32.2%
HgB	Howard gravelly loam, 2 to 8 percent slopes	10.9	67.2%
RmA	Rippowam fine sandy loam, 0 to 3 percent slopes	0.1	0.6%
<b>Totals for Area of Interest</b>		<b>16.2</b>	<b>100.0%</b>

## Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or

## Custom Soil Resource Report

landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

# Stumpage Price Report

## Summer 2021/ #99

The Stumpage Price Report is published semi-annually (January/July) by:

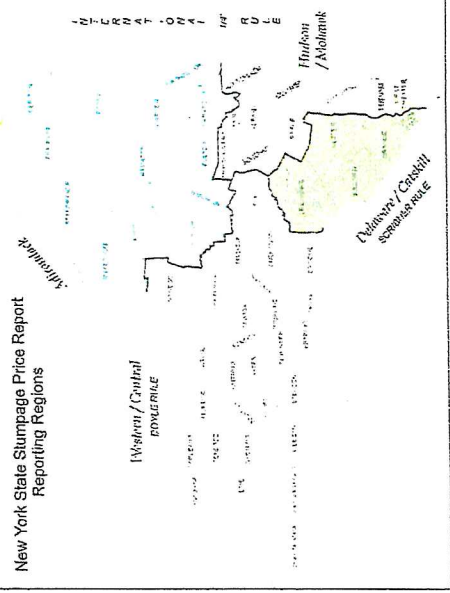
**NEW YORK STATE OF OPPORTUNITY**  
**Department of Environmental Conservation**  
**DIVISION OF LANDS AND FORESTS**  
 625 Broadway, 5<sup>th</sup> Floor, Albany, NY 12233-4250  
 P: (518) 402-9405 IF: (518) 402-9028 [www.dec.ny.gov](http://www.dec.ny.gov)



Report prices are provided to DEC voluntarily by various buyers and sellers of standing timber in four price-reporting regions. Prices should be considered historical since the reports provided reflect prices paid over a six-month period previous to the printing of this report. They are intended to serve **ONLY AS A GUIDE** in understanding the market value of timber. The actual market value of timber can be significantly influenced by many factors, some of which are provided below. Reported prices likely reflect the influence of these factors to varying degrees. The report is not intended to substitute for an appraisal or other determination of value by a forest professional. Use of this report for any purpose other than as a rough guide to standing timber values should be done with caution.

### Some Factors Affecting Value of Standing Timber

1. Timber quality
2. Volume to be harvested per acre
3. Variability of terrain
4. Market demand
5. Distance to market
6. Season of year
7. Distance to public roads
8. Costs of harvesting
9. Size of timber
10. Species mix
11. Type of logging equipment
12. Landowner requirements for harvest
13. Landowner knowledge of values
14. Insurance costs
15. Performance bond and other requirements

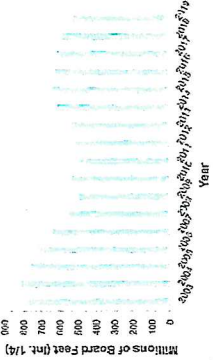


### Definitions:

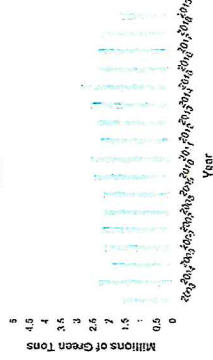
- Low Price Range** - reported range of the absolute lowest price paid by survey respondents over the last six months.
- Average Price Range** - reported range of the average price paid for "middle quality" timber by survey respondents over the last six months.
- High Price Range** - reported range of the absolute highest price paid by survey respondents over the last six months.
- Median** - One half of reported prices are higher and one-half are lower than this price figure.
- Doyle, International 1/4" and Scribner Rules** - Provide an estimated volume in board feet of a given tree or stand of trees. In most cases, each rule will provide a different volume estimate when applied to identical trees. Each region of the state has a most commonly used rule, but the use of other rules in a region is possible.

\* all price figures in this cell were produced from less than 20 survey responses.  
 \*\* all price figures in this cell were produced from less than 5 survey responses.  
 NR—No Report

New York Log Harvest 2003-2019



New York Pulpwood and Chips Harvest 2003-2019



### 2019 NYS Industrial Timber Harvest Production and Consumption Report

The DEC Forest Utilization Program has recently completed its annual look at the type, volume, and use of the 2019 New York State industrial timber harvest.

#### The following are a few highlights:

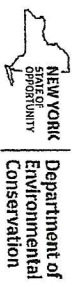
- Total timber harvest production level was 124 million cubic feet. The primary products produced were logs (517 MMbf) and pulpwood & chips (1.6 MM green tons).
- More than 91% of New York's log harvest was comprised of just eight species: sugar maple, white ash, red maple, red oak, black cherry, white pine, white oak and red pine. Sugar maple alone accounted for more than one-half of total log production.
- Approximately 17% of New York's production was exported. (67% logs/ 33% pulpwood & chips). About 62% of export volume was shipped to Canada, with the balance going to mostly direct neighbor states.

The complete report is available on-line: <http://www.dec.ny.gov/forestry> or by contacting the Forest Utilization Program directly.

### DEC Regional Forestry Offices Contact Information

- REGION 1**  
SUNY@Stonybrook  
50 Circle Rd.  
Stony Brook, NY 11790  
(631) 444-0354
- REGION 2**  
1 Hunters Point Plaza  
4740 21st Ct.  
City, NY 11101  
(718) 482-4800
- REGION 3**  
21 South Felt Corners Rd.  
New Paltz, NY 12561  
(845) 256-3000
- REGION 4**  
1130 North Westcott Rd.  
Schenectady, NY 12308  
(518) 357-2355
- REGION 5**  
1115 State Rte. 86, PO Box  
299 Ray Brook, NY 12877  
(518) 897-1200
- REGION 6**  
317 Washington St.  
Watertown, NY 13601  
(315) 785-2239
- REGION 7**  
1285 Field Ave.  
Cortland, NY 13845  
(607) 753-3065, Ext. 221
- REGION 8**  
P.O. Box 594  
2715 State Rte. 80  
Sherburne, NY 13460  
(607) 674-4017
- REGION 9**  
182 E. Union St., Suite 3  
Allegany, NY 14760  
(716) 372-0045

625 Broadway — 5<sup>th</sup> Floor  
 Albany, NY 12233-4253





Species	Western/Central Doyle Rule			Adirondack International 1/4" Rule			Hudson/Mohawk International 1/4" Rule			Delaware/Catskill Scriber Rule			New York State Shrapnel Price Report Summer 2021/#99
	Low Price Range (Median)	Average Price Range (Median)	High Price Range (Median)	Low Price Range (Median)	Average Price Range (Median)	High Price Range (Median)	Low Price Range (Median)	Average Price Range (Median)	High Price Range (Median)	Low Price Range (Median)	Average Price Range (Median)	High Price Range (Median)	
<b>Most Common Species</b>													
Ash, White	150-700* (400)	400-600* (575)	450-1100* (650)	100-200* (150)	160-500* (250)	220-400* (270)	200-320* (260)	250-420* (330)	300-500* (400)	NR	NR	NR	NR
Cherry, Black	400-700* (600)	200-1200* (600)	000-1700* (1100)	130-320* (200)	200-670* (430)	300-500* (430)	337-337* (337)	371-371* (371)	714-714* (714)	NR	NR	NR	NR
Maple, Red (Soft)	150-600* (350)	350-600* (450)	450-800* (625)	100-200* (150)	120-480* (220)	170-520* (280)	NR	NR	NR	NR	NR	NR	NR
Maple, Sugar (Hard)	250-600* (200)	320-1200* (675)	700-2200* (1150)	220-350* (330)	350-670* (480)	420-600* (480)	337-337* (337)	714-714* (714)	1071-1071* (1071)	NR	NR	NR	NR
Oak, Red	250-600* (400)	370-430* (625)	500-1100* (750)	170-320* (300)	250-500* (400)	370-600* (510)	200-327* (270)	400-460* (430)	600-571* (585)	NR	NR	NR	NR
Pine, White	80-120* (100)	130-170* (130)	100-230* (120)	100-120* (100)	100-140* (120)	120-160* (130)	60-60* (60)	64-30* (72)	90-80* (80)	NR	NR	NR	NR
<b>Less Common Species</b>													
Aspen	35-35* (35)	30-30* (30)	40-40* (40)	30-50* (35)	40-60* (50)	50-90* (60)	NR	NR	NR	NR	NR	NR	NR
Basewood	70-240* (90)	130-430* (200)	200-600* (400)	40-80* (50)	50-100* (70)	70-200* (100)	NR	230-230* (230)	337-337* (337)	NR	NR	NR	NR
Beech	NR	NR	NR	25-30* (25)	30-80* (40)	60-120* (80)	NR	NR	NR	NR	NR	NR	NR
Birch, Yellow	70-200* (240)	130-370* (320)	330-400* (420)	120-220* (200)	170-330* (250)	220-400* (300)	NR	NR	NR	NR	NR	NR	NR
Birch, White	NR	NR	NR	120-250* (200)	50-600* (300)	220-400* (300)	NR	NR	NR	NR	NR	NR	NR
Birch, Black	70-240* (100)	130-370* (200)	220-400* (300)	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Butternut	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Hemlock	30-80* (50)	50-120* (70)	70-200* (110)	30-50* (40)	40-60* (50)	50-100* (70)	NR	30-30* (30)	NR	NR	NR	NR	NR
Hickory (spp.)	60-200* (110)	70-300* (150)	100-400* (250)	60-70* (60)	60-260* (100)	120-160* (160)	NR	NR	NR	NR	NR	NR	NR
Larch	70-300* (140)	130-420* (200)	240-300* (230)	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Oak, Chestnut	300-530* (320)	470-600* (600)	600-800* (700)	30-80* (30)	60-100* (80)	100-500* (400)	200-200* (200)	250-250* (250)	400-400* (400)	NR	NR	NR	NR
Oak, White	200-800* (430)	320-800* (670)	430-1000* (600)	120-330* (210)	170-440* (300)	200-530* (350)	200-420* (310)	300-214* (300)	400-337* (337)	NR	NR	NR	NR
Oak, Black	150-300* (220)	220-400* (310)	300-800* (450)	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Pine, Red	130-140* (140)	170-220* (200)	230-280* (200)	33-60* (40)	40-110* (70)	70-130* (70)	NR	NR	NR	NR	NR	NR	NR
Spruce (spp.)	100-240* (210)	170-280* (230)	240-330* (270)	70-80* (80)	80-120* (100)	110-120* (110)	NR	NR	NR	NR	NR	NR	NR
Tulip Poplar	100-200* (200)	200-320* (260)	300-450* (400)	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Walnut, Black	600-800* (600)	800-900* (1020)	1150-4000* (1600)	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Aspen	NR	10-10* (10)	NR	5-10* (5)	5-15* (5)	5-15* (5)	NR	NR	NR	NR	NR	NR	NR
Hemlock	30-30* (30)	70-70* (70)	100-100* (100)	10-10* (10)	10-15* (12)	13-13* (12)	NR	NR	NR	NR	NR	NR	NR
Mixed N. Hardwoods	21-21* (21)	24-24* (24)	27-27* (27)	6-12* (10)	10-18* (15)	12-16* (15)	7-7* (7)	5-14* (10)	NR	NR	NR	NR	NR
Pine	12-12* (12)	13-13* (13)	18-18* (18)	1-4* (2)	1-3* (2)	2-0* (4)	NR	NR	NR	NR	NR	NR	NR
Spruce/Fir	NR	15-15* (15)	NR	3-10* (4)	5-13* (8)	6-12* (10)	NR	NR	NR	NR	NR	NR	NR
Firewood	NR	NR	NR	8-10* (10)	10-15* (13)	14-20* (15)	7-7* (7)	5-14* (10)	NR	NR	NR	NR	NR
Mixed Chips	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR

