Site Plans

Issued for	Site Plan Modification Approval
Date Issued	July 25, 2025
Latest Issue	December 11, 2025

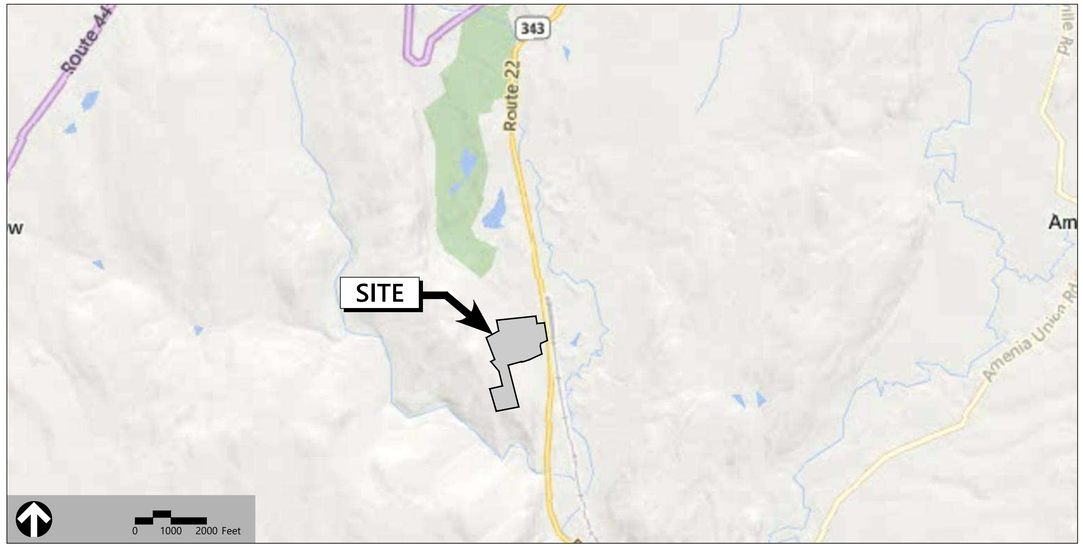
Siland Recreation Facility

4391 Route 22, Town of Amenia
Dutchess County, New York

Owner

Siland Commercial Property LLC
14605 N 73rd Street
Scottsdale, Arizona 85260

Assessor's Map: 132000-7066-00-910219-0000



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Drawing Title	Latest Issue
Landscape Development Set, Brook Clark Landscape Architects (BCLA)	December 9, 2025

DCDOH STANDARD NOTES FOR WATER & SANITARY SYSTEMS:

1. THE DESIGN, CONSTRUCTION AND INSTALLATION SHALL BE IN ACCORDANCE WITH THIS PLAN AND GENERALLY ACCEPTED STANDARDS IN EFFECT AT THE TIME OF CONSTRUCTION WHICH INCLUDE:
   - "NEW YORK STATE DESIGN STANDARDS FOR INTERMEDIATE SIZED WASTEWATER TREATMENT SYSTEMS", NYSDEC "RECOMMENDED STANDARDS FOR SEWAGE TREATMENT WORKS, (TEN STATES)."
   - "RECOMMENDED STANDARDS FOR WATER WORKS, (TEN STATES)."
   - "NEW YORK STATE DEPARTMENT OF HEALTH AND DUTCHESS COUNTY ENVIRONMENTAL HEALTH SERVICES DIVISION POLICIES, PROCEDURES AND STANDARDS."
   - "DUTCHESS COUNTY AND NEW YORK STATE SANITARY CODES."
   - "DUTCHESS COUNTY ENVIRONMENTAL HEALTH SERVICES DIVISION CERTIFICATE OF APPROVAL LETTER."
2. THIS PLAN IS APPROVED AS MEETING THE APPROPRIATE AND APPLIED TECHNICAL STANDARDS, GUIDELINES, POLICIES AND PROCEDURES FOR ARRANGEMENT OF SEWAGE DISPOSAL AND WATER SUPPLY FACILITIES.
3. UPON COMPLETION OF THE FACILITIES, THE FINISHED WORKS SHALL BE INSPECTED, TESTED, AND CERTIFIED COMPLETE TO THE DUTCHESS COUNTY HEALTH DEPARTMENT BY THE NEW YORK STATE LICENSED PROFESSIONAL ENGINEER SUPERVISING CONSTRUCTION. NO PART OF THE FACILITIES SHALL BE PLACED INTO SERVICE UNTIL ACCEPTED BY THE DUTCHESS COUNTY HEALTH DEPARTMENT.
4. APPROVAL OF ANY PLAN(S) OR AMENDMENT THERETO SHALL BE VALID FOR A PERIOD OF FIVE (5) YEARS FROM THE DATE OF APPROVAL. FOLLOWING THE EXPIRATION OF SAID APPROVAL, THE PLAN(S) SHALL BE RE-SUBMITTED TO THE COMMISSIONER OF HEALTH FOR CONSIDERATION FOR RE-APPROVAL. RE-SUBMISSION OR REVISED SUBMISSION OF PLANS AND/OR ASSOCIATED DOCUMENTS SHALL BE SUBJECT TO COMPLIANCE WITH THE TECHNICAL STANDARDS, GUIDELINES, POLICIES AND PROCEDURES IN EFFECT AT THE TIME OF THE RE-SUBMISSION.
5. NO CELLAR, FOOTING, FLOOR, GARAGE, COOLER OR ROOF DRAINS SHALL BE DISCHARGED INTO THE SEWAGE COLLECTION SYSTEM.
6. ALL BUILDINGS SHALL BE CONSTRUCTED AT AN ELEVATION HIGH ENOUGH TO ENSURE GRAVITY FLOW TO THE SEWAGE COLLECTION SYSTEM.
7. ALL REQUIRED EROSION & SEDIMENT CONTROL AND STORMWATER POLLUTION PREVENTION WATER QUALITY & QUANTITY CONTROL STRUCTURES, PERMANENT AND TEMPORARY, ARE SHOWN ON THE PLANS.
8. THE DUTCHESS COUNTY HEALTH DEPARTMENT SHALL BE NOTIFIED SIXTY DAYS PRIOR TO ANY CHANGE IN USE; USE CHANGES MAY REQUIRE REAPPROVAL BY THE DUTCHESS COUNTY HEALTH DEPARTMENT.
9. NO BUILDINGS ARE TO BE OCCUPIED AND THE NEW WATER SYSTEM SHALL NOT BE PLACED INTO SERVICE, UNTIL A "COMPLETED WORKS APPROVAL" IS ISSUED UNDER SECTION 5-1.22(D) OF PART 5 OF THE NEW YORK STATE SANITARY CODE (10NYCRR5).
10. NO BUILDINGS ARE TO BE OCCUPIED AND THE NEW WASTEWATER COLLECTION SYSTEM SHALL NOT BE PLACED INTO SERVICE UNTIL A "CERTIFICATE OF CONSTRUCTION COMPLIANCE" IS ISSUED UNDER SECTION 19.7 OF ARTICLE 19 OF THE DUTCHESS COUNTY SANITARY CODE.
11. ALL SERVICE LINES ARE THE RESPONSIBILITY OF THE OWNER UP TO THE PROPERTY LINE. THE WATER AND SEWER COMPANIES SHALL BE RESPONSIBLE FOR ALL VALVES AND PIPES WHICH ARE NOT ON THE OWNER'S PROPERTY.
12. THE UNDERSIGNED OWNERS OF THE PROPERTY HEREON STATE THAT THEY ARE FAMILIAR WITH THIS MAP, ITS CONTENTS, AND ITS LEGENDS AND HEREBY CONSENT TO ALL SAID TERMS AND CONDITIONS AS STATED HEREON.

SIGNATURE OF AUTHORIZED REPRESENTATIVE _____ DATE _____

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IT IS A VIOLATION OF SECTION 7209 OF ARTICLE 145 OF THE NEW YORK STATE EDUCATION LAW FOR ANY PERSON TO ALTER ANY DOCUMENT THAT BEARS THE SEAL OF A PROFESSIONAL ENGINEER, UNLESS THE PERSON IS ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER

VHB Project : 43550.01
Issued for : Site Plan Modification Approval - December 11, 2025

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Legend

Exist.	Prop.	
		PROPERTY LINE
		PROJECT LIMIT LINE
		RIGHT-OF-WAY/PROPERTY LINE
		EASEMENT
		BUILDING SETBACK
		PARKING SETBACK
10+00	10+00	BASELINE
		CONSTRUCTION LAYOUT
		ZONING LINE
		TOWN LINE
		LIMIT OF DISTURBANCE
		WETLAND LINE WITH FLAG
		FLOODPLAIN
BLSF		BORDERING LAND SUBJECT TO FLOODING
BZ		WETLAND BUFFER ZONE
NDZ		NO DISTURB ZONE
200'RA		200' RIVERFRONT AREA
		GRAVEL ROAD
EOP	EOP	EDGE OF PAVEMENT
BB	BB	BITUMINOUS BERM
BC	BC	BITUMINOUS CURB
CC	CC	CONCRETE CURB
CG	CG	CURB AND GUTTER
CC	ECC	EXTRUDED CONCRETE CURB
CC	MCC	MONOLITHIC CONCRETE CURB
CC	PCC	PRECAST CONC. CURB
SGE	SGE	SLOPED GRAN. EDGING
VGC	VGC	VERT. GRAN. CURB
		LIMIT OF CURB TYPE
		SAWCUT
		BUILDING
	EN	BUILDING ENTRANCE
	LD	LOADING DOCK
		BOLLARD
D	D	DUMPSTER PAD
		SIGN
		DOUBLE SIGN
		STEEL GUARDRAIL
		WOOD GUARDRAIL
		PATH
		TREE LINE
		WIRE FENCE
		FENCE
		STOCKADE FENCE
		STONE WALL
		RETAINING WALL
		STREAM / POND / WATER COURSE
		DETENTION BASIN
		HAY BALES
		SILT FENCE
		SILT SOCK / STRAW WATTLE
4	4	MINOR CONTOUR
20	20	MAJOR CONTOUR
10	10	PARKING COUNT
	100	CART PARKING STALLS
DYL	DYL	DOUBLE YELLOW LINE
SL	SL	STOP LINE
		CROSSWALK
		ACCESSIBLE CURB RAMP
		ACCESSIBLE PARKING
VAN	VAN	VAN-ACCESSIBLE PARKING