**Cordwood Price**  
Dollars  
per Standard  
Cord

**Sawtimber Price**  
(Including  
Veneer and  
Poles)  
Dollars per  
Thousand Board  
Feet

Dollars per Green Ton

# Pest Alert

Animal and Plant Health Inspection Service  
Plant Protection and Quarantine

## Spotted Lanternfly (*Lycorma delicatula*)

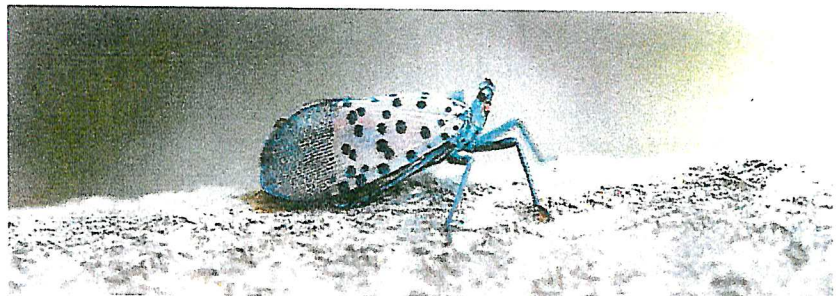
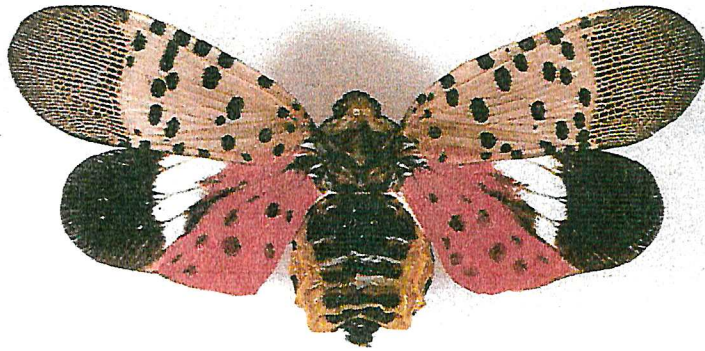
The spotted lanternfly is an invasive pest, primarily known to feed on tree of heaven (*Ailanthus altissima*) but has many other host plants, including grape, hop, apple, stone fruit, maple, poplar, walnut, and willow. The insect changes hosts as it goes through its developmental stages. Nymphs feed on a wide range of plant species, while adults prefer to feed and lay eggs on tree of heaven (*A. altissima*). Spotted lanternflies are invasive and can spread rapidly when introduced to new areas. While the insect can walk, jump, or fly short distances, its long-distance spread is facilitated by people who move infested material or items containing egg masses. If allowed to spread in the United States, this pest could damage the country's grape, orchard, and logging industries.

### Distribution

The spotted lanternfly is present in China, Japan, South Korea, Taiwan, and Vietnam. In 2014, the insect was first detected in the United States in Pennsylvania. Since then, spotted lanternfly infestations have been detected in Delaware, Maryland, New Jersey, and Virginia.

### Damage

Both nymphs and adults of spotted lanternfly cause damage when they feed, sucking sap from stems and branches. This can reduce photosynthesis, weaken the plant, and eventually contribute to the plant's death. In addition, feeding can cause the plant to ooze or weep, resulting in a fermented odor, and the insects themselves excrete large amounts of fluid (honeydew). These fluids promote mold growth and attract other insects.



Adult spotted lanternfly

### Description

Adult spotted lanternflies are about 1 inch long and one-half inch wide, and they have large and visually striking wings. Their forewings are light brown with black spots at the front and a speckled band at the rear. Their hind wings are scarlet with black spots at the front and white and black bars at the rear. Their abdomen is yellow with black bars. Nymphs in their early stages of development appear black with white spots and turn to a red phase before becoming adults. Egg masses are yellowish-brown in color, and most are covered with a gray, waxy coating prior to hatching.

### Life Cycle

The spotted lanternfly lays its eggs on smooth host plant surfaces and on non-host material, such as bricks, stones, and dead plants. Eggs hatch in the spring and early summer, and nymphs begin feeding on a wide range of host plants by sucking sap from young stems and branches. Adults appear in late July and tend to focus their feeding on tree of heaven (*A. altissima*) and grapevine (*Vitis vinifera*). As the adults feed, they excrete sticky, sugar-rich fluid (honeydew). The fluid can build up on plants and on the ground underneath infested plants, causing sooty mold to form.



## Where To Look

Spotted lanternfly adults and nymphs frequently gather in large numbers on host plants. They are easiest to spot at dusk or at night as they migrate up and down the trunk of the plant. During the day, they tend to cluster near the base of the plant if there is adequate cover or in the canopy, making them more difficult to see. Egg masses can be found on smooth surfaces on the trunks of host plants and on other smooth surfaces, including brick, stone, and dead plants.

## Report Your Findings

If you find an insect that you suspect is the spotted lanternfly, please contact your local Extension office or State Plant Regulatory Official to have the specimen identified properly.

To locate an Extension specialist near you, go to the U.S. Department of Agriculture (USDA) website at [nifa.usda.gov/Extension](http://nifa.usda.gov/Extension). A directory of State Plant Regulatory Officials is available on the National Plant Board website at [www.nationalplantboard.org/membership](http://www.nationalplantboard.org/membership).



Spotted lanternfly nymphs are black with white spots in early stages of development and turn red before becoming adults.



Covered and uncovered egg masses



Cluster of adults on the trunk of a tree at night

APHIS 81-35-024  
Revised August 2019

USDA is an equal opportunity provider, employer, and lender.



# Pest Alert

Animal and Plant Health Inspection Service  
Plant Protection and Quarantine

## Spotted Lanternfly (*Lycorma delicatula*)

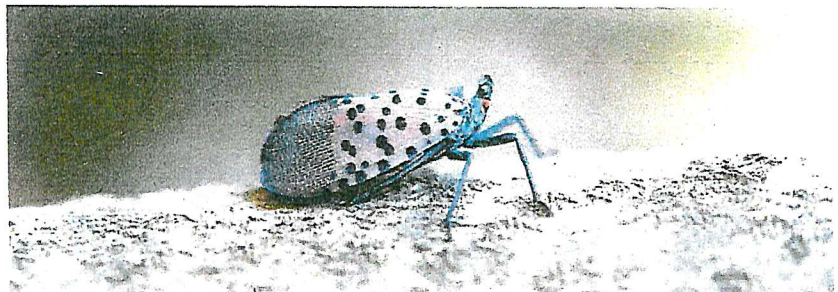
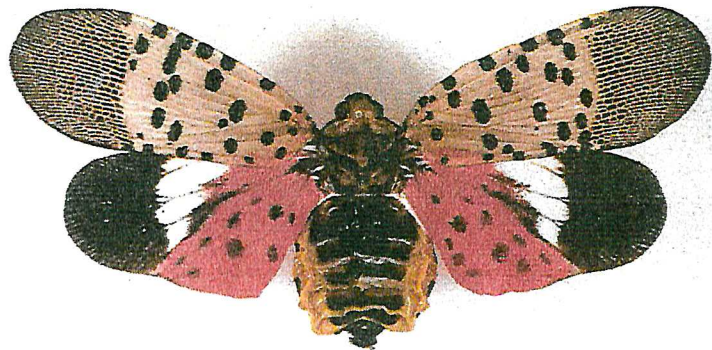
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Spotted lanternfly nymphs are black with white spots in early stages of development and turn red before becoming adults.