Exist.	Prop.	
		CONCRETE
		HEAVY DUTY PAVEMENT
		BUILDINGS
RIPRAP	RIPRAP	RIPRAP
		CONSTRUCTION EXIT
27.35 TC×	27.35 TC×	TOP OF CURB ELEVATION
26.85 BC×	26.85 BC×	BOTTOM OF CURB ELEVATION
132.75×	132.75×	SPOT ELEVATION
45.0 TW× 38.5 FG×	45.0 TW× 38.5 FG×	TOP OF WALL & FINISH GRADE ELEVATION
		BORING LOCATION
		TEST PIT LOCATION
MW	MW	MONITORING WELL
UD	UD	UNDERDRAIN
12"D	12"D	DRAIN
6"RD	6"RD	ROOF DRAIN
12"S	12"S	SEWER
FM	FM	FORCE MAIN
OHW	OHW	OVERHEAD WIRE
6"W	6"W	WATER
4"FP	4"FP	FIRE PROTECTION
	2"DW	DOMESTIC WATER
3"G	G	GAS
E	E	ELECTRIC
STM	STM	STEAM
T	T	TELEPHONE
FA	FA	FIRE ALARM
CATV	CATV	CABLE TV
		CATCH BASIN CONCENTRIC
		CATCH BASIN ECCENTRIC
		DOUBLE CATCH BASIN CONCENTRIC
		DOUBLE CATCH BASIN ECCENTRIC
		GUTTER INLET
		DRAIN MANHOLE CONCENTRIC
		DRAIN MANHOLE ECCENTRIC
		TRENCH DRAIN
		PLUG OR CAP
CO	CO	CLEANOUT
		FLARED END SECTION
		HEADWALL
		SEWER MANHOLE CONCENTRIC
		SEWER MANHOLE ECCENTRIC
CS	CS	CURB STOP & BOX
WV	WV	WATER VALVE & BOX
TSV	TSV	TAPPING SLEEVE, VALVE & BOX
		FIRE DEPARTMENT CONNECTION
HYD	HYD	FIRE HYDRANT
WM	WM	WATER METER
PIV	PIV	POST INDICATOR VALVE
		WATER WELL
GG	GG	GAS GATE
GM	GM	GAS METER
	MH	ELECTRIC MANHOLE
EM	EM	ELECTRIC METER
		LIGHT POLE
	MH	TELEPHONE MANHOLE
T	T	TRANSFORMER PAD
		UTILITY POLE
		GUY POLE
		GUY WIRE & ANCHOR
HH	HH	HAND HOLE
PB	PB	PULL BOX

Abbreviations

General

ABAN	ABANDON
ACR	ACCESSIBLE CURB RAMP
ADJ	ADJUST
APPROX	APPROXIMATE
BIT	BITUMINOUS
BS	BOTTOM OF SLOPE
BWLL	BROKEN WHITE LANE LINE
CONC	CONCRETE
DYCL	DOUBLE YELLOW CENTER LINE
EL	ELEVATION
ELEV	ELEVATION
EX	EXISTING
FDN	FOUNDATION
FFE	FIRST FLOOR ELEVATION
GRAN	GRANITE
GTD	GRADE TO DRAIN
LA	LANDSCAPE AREA
LOD	LIMIT OF DISTURBANCE
MAX	MAXIMUM
MIN	MINIMUM
NIC	NOT IN CONTRACT
NTS	NOT TO SCALE
PERF	PERFORATED
PROP	PROPOSED
REM	REMOVE
RET	RETAIN
R&D	REMOVE AND DISPOSE
R&R	REMOVE AND RESET
SWEL	SOLID WHITE EDGE LINE
SWLL	SOLID WHITE LANE LINE
TS	TOP OF SLOPE
TYP	TYPICAL

Utility

CB	CATCH BASIN
CMP	CORRUGATED METAL PIPE
CO	CLEANOUT
DCB	DOUBLE CATCH BASIN
DMH	DRAIN MANHOLE
CIP	CAST IRON PIPE
COND	CONDUIT
DIP	DUCTILE IRON PIPE
FES	FLARED END SECTION
FM	FORCE MAIN
F&G	FRAME AND GRATE
F&C	FRAME AND COVER
GI	GUTTER INLET
GT	GREASE TRAP
HDPE	HIGH DENSITY POLYETHYLENE PIPE
HH	HANDHOLE
HW	HEADWALL
HYD	HYDRANT
INV	INVERT ELEVATION
I=	INVERT ELEVATION
LP	LIGHT POLE
MES	METAL END SECTION
PIV	POST INDICATOR VALVE
PWW	PAVED WATER WAY
PVC	POLYVINYLCHLORIDE PIPE
RCP	REINFORCED CONCRETE PIPE
R=	RIM ELEVATION
RIM=	RIM ELEVATION
SMH	SEWER MANHOLE
TSV	TAPPING SLEEVE, VALVE AND BOX
UG	UNDERGROUND
UP	UTILITY POLE

Notes

General

1. CONTRACTOR SHALL NOTIFY "DIG SAFELY NEW YORK" (CALL 811 OR VISIT MY.DIGSAFELYNEWYORK.COM) AT LEAST 72 HOURS BEFORE EXCAVATING.
2. CONTRACTOR SHALL BE RESPONSIBLE FOR SITE SECURITY AND JOB SAFETY. CONSTRUCTION ACTIVITIES SHALL BE IN ACCORDANCE WITH OSHA STANDARDS AND LOCAL REQUIREMENTS.
3. ACCESSIBLE ROUTES, PARKING SPACES, RAMPS, SIDEWALKS AND WALKWAYS SHALL BE CONSTRUCTED IN CONFORMANCE WITH THE FEDERAL AMERICANS WITH DISABILITIES ACT AND WITH STATE AND LOCAL LAWS AND REGULATIONS (WHICHEVER ARE MORE STRINGENT).
4. AREAS DISTURBED DURING CONSTRUCTION AND NOT RESTORED WITH IMPERVIOUS SURFACES (BUILDINGS, PAVEMENTS, WALKS, ETC.) SHALL RECEIVE 6 INCHES LOAM AND SEED.
5. WITHIN THE LIMITS OF THE BUILDING FOOTPRINT, THE SITE CONTRACTOR SHALL PERFORM EARTHWORK OPERATIONS REQUIRED UP TO SUBGRADE ELEVATIONS.
6. WORK WITHIN THE LOCAL RIGHTS-OF-WAY SHALL CONFORM TO LOCAL MUNICIPAL STANDARDS. WORK WITHIN STATE RIGHTS-OF-WAY SHALL CONFORM TO THE LATEST EDITION OF THE STATE HIGHWAY DEPARTMENTS STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES.
7. UPON AWARD OF CONTRACT, CONTRACTOR SHALL MAKE NECESSARY CONSTRUCTION NOTIFICATIONS AND APPLY FOR AND OBTAIN NECESSARY PERMITS, PAY FEES, AND POST BONDS ASSOCIATED WITH THE WORK INDICATED ON THE DRAWINGS, IN THE SPECIFICATIONS, AND IN THE CONTRACT DOCUMENTS. DO NOT CLOSE OR OBSTRUCT ROADWAYS, SIDEWALKS, AND FIRE HYDRANTS, WITHOUT APPROPRIATE PERMITS.
8. TRAFFIC SIGNAGE AND PAVEMENT MARKINGS SHALL CONFORM TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
9. AREAS OUTSIDE THE LIMITS OF PROPOSED WORK DISTURBED BY THE CONTRACTOR'S OPERATIONS SHALL BE RESTORED BY THE CONTRACTOR TO THEIR ORIGINAL CONDITION AT THE CONTRACTOR'S EXPENSE.
10. IN THE EVENT THAT SUSPECTED CONTAMINATED SOIL, GROUNDWATER, AND OTHER MEDIA ARE ENCOUNTERED DURING EXCAVATION AND CONSTRUCTION ACTIVITIES BASED ON VISUAL, OLFACTORY, OR OTHER EVIDENCE, THE CONTRACTOR SHALL STOP WORK IN THE VICINITY OF THE SUSPECT MATERIAL TO AVOID FURTHER SPREADING OF THE MATERIAL, AND SHALL NOTIFY THE OWNER IMMEDIATELY SO THAT THE APPROPRIATE TESTING AND SUBSEQUENT ACTION CAN BE TAKEN.
11. CONTRACTOR SHALL PREVENT DUST, SEDIMENT, AND DEBRIS FROM EXITING THE SITE AND SHALL BE RESPONSIBLE FOR CLEANUP, REPAIRS AND CORRECTIVE ACTION IF SUCH OCCURS.
12. DAMAGE RESULTING FROM CONSTRUCTION LOADS SHALL BE REPAIRED BY THE CONTRACTOR AT NO ADDITIONAL COST TO OWNER.
13. CONTRACTOR SHALL CONTROL STORMWATER RUNOFF DURING CONSTRUCTION TO PREVENT ADVERSE IMPACTS TO OFF SITE AREAS, AND SHALL BE RESPONSIBLE TO REPAIR RESULTING DAMAGES, IF ANY, AT NO COST TO OWNER.
14. THE CONTRACTOR SHALL PROVIDE AS-BUILT DRAWINGS AS PER THE TOWN OF AMENIA CODE SECTION 105-28 AND 121-68.
15. THIS PROJECT DISTURBS MORE THAN ONE ACRE OF LAND AND FALLS WITHIN THE STATE POLLUTANT DISCHARGE ELIMINATION SYSTEM (SPDES) PROGRAM AND NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION (NYSDEC) JURISDICTION. PRIOR TO THE START OF CONSTRUCTION, A NOTICE OF INTENT (NOI) SHALL BE FILED WITH THE NYSDEC AND A STORMWATER POLLUTION PREVENTION PLAN (SWPPP) SHALL BE PREPARED IN ACCORDANCE WITH THE SPDES REGULATIONS. THE CONTRACTOR SHALL IMPLEMENT EROSION AND SEDIMENT CONTROL MEASURES IN ACCORDANCE WITH THE SWPPP AND NYSDEC SPDES REGULATIONS.