Covered and uncovered egg masses



Cluster of adults on the trunk of a tree at night

APHIS 81-35-024  
Revised August 2019

USDA is an equal opportunity provider, employer, and lender.



# SAVE TREES.

## LOOK FOR AND REPORT THE ASIAN LONGHORNED BEETLE.



Once the Asian longhorned beetle (ALB) infests a tree, there is no cure. What you can do is look for and report it before it has the chance to destroy your trees — and everything they mean to you. Thousands of hardwood trees in the United States have been lost to the ALB. The best line of defense against this devastating pest is you.

### WHERE HAS IT BEEN FOUND?

Since its discovery in 1996, the ALB has caused tens of thousands of trees to be lost in Ohio, Massachusetts, New York, New Jersey, and Illinois. But all states are at risk.

### ATTACKS MULTIPLE TREES

- Ash
- Birch
- Elm
- Golden Raintree
- Horsechestnut
- Katsura
- London Planetree
- Maple
- Mimosa
- Mountain Ash
- Poplar
- Willow

**AUGUST IS TREE CHECK MONTH** Take 10 minutes and check your trees for the beetle and any signs of damage it causes.

The Asian longhorned beetle is an invasive insect that feeds on certain hardwood trees, eventually killing them.

Its body is 1 inch to 1.5 inches in length, with six legs and a shiny, jet-black body with random white spots and two long black-and-white antennae.

ALB larvae chew into the heartwood of trees, where treatments can't reach them.

Actual size

**Look for the signs:**

- Dime-sized exit holes
- Sawdust-like material
- Egg sites in the bark
- Dead or fallen branches

### FAST FACTS

- Adult beetles are most active during the summer and early fall. Throughout the summer, they can be seen on tree trunks and branches, walls, outdoor furniture, cars, and sidewalks.
- Once a tree is infested by the ALB, it must be removed to help save more trees.
- Because the Asian longhorned beetle can attack trees in any state, millions of acres of our nation's hardwoods — including national forests, state parks, and neighborhood trees — are at risk.
- Depending on where you live, 70 percent of your community's tree canopy could be lost.

**Find it. Report it. Save trees.**  
**ASIANLONGHORNEDBEETLE.com**

U.S. Department of Agriculture





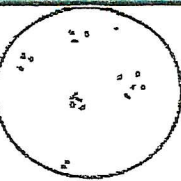
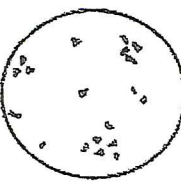
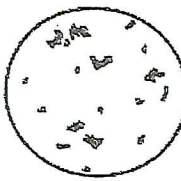

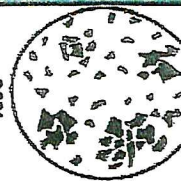
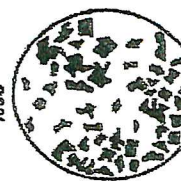
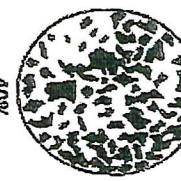
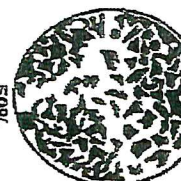
# NY-NRCS Forestry Clipboard Tables

**Forest Inventory:** The inventory process is used to collect information and data about a planning area's resources. This information is further used to define the problems and opportunities, and to formulate and evaluate alternatives necessary to sustain the ecosystem. Much of the understanding a land manager acquires about the nature of their resources, on which they may base many of their decisions, is derived from and is a reflection of the inventory of the forest resources. Forest inventory designs will often vary depending on the existing site conditions and landowner's management objectives.

## Forestry Conversion Factors

- 1 board foot = 12" wide x 12" long X 1" thick
- 1 cord = 85 cubic feet wood or 128 cuft wood + voids
- 1 meter = 39.37"; 1 Chain = 66'
- 1 acre = 43,560 sq. ft. = 4,047 sq. meters = 0.405 hectares=10 square chains
- 1 - acre plot = 118' radius or 209' x 209' square
- 1/2 - acre plot = 83.3 feet radius or 147.6 feet x 147.6 feet
- 1/4 - acre plot = 58.9 feet radius or 104.4 feet x 104.4 feet
- 1/10 -acre plot = 37.2 feet radius or 66 feet x 66 feet
- 1/20 -acre plot = 26.3 feet radius or 46.7 feet x 46.7 feet
- 1/100 -acre plot = 11.8 ft. radius or 20.9 feet x 20.9 feet
- 1/250 -acre plot = 7.4 feet radius or 13.2 feet x 13.2 feet
- 1/500 -acre plot = 5.3 feet radius or 9.3 feet x 9.3 feet
- 1/1000 -acre plot = 3.7 feet radius or 6.6 feet x 6.6 feet

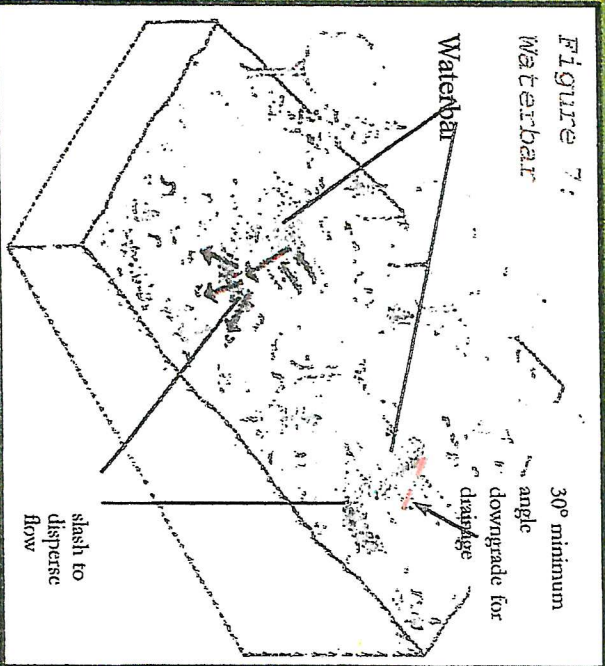
## Cover In Percent

			
1%	3%	5%	10%
			
20%	30%	40%	50%

## Average Spacing and Transpare

3' = 4840	14' = 222	25' = 70	36' = 34
4' = 2722	15' = 194	26' = 65	37' = 32
5' = 1742	16' = 170	27' = 60	38' = 30
6' = 1210	17' = 151	28' = 55	39' = 29
7' = 888	18' = 135	29' = 52	40' = 27
8' = 681	19' = 121	30' = 48	50' = 17
9' = 538	20' = 109	31' = 45	60' = 12
10' = 436	21' = 99	32' = 43	70' = 9
11' = 360	22' = 90	33' = 40	80' = 7
12' = 304	23' = 83	34' = 38	90' = 5
13' = 258	24' = 76	35' = 36	100' = 4

Figure 7:



## Water bar Spacing Guidelines

% Grade	Distance* (ft)
2	250
5	135
10	80
15	60
20	45
25	30
30	25

\*Measured on along road slope.





U.S. Fish & Wildlife Service

# Indiana bat

## *Myotis sodalis*

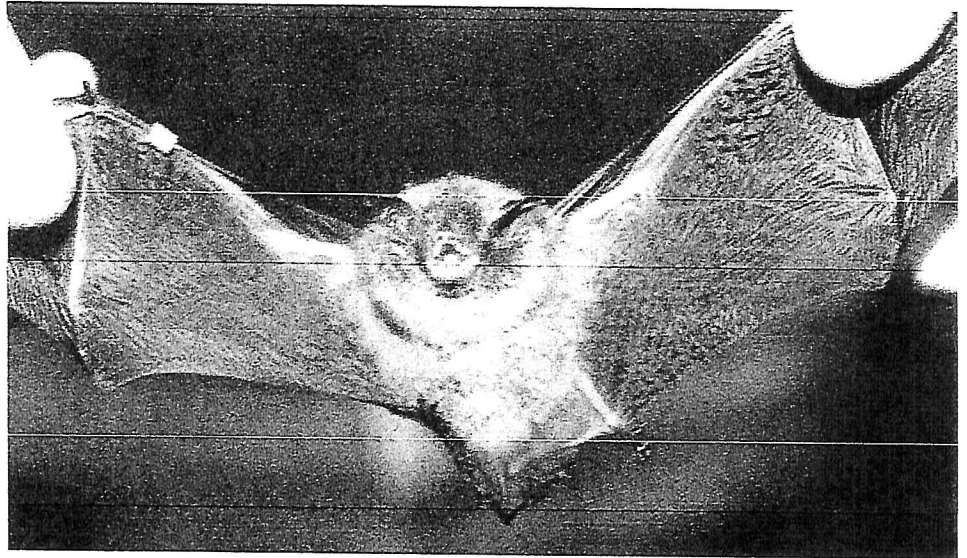
Indiana bats have long lived in the forests and caves of the Northeast and Southeast but primarily in the Midwest. Very gregarious animals, these little bats congregate in winter and summer colonies, migrating between the two in spring and fall. Although they once numbered in the millions, the Indiana bat population has declined 56 percent in the past 40 years, from 883,300 in the 1960s to 387,300 today. In 1967, Indiana bats were listed for protection under the Endangered Species Act.