Utilities

1. THE LOCATIONS, SIZES, AND TYPES OF EXISTING UTILITIES ARE SHOWN AS AN APPROXIMATE REPRESENTATION ONLY. THE OWNER OR ITS REPRESENTATIVE(S) HAVE NOT INDEPENDENTLY VERIFIED THIS INFORMATION AS SHOWN ON THE PLANS. THE UTILITY INFORMATION SHOWN DOES NOT GUARANTEE THE ACTUAL EXISTENCE, SERVICEABILITY, OR OTHER DATA CONCERNING THE UTILITIES, NOR DOES IT GUARANTEE AGAINST THE POSSIBILITY THAT ADDITIONAL UTILITIES MAY BE PRESENT THAT ARE NOT SHOWN ON THE PLANS. PRIOR TO ORDERING MATERIALS AND BEGINNING CONSTRUCTION, THE CONTRACTOR SHALL VERIFY AND DETERMINE THE EXACT LOCATIONS, SIZES, AND ELEVATIONS OF THE POINTS OF CONNECTIONS TO EXISTING UTILITIES AND, SHALL CONFIRM THAT THERE ARE NO INTERFERENCES WITH EXISTING UTILITIES AND THE PROPOSED UTILITY ROUTES, INCLUDING ROUTES WITHIN THE PUBLIC RIGHTS OF WAY.
2. WHERE AN EXISTING UTILITY IS FOUND TO CONFLICT WITH THE PROPOSED WORK, OR EXISTING CONDITIONS DIFFER FROM THOSE SHOWN SUCH THAT THE WORK CANNOT BE COMPLETED AS INTENDED, THE LOCATION, ELEVATION, AND SIZE OF THE UTILITY SHALL BE ACCURATELY DETERMINED WITHOUT DELAY BY THE CONTRACTOR, AND THE INFORMATION FURNISHED IN WRITING TO THE OWNER'S REPRESENTATIVE FOR THE RESOLUTION OF THE CONFLICT AND CONTRACTOR'S FAILURE TO NOTIFY PRIOR TO PERFORMING ADDITIONAL WORK RELEASES OWNER FROM OBLIGATIONS FOR ADDITIONAL PAYMENTS WHICH OTHERWISE MAY BE WARRANTED TO RESOLVE THE CONFLICT.
3. SET CATCH BASIN RIMS, AND INVERTS OF SEWERS, DRAINS, AND DITCHES IN ACCORDANCE WITH ELEVATIONS ON THE GRADING AND UTILITY PLANS.
4. RIM ELEVATIONS FOR DRAIN AND SEWER MANHOLES, WATER VALVE COVERS, GAS GATES, ELECTRIC AND TELEPHONE PULL BOXES, AND MANHOLES, AND OTHER SUCH ITEMS, ARE APPROXIMATE AND SHALL BE SET/RESET AS FOLLOWS:
   A. PAVEMENTS AND CONCRETE SURFACES: FLUSH
   B. ALL SURFACES ALONG ACCESSIBLE ROUTES: FLUSH
   C. LANDSCAPE, LOAM AND SEED, AND OTHER EARTH SURFACE AREAS: ONE INCH ABOVE SURROUNDING AREA AND TAPER EARTH TO THE RIM ELEVATION.
5. THE LOCATION, SIZE, DEPTH, AND SPECIFICATIONS FOR CONSTRUCTION OF PROPOSED PRIVATE UTILITY SERVICES SHALL BE INSTALLED ACCORDING TO THE REQUIREMENTS PROVIDED BY, AND APPROVED BY, THE RESPECTIVE UTILITY COMPANY (GAS, TELEPHONE, ELECTRIC, FIRE ALARM, ETC.). FINAL DESIGN LOADS AND LOCATIONS TO BE COORDINATED WITH OWNER AND ARCHITECT.
6. CONTRACTOR SHALL MAKE ARRANGEMENTS FOR AND SHALL BE RESPONSIBLE FOR PAYING FEES FOR POLE RELOCATION AND FOR THE ALTERATION AND ADJUSTMENT OF GAS, ELECTRIC, TELEPHONE, FIRE ALARM, AND ANY OTHER PRIVATE UTILITIES, WHETHER WORK IS PERFORMED BY CONTRACTOR OR BY THE UTILITIES COMPANY.
7. UTILITY PIPE MATERIALS SHALL BE AS FOLLOWS, UNLESS OTHERWISE NOTED ON THE PLAN:
   A. WATER PIPES SHALL BE DUCTILE IRON PIPE (DIP) CLASS 52, UNLESS OTHERWISE NOTED.
   B. SANITARY SEWER PIPES SHALL BE POLYVINYL CHLORIDE (PVC) SEWER PIPE SDR-35, UNLESS OTHERWISE NOTED.
   C. STORM DRAINAGE PIPES SHALL BE HDPE SMOOTH INTERIOR, UNLESS OTHERWISE NOTED.
   D. PIPE INSTALLATION AND MATERIALS SHALL COMPLY WITH THE STATE PLUMBING CODE WHERE APPLICABLE. CONTRACTOR SHALL COORDINATE WITH LOCAL PLUMBING INSPECTOR PRIOR TO BEGINNING WORK.
8. CONTRACTOR SHALL COORDINATE WITH ELECTRICAL CONTRACTOR AND SHALL FURNISH EXCAVATION, INSTALLATION, AND BACKFILL OF ELECTRICAL FURNISHED SITEWORK RELATED ITEMS SUCH AS PULL BOXES, CONDUITS, DUCT BANKS, LIGHT POLE BASES, AND CONCRETE PADS. SITE CONTRACTOR SHALL FURNISH CONCRETE ENCASEMENT OF DUCT BANKS IF REQUIRED BY THE UTILITY COMPANY AND AS INDICATED ON THE DRAWINGS.
9. CONTRACTOR SHALL EXCAVATE AND BACKFILL TRENCHES FOR GAS IN ACCORDANCE WITH GAS COMPANY'S REQUIREMENTS.
10. ALL DRAINAGE AND SANITARY STRUCTURE INTERIOR DIAMETERS (4' MIN.) SHALL BE DETERMINED BY THE MANUFACTURER BASED ON THE PIPE CONFIGURATIONS SHOWN ON THESE PLANS AND LOCAL MUNICIPAL STANDARDS. FOR MANHOLES THAT ARE 20 FEET IN DEPTH AND GREATER, THE MINIMUM DIAMETER SHALL BE 5 FEET.

Layout and Materials

1. DIMENSIONS ARE FROM THE FACE OF CURB, FACE OF BUILDING, FACE OF WALL, AND CENTER LINE OF PAVEMENT MARKINGS, UNLESS OTHERWISE NOTED.
2. CURB RADII ARE 5 FEET UNLESS OTHERWISE NOTED.
3. CURBING SHALL BE VERTICAL GRANITE CURB (VGC) WITHIN THE SITE UNLESS OTHERWISE INDICATED ON THE PLANS.
4. SEE ARCHITECTURAL DRAWINGS FOR EXACT BUILDING DIMENSIONS AND DETAILS CONTIGUOUS TO THE BUILDING, INCLUDING SIDEWALKS, RAMPS, BUILDING ENTRANCES, STAIRWAYS, UTILITY PENETRATIONS, CONCRETE DOOR PADS, COMPACTOR PAD, LOADING DOCKS, BOLLARDS, ETC.
5. PROPOSED BOUNDS AND ANY EXISTING PROPERTY LINE MONUMENTATION DISTURBED DURING CONSTRUCTION SHALL BE SET OR RESET BY A PROFESSIONAL LAND SURVEYOR.
6. PRIOR TO START OF CONSTRUCTION, CONTRACTOR SHALL VERIFY EXISTING PAVEMENT ELEVATIONS AT INTERFACE WITH PROPOSED PAVEMENTS, AND EXISTING GROUND ELEVATIONS ADJACENT TO DRAINAGE OUTLETS TO ASSURE PROPER TRANSITIONS BETWEEN EXISTING AND PROPOSED FACILITIES.