### **Small, social sleepers**

Indiana bats hibernate in limestone caves, called hibernacula, from mid-autumn to early spring. Hibernating bats form large, compact clusters with as many as 5,000 individuals but averaging 500 to 1,000 bats per cluster. Bats form clusters in the same area in a cave each year, with more than one cluster in some caves. Clustering may protect individual bats from temperature changes, reduce sensitivity to external disturbance, or enable rapid arousal and escape from predators. Roosts usually are in the coldest part of the cave. This ensures a sufficiently low metabolic rate so the bats' fat reserves last through the six-month hibernation. Bats may move from a location deeper in the cave to a site nearer the entrance as the cold season progresses to move away from areas that go below freezing. Indiana bats tend to return to the same hibernacula each year.

### **Single mom, single pup**

Having mated in autumn, a female becomes pregnant after the winter hibernation when she ovulates and an egg is fertilized by sperm stored from the autumn mating. Pregnant females migrate to trees that serve as maternity colonies throughout the summer. The female births a single pup, which she tends for about a month before taking it on its first flight in tandem with her. The weather affects the length of time for the



*Indiana bats still live in Alabama, Arkansas, Georgia, Iowa, Illinois, Indiana, Kansas, Kentucky, Maryland, Michigan, Missouri, Mississippi, North Carolina, New Jersey, New York, Ohio, Oklahoma, Pennsylvania, South Carolina, Tennessee, Virginia, Vermont, and West Virginia.*

pup to mature. Females sometimes relocate their pups to warmer spots on the tree. Dozens and up to hundreds of mothers and their young can inhabit maternity roost trees.

In the summer, bats live in wooded or semi-wooded areas. Groups of female Indiana bats form maternity colonies to bear their offspring in crevices of trees or under loose tree bark. Dead trees are preferred roost sites, and trees standing in sunny openings are attractive because the air spaces and crevices under the bark are warm. Typical roosts are beneath the bark and in crevices of dead trees and beneath loose bark of living trees. Roost trees are likely to be exposed to direct sunlight throughout the day, and are as likely to be in upland habitats as in floodplain forests. Indiana bats are also known to roost in human-made structures such as bridges, sheds, houses and abandoned churches.

### **Meals on the fly and migration, too**

Indiana bats eat flying insects, and their diet reflects the available prey. Bats forage along river and lake shorelines, in the crowns of trees in floodplains and in upland forests. Reproductively active females generally forage within a mile of roost trees. Bats may attempt to capture flying insects as many as 17 times a minute.

Indiana bats show strong homing instincts to their hibernacula. When released to the west of a winter cave, over 68 percent of the bats returned to the cave from 12 miles away. Biologists released approximately 500 female bats up to 200 miles from their winter cave and found that more than two-thirds returned. These researchers noted much stronger homing tendencies along a north-south axis, the direction for migrating to and from summer roosts, than along the east-west direction. Winter and summer



habitats may be as much as 300 miles apart, but are probably much closer for the majority of bats.



### **Bats in trouble**

While hibernating in large numbers is beneficial to bats, it also leaves them vulnerable to catastrophe. Human disturbance at winter caves arouses bats, depleting energy reserves. Vandalism and indiscriminate killing have destroyed much of the population. Some early attempts to keep people out of hibernacula by installing gates inadvertently made the caves unsuitable for bats. Improperly constructed gates can alter the air flow, trap debris and block the entrance by not allowing enough

flight space. Altering air exchange by opening additional entrances can also change cave temperature and humidity, rendering the cave unsuitable for bats. Since disruption during hibernation is detrimental, biologists schedule research to avoid harming the bats. To reduce disturbance during a census, the cave is mapped in the autumn before the bats arrive. Then a few, well-trained people carefully collect the minimum data needed for the census.

### **The rest of the problem**

When first looking at the decline of Indiana bat populations, the problems of vandalism and human disturbance in the winter hibernacula were addressed first. When bat populations continued to decline, biologists looked at where bats spend their summers. Loss and degradation of summer habitat and roost sites due to water impoundment, stream channeling, forest clearing, housing development, and clear cutting for agricultural or other uses may be important factors in continuing Indiana bat population decline. Additional research is needed to verify the causes of decline.

Within the delineated summer range, activities planned in habitats occupied by Indiana bats may need to be changed to

accommodate the needs of the bats. Summer roosts and surrounding forest and foraging areas may need to be maintained in as natural a state as possible. In addition, while winter hibernacula themselves must be protected, the forests above and around hibernacula should not be dramatically altered. After all, Indiana bats are animals of the forest. Once as plentiful as the passenger pigeon, these little flying mammals are rapidly falling toward extinction. The Service, along with many partners, is working to conserve and protect Indiana bats for now and for the future.

**Northeast Region  
U.S. Fish & Wildlife Service  
300 Westgate Center Drive  
Hadley, MA 01035**

**Federal Relay Service  
for the deaf and hard-of-hearing  
1 800/877 8339**

**U.S. Fish and Wildlife Service  
<http://www.fws.gov>  
1 800/344 WILD**

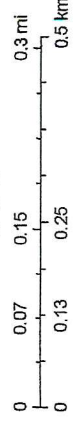
**July 2004**

Yellow 10 LLC



November 10, 2021

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Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community, Esri, HERE, Garmin, (c) OpenStreetMap contributors, and the GIS user community

Author: Newman Forest & Wildlife Management LLC  
Not a legal document



## Bat Houses: The Secrets of Success

<https://www.batcon.org/article/bat-houses-the-secrets-of-success/>

It is clear from this study that when bat houses are placed to meet bat needs, occupancy success is high. Taking the survey results for the northern third of the United States, where we found bat houses are most used and are now best understood, we checked to see what the success rate was for houses that met just two of the most important criteria. We looked at all that were located a quarter of a mile or less from a stream or river, or a lake larger than three acres, *and* that received at least four or more hours of daily sun. The occupancy rate for these houses, without consideration of other factors, was 83 percent. When we further limited the sample by adding houses stained or painted dark, occupancy rose to 92 percent. (This proved important for heat gain in northern latitudes.) When we added another condition—houses located in areas of mixed agriculture (mostly orchards)—100 percent of the 13 houses meeting all four criteria were occupied. For reasons as yet unknown, bats seemed to be especially attracted to such areas.

## Species Status Assessment

[https://www.dec.ny.gov/docs/wildlife\\_pdf/sgcnindiansmyotis.pdf](https://www.dec.ny.gov/docs/wildlife_pdf/sgcnindiansmyotis.pdf)

VI. Threats: White-nose syndrome (WNS), discovered in New York in 2006, has caused severe mortality in several species of bats, including the Indiana myotis (Langwig et al. 2012), and clearly the threat posed by WNS far exceeds all other threats. Prior to the arrival of the disease, populations of Indiana myotis were increasing. After the first year of arrival of WNS, populations decreased significantly, and did not show evidence of smaller declines at smaller population sizes (i.e. densitydependence), which suggests there is a not a threshold population size of this species in which declines will stabilize. Initial declines of this species were highly variable, and on average, lower than for the closely related *Myotis lucifugus*. This variability has been explained in part by relative humidity: populations roosting at more humid sites experienced more severe declines than populations roosting at drier sites (Langwig et al. 2012). Other studies have also predicted extirpation of this species across a wide area of its range (Thogmartin et al. 2012). Even prior to the arrival of the disease, hibernating populations were known to be susceptible to depletion of stored energy reserves and subsequent death due to excessive arousal during hibernation, as might take place during human intrusion in hibernacula. The presence of the disease greatly exacerbates this threat (Carl Herzog, pers. comm.).

## What Is TSI

Timber stand improvement, or TSI, is a term used to identify forest management practices which improve the vigor, stocking, composition, productivity, and quality of forest stands. The improvement is accomplished by removing poor trees and allowing crop trees to fully use the growing space. The chief aim of TSI is continued production of more and better timber products. TSI practices can be used to convert assorted hardwood and pine stands into productive forests of desirable species. TSI can speed up the growth and improve the quality of the trees in your forest.

Different TSI practices may be needed at different times during the life of an established stand -- from the start of a new crop of trees until the final harvest. Here are some basic TSI practices:

**Prescribed burning** in pine stands to remove undesirable hardwoods, to prepare seedbeds, and to reduce the potential for wildfires.

**Cull tree removal** to make growing space available on areas occupied by deformed, defective, and undesirable trees. Some cull trees may be cut and sold; however, most must be killed with herbicides.

**Thinning** to relieve overcrowding and increase the growth rate of crop trees.

Precommercial thinning in young, unmerchantable stands is a cost practice. Intermediate thinnings or improvement cuts in older stands produce some income for the landowner.

**Sanitation cutting** to remove trees that have been damaged by insects, diseases, wind or ice.

**Release** of young, vigorous crop trees for faster growth and better quality by removing overtopping and competing trees.

## Trees To Remove In TSI

In pine, mixed pine-hardwood, and hardwood stands, remove trees that are financially mature or that interfere with the growth and development of more valuable trees. **You will want to remove trees such as these:**

- suppressed trees that will not live until the next thinning.
- trees too crooked, forked, or limby to make a No. 2 sawlog.
- trees with fire scars and injuries from insects, disease, wind, or ice.
- trees on the wrong site (such as a water oak growing on a ridge).
- trees that are mature and slow growing.
- any tree that will not contribute to the net value of the stand before the next thinning.
- wolf trees with large crowns that occupy too much growing space or shade out more desirable species.

**You will want to leave these trees in your timber stand:**

- high quality trees.
- fast growing trees.
- some mast producing and den trees for wildlife.
- trees located so that all available growing space is used efficiently.

Most people think TSI practices always involve out-of-pocket costs for the landowner. However, some TSI practices can produce immediate income. Thinning is a TSI practice that can produce income if the trees can be sold. Research has shown that volume growth and financial returns will



increase with each additional TSI treatment, if costs are reasonable and adequate markets are available. For example, a prescribed burn before the harvest of an old pine stand can increase volume growth in the new stand. Prescribed burning plus removal of large hardwoods in a young pine stand can also yield a good investment return.

Ask a forester to assist you in choosing the right TSI practices that will produce the desired forest management results at the least cost. Some TSI practices are quite cheap, and some, such as thinning, will produce immediate income. All TSI practices will increase future incomes. TSI doesn't cost -- it pays!

## Recommendation for bat boxes

### Rocket Boxes and Bat Habitat Assessment Model<sup>1</sup>

by Eric Schroder | Apr 25, 2017 | Bat Services, News



#### Importance of Bat Habitat Assessment and Conservation

As industry development continues across the country, Indiana bat (*Myotis sodalis*) and northern long-eared bat (*Myotis septentrionalis*) habitat conservation is important to maintain their populations. Indiana bats and northern long-eared bats are listed as federally endangered and threatened species, respectively. During the summer, they are both forest dwelling bats that will roost underneath the peeling bark or within cracks, crevices, or cavities of trees. During the winter, both species hibernate in abandoned mines and caves. As a response to increasing Indiana bat and northern long-eared bat conservation measures and bat habitat assessment required by the United States Fish and Wildlife Service (USFWS), AllStar Ecology has designed and manufactured artificial bat roosting structures in the form of two-chambered Rocket Boxes.

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#### Rocket Box Construction

The Rocket Boxes are manufactured by AllStar Ecology in Fairmont, West Virginia and are Bat Conservation International certified. Improper construction can deter bats from utilizing artificial roosts; therefore, certification and proper construction of Rocket Boxes by AllStar Ecology are extremely important to bat habitat conservation success.

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<sup>1</sup> <https://allstarecology.com/rocket-boxes-bat-habitat-assessment-model/>



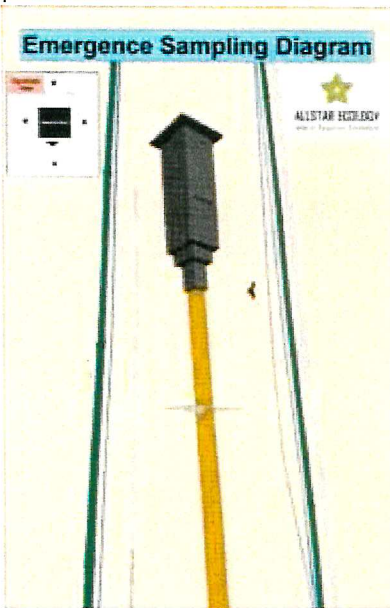
## Tree Clearing

In West Virginia, tree clearing for a project that exceeds 17 acres, or is within a USFWS terrestrial buffer for rare, threatened or endangered species, is subject to a Bat Habitat Assessment and Conservation Plan. This Plan is required to obtain approval for tree clearing. The Plan requires conservation measures such as artificial roosts to be installed in order to replace potential roost trees cleared and taken for construction of the project. Usually, conservation measures can be installed at a project on-site, but if the project is of a great enough scope, off-site bat conservation might be required in the form of permanent off-site land conservation.

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## Myotine Suitable Habitat Assessment Model

Artificial roost placement and off-site land conservation selection involves the use of the AllStar Ecology developed Myotine Suitable Bat Habitat Assessment Model. This model ranks areas of potential northern long-eared bat and/or Indiana bat habitat based on landscape features such as forest fragmentation, aspect, solar radiation, slope, proximity to permanent water, and elevation. Rocket Boxes are then installed in areas of the highest suitability indicated by the model for the greatest chance of bat occupation. Off-site land conservation also uses the model to evaluate large areas quickly for bat habitat conservation potential. Areas of high quality habitat are then targeted for permanent conservation.



## Installation of Artificial Roosts (Rocket Boxes)

In 2016, AllStar Ecology installed 295 artificial roosts (Rocket Boxes) across West Virginia as part of our clients' Habitat Assessment and Conservation Plans. Rocket Boxes require monitoring twice during the pupping season for two years after installation as part of Plan requirements. If bats were found, mist nets were erected around the Rocket Box at dusk that same night to capture bats leaving to forage. Data was taken on each captured bat such as sex, weight, right forearm length, species, etc. During those checks, 84 Rocket Boxes were found to be occupied by northern long-eared bats for an over 40% bat occupation rate. In addition, seven northern long-eared bat maternity colonies were found occupying Rocket Boxes. As predicted, bat occupation rate increased with higher model suitability. These results not only verify the model's effectiveness, but provide evidence that our

clients' conservation measures were meaningful as Rocket Boxes are being used for bat reproduction and perpetuation of northern long-eared bats.

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#### The AllStar Difference

We develop bat conservation and survey solutions to fulfill the needs of various industries, land managers and the scientific community. AllStar has performed numerous surveys throughout West Virginia, Ohio and Pennsylvania for industries including oil and gas, mining, development and government to meet the needs of our clients. Learn more about our bat services by clicking here or contact us if you are looking for solutions.

[TALK WITH US](#)

Thanks for reading,  
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Author: Eric Schroder

Eric Schroder is a Bat Biologist/Environmental Scientist II with AllStar Ecology. He has conducted endangered and threatened species surveys on reptile and mammalian species in California, West Virginia, Ohio, Alabama, Iowa, and Illinois. He has been affiliated with various private and federal agencies in conducting small mammal, avian, and tree community surveys, as well as wildlife behavior studies. Mr. Schroder specializes in Indiana and northern long-eared bat presence/absence surveys, wildlife telemetry, bat habitat suitability studies, ArcGIS, and has worked on numerous oil and gas projects delineating streams and wetlands for avoidance, conservation, mitigation, and permitting for gas-related construction activities.

Education: B.S., Biology—Iowa State University | M.S., Biology—Western Illinois University

Author's Training & Certifications: West Virginia Scientific Collecting Permit: 2017.066 | Federal Fish and Wildlife Permit: TE85228B-0



## BrandenBark<sup>2</sup>

BrandenBark™ is an artificial bark bat roost specifically designed for use by bark roosting bats such as the federally endangered Indiana bat (*Myotis sodalis*). BrandenBark™ is a result of several years of intense research and monitoring of an Indiana bat maternity colony by Copperhead and Fort Knox Army Installation biologists. The result of this effort is an artificial roost that mimics the microclimate conditions and visual cues of natural bark roosts. In addition to the Indiana bat, other bat species documented to use BrandenBark™ include the federally threatened northern long-eared bat (*Myotis septentrionalis*), the little brown bat (*Myotis lucifugus*), the big brown bat (*Eptesicus fuscus*), and the evening bat (*Nycticeius humeralis*).



BrandenBark™ provides immediate and long-lasting bat roosting habitat and has been successfully used as a mitigation and habitat enhancement tool throughout the United States. BrandenBark™ requires little to no maintenance, is easy to monitor, and has been accepted by the USFWS as a mitigation tool in several states. Additionally, it can be easily implemented within most project

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<sup>2</sup> <https://copperheadconsulting.com/brandenbark/>

footprints, eliminating the need for the purchase of additional property. BrandenBark™ can be used by land managers to improve and restore habitat for existing Indiana bat colonies.

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### Super Rocket Roost - Artificial tree bat roost<sup>3</sup>

The 8" Super Rocket Roost is a no brainer for serious bat habitat enhancement and mitigation. Our Rocket Core mimics a dead tree with both "wedge" roost crevices and more traditional vertical baffles. This is a great choice in forest environments suitable for small colonies of a wide range of species. A 1/4" thick heavy-duty custom outdoor UV-resistant plastic shell protects the roost for a no maintenance roost. The larger mass of the Super Rocket Roost retains heat longer into the night and provides more roost crevices for more bats.