Demolition

1. CONTRACTOR SHALL REMOVE AND DISPOSE OF EXISTING MANMADE SURFACE FEATURES WITHIN THE LIMIT OF WORK INCLUDING BUILDINGS, STRUCTURES, PAVEMENTS, SLABS, CURBING, FENCES, UTILITY POLES, SIGNS, ETC. UNLESS INDICATED OTHERWISE ON THE DRAWINGS. REMOVE AND DISPOSE OF EXISTING UTILITIES, FOUNDATIONS AND UNSUITABLE MATERIAL BENEATH AND FOR A DISTANCE OF 10 FEET BEYOND THE PROPOSED BUILDING FOOTPRINT INCLUDING EXTERIOR COLUMNS.
2. EXISTING UTILITIES SHALL BE TERMINATED, UNLESS OTHERWISE NOTED, IN CONFORMANCE WITH LOCAL, STATE AND INDIVIDUAL UTILITY COMPANY STANDARD SPECIFICATIONS AND DETAILS. THE CONTRACTOR SHALL COORDINATE UTILITY SERVICE DISCONNECTS WITH THE UTILITY REPRESENTATIVES.
3. CONTRACTOR SHALL DISPOSE OF DEMOLITION DEBRIS IN ACCORDANCE WITH APPLICABLE FEDERAL, STATE AND LOCAL REGULATIONS, ORDINANCES AND STATUTES.
4. THE DEMOLITION LIMITS DEPICTED IN THE PLANS IS INTENDED TO AID THE CONTRACTOR DURING THE BIDDING AND CONSTRUCTION PROCESS AND IS NOT INTENDED TO DEPICT EACH AND EVERY ELEMENT OF DEMOLITION. THE CONTRACTOR IS RESPONSIBLE FOR IDENTIFYING THE DETAILED SCOPE OF DEMOLITION BEFORE SUBMITTING ITS BID/PROPOSAL TO PERFORM THE WORK AND SHALL MAKE NO CLAIMS AND SEEK NO ADDITIONAL COMPENSATION FOR CHANGED CONDITIONS OR UNFORESEEN OR LATENT SITE CONDITIONS RELATED TO ANY CONDITIONS DISCOVERED DURING EXECUTION OF THE WORK.
5. UNLESS OTHERWISE SPECIFICALLY PROVIDED ON THE PLANS OR IN THE SPECIFICATIONS, THE ENGINEER HAS NOT PREPARED DESIGNS FOR AND SHALL HAVE NO RESPONSIBILITY FOR THE PRESENCE, DISCOVERY, REMOVAL, ABATEMENT OR DISPOSAL OF HAZARDOUS MATERIALS, TOXIC WASTES OR POLLUTANTS AT THE PROJECT SITE. THE ENGINEER SHALL NOT BE RESPONSIBLE FOR ANY CLAIMS OF LOSS, DAMAGE, EXPENSE, DELAY, INJURY OR DEATH ARISING FROM THE PRESENCE OF HAZARDOUS MATERIAL AND CONTRACTOR SHALL INDEMNIFY AND HOLD HARMLESS THE ENGINEER FROM ANY CLAIMS MADE IN CONNECTION THEREWITH. MOREOVER, THE ENGINEER SHALL HAVE NO ADMINISTRATIVE OBLIGATIONS OF ANY TYPE WITH REGARD TO ANY CONTRACTOR AMENDMENT INVOLVING THE ISSUES OF PRESENCE, DISCOVERY, REMOVAL, ABATEMENT OR DISPOSAL OF ASBESTOS OR OTHER HAZARDOUS MATERIALS.