The BCM Rocket Roost is intended to be added to an existing 4"x6"x16' treated post. Bats may land on, but never roost against the treated post. To protect and possibly double the life of the post, we recommend a 4"x6" Post Protector be used to protect the ground-air transition zone where most base posts fail. Available in brown only; for warm climates consider installing in part (afternoon) or full shade. As with all bat houses, multiple location or roost designs can increase the chances of occupancy.

Thanks to "White Nose Syndrome" that has killed millions of bats in North America, the landscape of the bat population has changed. Rocket Roosts tend to attract small families of bats but of a wider range of species, whereas larger nursery bat houses tend to attract a large number of just a few species. Some bats prefer small roosts which end up being less obvious to predators and less prone to parasite overload. So, one bat roost does not fit all, and BCM Rocket Roosts are a great complement to nursery style bat houses especially on forest edges.

Rocket boxes are highly successful and perform better than many other designs. Our 4" test units had big brown bats occupy in less than 10 days at one site, while at another location little brown bats were recorded the first time it was surveyed 45 days after installation. At one location, our Super Rocket Roost had little brown bats occupying in approximately one month. Rocket Roosts are great for large mitigation projects where a number of long-term replacement roosts are necessary, while being far more cost effective than other solutions

Contents: (1) 8" diameter, 56" tall Super Rocket Roost with heavy-duty plastic exterior and associated hardware. The Super Rocket Roost overall is almost 8" in diameter, 56" high, and weighs ~35 lbs.

Difference from 4" Rocket Roost: The 4" Rocket contains only "wedge" crevices. The 8" Super Rocket contains both "wedge" crevices and more traditional "vertical" crevices found in nursery type bat houses. Super Rockets have the fewest steps for installation and simply slip over an existing post.

You supply: (1)- 80 lb. bag concrete mix. For the base use (1) 4"x6"x16' treated post. 16' is minimum length for the base, this will get the bottom of the Rocket Roost ~11' above ground, assuming ~3' is in the ground. Use a longer base post if you anticipate the vegetation to grow up and possibly shade the roost. Caution: a dry 4"x6"x16' treated post will weigh approximately 100 lbs. but is usually available at some local lumber yards.

How to install: Optionally stain the post to extend its life even longer and/or for looks. Slip on post protector (if desired) and drill out its weep holes. Place in a hole with 8" of gravel at the bottom. Backfill

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<sup>3</sup> <https://batmanagement.com/products/bcm-super-rocket-roost>



a few more inches of gravel, then backfill with cement mix. Approximately 2.5'-3' of the post should be below ground. While the Super Rocket Roost may be intimidating, two people can easily flip the post upright. Once standing in the hole, it will not fall over, assuming the hole diameter was not over-dug.

Overall points:

- 8" diameter Rocket Roost
- 35 lbs weight without post, ~135 lbs. with post
- 1' of the Roost Core slips over and lag bolts to a 4"x6"x16' treated post (you provide)
- Heavy-duty shell slips over the baffle core, no bolts are exposed
- Diagonal "Gill Vents" provide lower level ventilation avoiding overheating
- Roost Core features both "wedge" crevices (specific to rocket boxes) and "vertical baffles" (like traditional bat houses), which are attractive to a wide range of tree, crevice, and building roosting species
- Designed so guano drops out; no cleaning required
- Two people can easily stand the post up into a 3' deep hole
- Use a 4"x6" post protector to double the life of the post; stain the post dark brown to extend even longer
- Approximate safe capacity ~114 bats, more or less depending on circumstances





# Super Rocket Roost

Simulates crevices found  
in dead trees

Two types of roost crevices -  
"wedge" and "vertical"

Super easy installation, virtually  
indestructible exterior

Attractive to small colonies of the  
widest range of bat species

 **BAT** Conservation  
Management

# Two-chamber Rocket Box<sup>4</sup>

© Bat Conservation International, [www.batcon.org](http://www.batcon.org)  
Adapted from The Bat House Builder's Handbook

## Two-chamber Rocket Box

### Materials (makes one house)

- 2" diameter (2 1/8" outside diameter) steel pole, 20' long
- Two 1" x 4" (3/4" x 3/8" finished) x 8' boards\*
- Two 1" x 8" (3/4" x 7/8" finished) x 8' boards\*

\* Western red cedar  
or poplar preferred

- Two 1" x 10" (3/4" x 9/8" finished) x 6' boards\*
- 24" x 24" x 1/2" piece of AC exterior plywood
- Box of 100 exterior-grade screws, 1 1/2"
- Box of 100 exterior-grade screws, 1 3/8"
- 16 to 32 exterior-grade screws, 2"

- 20 to 30 roofing nails, 3/4"
- One quart water-based primer, exterior grade
- Two quarts flat, water-based stain or paint, exterior grade
- Asphalt shingles or dark galvanized metal
- One tube paintable latex caulk
- Two 1/2" x 4 1/2" carriage bolts, washers and nuts

### Recommended tools

- Table saw or circular saw
- Caulk gun
- Hammer
- Tape measure
- Square
- Jigsaw, keyhole saw or router
- Sandpaper or sander
- Rasp or wood file
- Variable-speed reversing drill
- 1 1/8" hole saw or spade bit

- 3/8" and 1/2" drill bits
- Screwdriver bit for drill

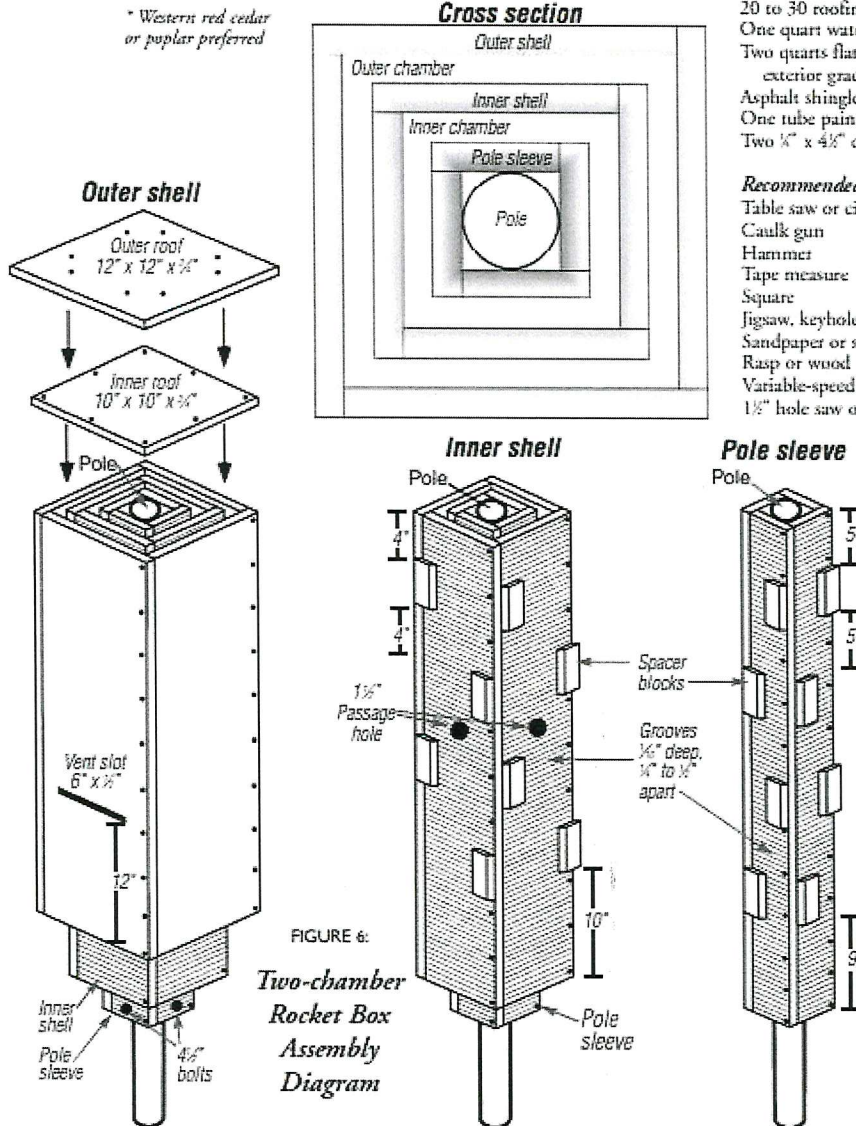


FIGURE 6:  
**Two-chamber  
Rocket Box  
Assembly  
Diagram**

### Construction

1. Measure, mark and cut out parts according to Figure 7. Dimensions must be exact for correct fit. Cut out two vent slots and four passage holes as shown.
2. Cut 1/8"-deep horizontal grooves 1/8" to 3/8" apart on one side of all 36" and 45" boards and on both sides of all 42" boards. Sand to remove splinters.
3. Drill two 1/2" holes through each 1/2" x 1 1/2" x 4" spacer block to prevent splitting.
4. Assemble four pole sleeve boards into a hollow, square box as shown using 1 1/2" screws and caulk. Pre-drill holes to prevent splitting. Countersinking holes may also help.

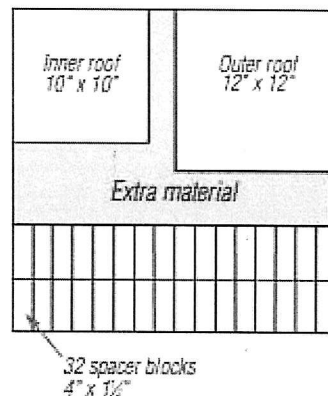
<sup>4</sup> <https://batcon.org/wp-content/uploads/2020/04/RocketBoxPlans.pdf>

- Attach spacer blocks to pole sleeve as shown (four per side) using two 1 1/2" screws per block. Bottom spacer blocks are 9" up from bottom of pole sleeve. Top spacer blocks are 5" from top. Alternate spacer blocks on left and right sides, 5" apart.
- Assemble four inner shell boards into a hollow, square box as in step 4.
- Slide pole sleeve into inner shell until top edges are flush. Bat passage holes will be towards the top. Mark location of spacer blocks. Secure inner shell to pole sleeve with 2" screws through the spacer blocks to ensure no screws protrude into roosting chambers. Pre-drill holes first to avoid splitting spacer blocks (countersinking holes may also help).
- Attach spacer blocks (4 per side) to inner shell as shown, using two 1 1/2" screws per block. Bottom spacer blocks are 10" up from the bottom edge of the inner shell. Top spacers are 4" from top. Alternate spacers left and right sides, 4" apart.
- Assemble four outer-shell boards into a hollow, square box as in step 4. Vent slots are on opposing sides and oriented towards the bottom.
- Slide finished outer shell over inner shell, so that 6" of inner shell protrudes below outer shell. Mark locations of spacer blocks. Secure outer shell to inner shell as in step 7 (pre-drill holes first). Ensure that no screws protrude into the roosting chambers.
- Caulking first, attach inner roof to box with 1 1/2" screws. Carefully drive screws into top edges of shells to prevent screws from entering roosting chambers.
- Center and attach outer roof to inner roof with 1 1/2" screws, caulking first.
- Paint or stain exterior three times (use primer for first coat). Cover roof with shingles or dark galvanized metal.
- Slide completed rocket box over pole. One inch up from the bottom edge of pole sleeve, drill a 1/2" hole all the way through pole and sleeve. Rotate box and pole 90° and drill another 1/2" hole, 2 inches from the bottom, through pole and sleeve. Secure box to pole with two 4 1/2" bolts, washers and nuts. Orient vent slots north and south during installation.

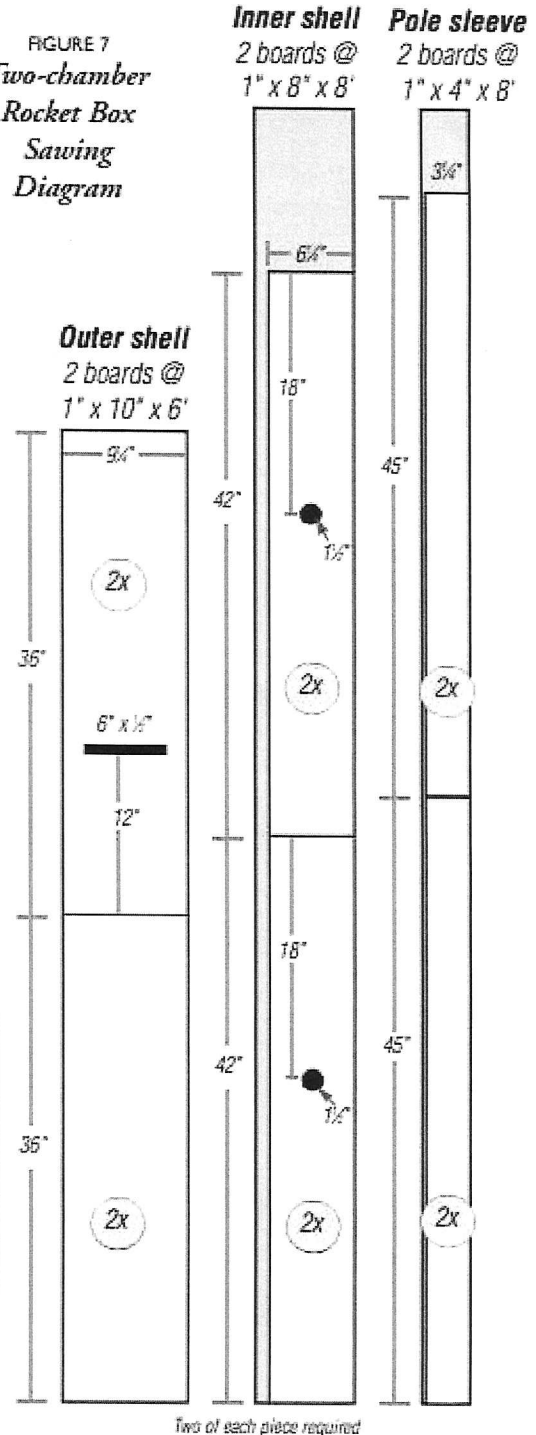
**Optional modifications to the rocket box**

- For extra mounting height, insert a 4 1/2" bolt and nut about halfway up through pole sleeve after completing step 5.
- For extra heat-holding capacity, create a compartment in upper half of pole sleeve with a 2x2"-square piece of leftover plywood. Fill upper half of sleeve with sand, gravel or dirt, and seal with another piece of plywood flush with top.
- In warmer climates, a larger outer roof with more overhang can be used for additional shading.

**2' x 2' x 3/4" AC plywood**



**FIGURE 7**  
**Two-chamber**  
**Rocket Box**  
**Sawing**  
**Diagram**



## Abbreviations

AGS.....	Acceptable Growing Stock
AH.....	Allegheny Hardwoods
AP.....	Austrian Pine
As.....	Ash
Asp.....	Aspen
B Level.....	Optimum Stocking Level
Ba.....	Basswood
B.A.....	Basal Area/Acre
BB.....	Black Birch
Be.....	Beech
BF.....	Balsam Fir
But.....	Butternut
CO.....	Chestnut Oak
Ch.....	Cherry
DBH.....	Diameter at Breast Height (4.5')
El.....	Elm
FC.....	Fire Cherry
He.....	Hemlock
Hi.....	Hickory
HM.....	Hard Maple
IN.....	Ineligible Land
Lo.....	Locust
MBF.....	Thousand Board Feet
MDS.....	Medium Diameter of the Stand
MO.....	Mixed Oak
NC.....	Non-committed Land
NH.....	Northern Hardwood
NS.....	Norway Spruce
O.....	Others
PH.....	Pioneer Hardwood
PL.....	Plantation
Pop.....	Popple
PT.....	Poletimber
RO.....	Red Oak
RP.....	Red Pine
SB.....	Service Berry
SIP.....	Stewardship Incentive Program
SM.....	Soft Maple
SMZ.....	Streamside Management Zone
SP.....	Scotch Pine
SS.....	Seedling-Sapling
ST.....	Sawtimber
TSI.....	Timber Stand Improvement (Precommercial thinning)
Tul.....	Tulip Poplar
UGS.....	Unacceptable Growing Stock
UH.....	Upland Hardwood
WO.....	White Oak
WP.....	White Pine
WS.....	White Spruce
YB.....	Yellow Birch

### SITES

I.....	Excellent
II.....	Good
III.....	Poor

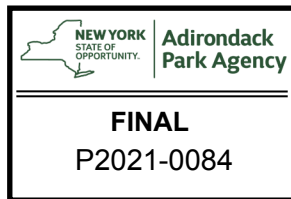




# Solar Farm Decommissioning Plan

NY, Crown Point - 2888 NYS Route 9N

April 5, 2021



Cipriani Energy Group Corp.  
125 Wolf Rd, Suite 312, Colonie, NY 12205

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## **1. Introduction**

Cipriani Energy Group Corp. (“**Cipriani Energy**”) proposes to build a photovoltaic (PV) Solar Farm at 2888 NYS Route 9N, Crown Point, NY 12928 with a nameplate capacity of approximately 1.2 megawatts (MW) alternating current (AC) and be built on a 7 acres of a 16.3 acre parcel.

This Decommissioning Plan (“**Plan**”) provides an overview of activities that will occur during the decommissioning phase of the Solar Farm, including; activities related to the restoration of land, the management of materials and waste, projected costs, and a decommissioning fund agreement overview.

The Solar Farm will have a useful life of twenty five (25) to thirty five (35) years. This Plan assumes that a Solar Farm will be dismantled and the Farm Site restored to a state similar to its pre-construction condition at the end of a 35 year life. The Plan also covers the case of the abandonment of the Solar Farm, for any reason; prior to the 35 year maturity date.

Decommissioning of the Solar Farm will include the disconnection of the Solar Farm from the electrical grid and the removal of all Solar Farm components, including:

- Photovoltaic (PV) modules, panel racking and supports;
- Inverter units, substation, transformers, and other electrical equipment;
- Access roads, wiring cables, communication tower, perimeter fence; and,
- Concrete foundations.

This decommissioning plan is based on current best management practices and procedures. This Plan may be subject to revision based on new standards and emergent best management practices at the time of decommissioning. Permits will be obtained as required and notification will be given to stakeholders prior to decommissioning.

## 2. The Proponent

Cipriani Energy will manage and coordinate the approvals process and obtain all necessary regulatory approvals that vary depending on the jurisdiction, project capacity, and site location.

Contact information for the proponent is as follows:

**Full Name of Company:** Cipriani Energy Group Corp.  
**Contact:** Christopher H. Stroud  
**Address:** 125 Wolf Rd, Suite 312, Colonie, NY 12205  
**Telephone:** (855) Sun-4-Ever Ext.104  
**Email:** [c.stroud@solrealgroup.com](mailto:c.stroud@solrealgroup.com)

### 2.1 Project Information

**Address:** 2888 NYS Route 9N, Crown Point, NY 12928  
**Tax ID:** 117.19-2-1.000  
**Project Size (est.):** One Project of 1.2 MWac  
**Landowner:** Bert Barber  
**Purchase / Lease:** Lease



### **3. Decommissioning of the Solar Farm**

At the time of decommissioning, the installed components will be removed, reused, disposed of, and recycled, where possible. The Farm Site will be restored to a state similar to its pre-construction condition. All removal of equipment will be done in accordance with any applicable regulations and manufacturer recommendations. All applicable permits will be acquired.

#### **3.1 Equipment Dismantling and Removal**

Generally, the decommissioning of a Solar Farm proceeds in the reverse order of the installation.

1. The Solar Farm shall be disconnected from the utility power grid.
2. PV modules shall be disconnected, collected, and disposed at an approved solar module recycler or reused / resold on the market. Although the PV modules will not be cutting edge technology at the time of decommissioning, they are estimated to still produce 80% of the original electricity output at year 20 and add value for many years.
3. All aboveground and underground electrical interconnection and distribution cables shall be removed and disposed off-site by an approved facility.
4. Galvanized steel PV module support and racking system support posts shall be removed and disposed off-site by an approved facility.
5. Electrical and electronic devices, including transformers and inverters shall be removed and disposed off-site by an approved facility.
6. Concrete foundations shall be removed and disposed off-site by an approved facility.
7. Fencing shall be removed and will be disposed off-site by an approved facility.

#### **3.2 Environmental Effects**

Decommissioning activities, particularly the removal of project components could result in environmental effects similar to those of the construction phase. For example, there is the potential for disturbance (erosion/sedimentation/fuel spills) to adjacent watercourses or significant natural features. Mitigation measures similar to those employed during the construction phase of the Solar Farm will be implemented. These will remain in place until the site is stabilized in order to mitigate erosion and silt/sediment runoff and any impacts on the significant natural features or water bodies located adjacent to the Farm Site.

Road traffic will temporarily increase due to the movement of decommissioning crews and equipment. There may be an increase in particulate matter (dust) in adjacent areas during the decommissioning phase. Decommissioning activities may lead to temporary elevated noise levels from heavy machinery and an increase in trips to the project location. Work will be undertaken during daylight hours and conform to any applicable restrictions.

### **3.3 Site Restoration**

Through the decommissioning phase, the Farm Site will be restored to a state similar to its pre-construction condition.

All project components (discussed in **Table 1**) will be removed. Rehabilitated lands may be seeded with a low-growing species such as clover to help stabilize soil conditions, enhance soil structure, and increase soil fertility.

### **3.4 Managing Materials and Waste**

During the decommissioning phase a variety of excess materials and wastes (listed in **Table 1**) will be generated. Most of the materials used in a Solar Farm are reusable or recyclable and some equipment may have manufacturer take-back and recycling requirements. Any remaining materials will be removed and disposed of off-site at an appropriate facility. CIPRIANI ENERGY will establish policies and procedures to maximize recycling and reuse and will work with manufacturers, local subcontractors, and waste firms to segregate material to be disposed of, recycled, or reused.

CIPRIANI ENERGY will be responsible for the logistics of collecting and recycling the PV modules and to minimize the potential for modules to be discarded in the municipal waste stream. Currently, some manufacturers and new companies are looking for ways to recycle and/or reuse solar modules when they have reached the end of their lifespan. Due to a recent increase in the use of solar energy technology, a large number of panels from a variety of projects will be nearing the end of their lifespan in 25 - 35 years. It is anticipated there will be more recycling options available for solar modules at that time. Cipriani Energy proposes to determine the best way of disposing of the solar modules using best management practices at the time of decommissioning.

**Table 1: Management of Excess Materials and Waste**

Material / Waste	Means of Managing Excess Materials and Waste
PV panels	If there is no possibility for reuse, the panels will either be returned to the manufacturer for appropriate disposal or will be transported to a recycling facility where the glass, metal and semiconductor materials will be separated and recycled.
Metal array mounting racks and steel supports	These materials will be recycled or disposed off-site at an approved facility.
Transformers and substation components	The small amount of oil from the transformers will be removed on-site to reduce the potential for spills and will be transported to an approved facility for disposal. The step-up transformer and the inverter units will be transported off-site to be sent back to the manufacturer, recycled, reused, or safely disposed off-site in accordance with current standards and best practices.
Inverters, fans, fixtures	The metal components of the inverters, fans and fixtures will be disposed of or recycled, where possible. Remaining components will be disposed of in accordance with the standards of the day.
Gravel (or other granular)	It is possible that the municipality may accept uncontaminated material without processing for use on local roads, however, for the purpose of this report it is assumed that the material will be removed from the project location by truck to a location where the aggregate can be processed for salvage. It will then be reused As fill for construction. It is not expected that any such material will be contaminated.
Geotextile fabric	It is assumed that during excavation of the aggregate, a large portion of the geotextile will be “picked up” and sorted out of The aggregate at the aggregate reprocessing site. Geotextile fabric that is remaining or large pieces that can be readily removed from the excavated aggregate will be disposed of off-site at an approved disposal facility.
Concrete inverter/transformer Foundations	Concrete foundations will be broken down and transported by certified and licensed contractor to a recycling or approved disposal facility.
Cables and wiring	The electrical line that connects the substation to the point of common coupling will be disconnected and disposed of at an approved facility. Support poles, if made of untreated wood, will be chipped for reuse. Associated electronic equipment (isolation switches, fuses, metering) will be transported off-site to be sent back to the manufacturer, recycled, reused, or safely disposed off-site in accordance with current standards and best practices.
Fencing	Fencing will be removed and recycled at a metal recycling facility.
Debris	Any remaining debris on the site will be separated into recyclables/residual wastes and will be transported from the site and managed as appropriate.

### **3.5 Decommissioning During Construction or Abandonment Before Maturity**

In case of abandonment of the Solar Farm during construction or before its 35-year maturity, the same decommissioning procedures as for decommissioning after ceasing operation will be undertaken and the same decommissioning and restoration program will be honored, in as far as construction proceeded before abandonment. The Solar Farm will be dismantled, materials removed and disposed, the soil that was removed will be graded and the site restored to a state similar to its preconstruction condition.

### **3.6 Decommissioning Notification**

Decommissioning activities may require the notification of stakeholders given the nature of the works at the Farm Site. The local municipality, in particular, will be notified prior to commencement of any decommissioning activities. Six months prior to decommissioning, Cipriani Energy will update their list of stakeholders and notify appropriate municipalities of decommissioning activities. Federal, county, and local authorities will be notified as needed to discuss the potential approvals required to engage in decommissioning activities.

### **3.7 Approvals**

Well-planned and well-managed renewable energy facilities are not expected to pose environmental risks at the time of decommissioning. Decommissioning of a Solar Farm will follow standards of the day. Cipriani Energy will ensure that any required permits are obtained prior to decommissioning.

This Decommissioning Report will be updated as necessary in the future to ensure that changes in technology and site restoration methods are taken into consideration.



#### 4. Costs of Decommissioning

The costs below are the current estimated costs to decommission a Solar Farm per MWac, based on guidance from NYSERDA and estimates from the Massachusetts solar market, a mature solar market with experience decommissioning projects. **The values below should be multiplied by a value of 1.2 for this project.** The salvage values of valuable recyclable materials (aluminum, steel, copper, etc) are not factored into the below costs. The scrap value will be determined on current market rates at the time of salvage.

Tasks	Estimated Cost (\$)
Remove Panels	\$1,225
Remove Rack Wiring	\$1,230
Dismantle Racks	\$6,175
Remove and Load Electrical Equipment	\$925
Break up Concrete Pads	\$750
Remove Racks	\$3,950
Remove Cable	\$3,250
Remove Ground Screws and Power Poles	\$6,925
Remove Fence	\$2,425
Grading	\$2,000
Seed Disturbed Areas	\$125
Truck to Recycling Center	\$1,125
<b>Current Total</b>	<b>\$30,100</b>
<b>Total After 35 Years (2.5% inflation rate)</b>	<b>\$69,691</b>

*NY PVTN Decommissioning Fact Sheet.pdf*

**5. Decommissioning Bond**

Prior to commissioning the Solar Farm, Cipriani Energy will obtain a decommissioning bond in the amount shown as “total after 35 years” in Paragraph 4, adjusted on a pro-rata basis for the estimated system size to guarantee that monies are available to perform the Farm decommissioning. Although Cipriani Energy intends to perform the decommissioning, unforeseen circumstances such as Cipriani Energy selling the project to another party or Cipriani Energy going out of business are possible. The bond will remain available to any party performing the decommissioning such as a municipality or a landowner. Alternatively, where mutually acceptable to both parties, an escrow account may be established prior to commissioning.