Erosion Control

1. OBTAIN PLAN APPROVAL AND OTHER APPLICABLE PERMITS.
2. A PRE-CONSTRUCTION MEETING SHALL BE HELD BETWEEN THE CONTRACTOR, OWNER AND THE TOWN OF AMENIA. AT THE MEETING, THE INDIVIDUAL RESPONSIBLE FOR MAINTAINING THE EROSION AND SEDIMENT CONTROL MEASURES WILL BE DESIGNATED. EROSION CONTROL INSPECTIONS SHALL BE PERFORMED IN ACCORDANCE WITH THE REGULATIONS SET FORTH BY THE NYSDEC (REFER TO NYSDEC SPDES GENERAL PERMIT GP-0-20-001 PART IV.C.). A LOG OF ALL INSPECTIONS AND A COPY OF THE CURRENT DESIGN PLANS SHALL BE KEPT ON SITE AND BE AVAILABLE FOR VIEWING AT ALL TIMES.
3. THE EROSION AND SEDIMENT CONTROLS SHALL BE MODIFIED BY THE CONTRACTOR AT THE DIRECTION OF THE ENGINEER AND/OR THE DESIGNATED TOWN REPRESENTATIVE AS NECESSITATED BY CHANGING SITE CONDITIONS DURING CONSTRUCTION.
4. ALL DEWATERING WASTE WATERS SHALL BE DISCHARGED IN A MANNER WHICH MINIMIZES THE DISCOLORATION OF THE RECEIVING WATERS. THE SITE SHOULD BE KEPT CLEAN OF DEBRIS, LITTER AND BUILDLING MATERIALS IN ORDER THAT NONE OF THE ABOVE ENTERS WETLANDS OR WATERCOURSES.
5. PRIOR TO STARTING ANY OTHER WORK ON THE SITE, THE CONTRACTOR SHALL NOTIFY APPROPRIATE AGENCIES AND SHALL INSTALL EROSION CONTROL MEASURES AS SHOWN ON THE PLANS AND AS IDENTIFIED IN FEDERAL, STATE, AND LOCAL APPROVAL DOCUMENTS PERTAINING TO THIS PROJECT.
6. CONTRACTOR SHALL INSPECT AND MAINTAIN EROSION CONTROL MEASURES AND REMOVE SEDIMENT THEREFROM ON A WEEKLY BASIS (MINIMUM) OR AS REQUIRED PER THE STORMWATER POLLUTION PREVENTION PLAN (SWPPP). THE CONTRACTOR SHALL ADDRESS DEFICIENCIES AND MAINTENANCE ITEMS WITHIN TWENTY-FOUR HOURS OF INSPECTION. CONTRACTOR SHALL PROPERLY DISPOSE OF SEDIMENTS IN AN UPLAND AREA SUCH THAT THEY DO NOT ENCUMBER OTHER DRAINAGE STRUCTURES AND PROTECTED AREAS.
7. CONTRACTOR SHALL BE FULLY RESPONSIBLE TO CONTROL CONSTRUCTION SUCH THAT SEDIMENTATION SHALL NOT AFFECT REGULATORY PROTECTED AREAS, WHETHER SUCH SEDIMENTATION IS CAUSED BY WATER, WIND, OR DIRECT DEPOSIT.
8. CONTRACTOR SHALL PERFORM CONSTRUCTION SEQUENCING SUCH THAT EARTH MATERIALS ARE EXPOSED FOR A MINIMUM OF TIME BEFORE THEY ARE COVERED, SEEDED, OR OTHERWISE STABILIZED TO PREVENT EROSION.
9. ALL SOIL EROSION AND SEDIMENT CONTROL PRACTICES SHALL BE INSTALLED IN ACCORDANCE WITH NEW YORK STANDARDS AND SPECIFICATIONS FOR EROSION AND SEDIMENT CONTROL (NYSDEC, NOVEMBER 2016).
10. ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE MAINTAINED UNTIL COMPLETION OF CONSTRUCTION AND SHALL BE IN ACCORDANCE WITH "DUTCHESS COUNTY BEST MANAGEMENT PRACTICES" AS WELL AS THE NYSDEC REQUIREMENTS AND AS AMENDED.
11. THE TOWN OF AMENIA, NYSDEC OR THE SITE ENGINEER MAY REQUEST ADDITIONAL MEASURES TO MINIMIZE THE POTENTIAL FOR ONSITE OR OFFSITE EROSION PROBLEMS THAT MAY OCCUR DURING CONSTRUCTION. THE CONTRACTOR IS RESPONSIBLE FOR COMPLYING WITH THESE MEASURES.
12. IN AREAS WHERE SOIL DISTURBANCE ACTIVITY HAS TEMPORARILY OR PERMANENTLY CEASED, SOIL STABILIZATION MEASURES MUST BE INITIALED BY THE END OF THE NEXT BUSINESS DAY AND COMPLETED WITHIN FOURTEEN (14) DAYS FROM THE DATE THE CURRENT SOIL DISTURBANCE ACTIVITY CEASED. IF THE SEASON PREVENTS THE ESTABLISHMENT OF A TEMPORARY COVER, THE DISTURBED AREAS WILL BE MULCHED WITH STRAW, OR EQUIVALENT MATERIAL. THE SEEDING WILL BE DONE IN ACCORDANCE WITH NEW YORK STATE STANDARDS AND SPECIFICATIONS FOR EROSION AND SEDIMENT CONTROL. AREAS SUBJECT TO CONSTRUCTION TRAFFIC ARE TREATED USING WATER BARS AND BY DIRECTING THE SURFACE WATER FLOW TO TREATMENT AREAS. THESE AREAS ARE NOT SUBJECT TO THE TEMPORARY SEEDING REQUIREMENT DUE TO THE OTHER EROSION AND SEDIMENT CONTROL TREATMENTS AS DESCRIBED HEREIN.
13. ANY GRADED AREAS NOT SUBJECT TO FURTHER DISTURBANCE OR CONSTRUCTION TRAFFIC SHALL, WITHIN 10 DAYS OF FINAL GRADING, RECEIVE PERMANENT VEGETATIVE COVER IN COMBINATION WITH SUITABLE MULCH AS PER THE SPECIFICATIONS.
14. CUT OR FILL SLOPES STEEPER THAN 3:1 SHALL BE STABILIZED IMMEDIATELY AFTER GRADING.
15. UPON COMPLETION OF FINAL GRADING, ANY AREAS NOT COVERED BY PAVEMENT, OTHER FORMS OF STABILIZATION OR LANDSCAPING AND WHICH ARE ON SLOPES OF 4:1 AND GREATER WILL BE PROTECTED WITH EROSION CONTROL SLOPE BLANKETS AND SEEDED WITH AN EROSION CONTROL SEED MIX. THE BLANKET WILL BE INSTALLED FROM THE TOP OF THE SLOPE, WITH THE UPPER EDGE OF THE BLANKET SECURED IN A TRENCH. BLANKETS SHALL BE UNROLLED DOWN THE SLOPE OR SWALE IN THE DIRECTION OF THE WATER FLOW. EDGES OF BLANKET SHALL BE STAPLED WITH APPROXIMATELY FOUR INCHES OF OVERLAP WHERE TWO OR MORE STRIP WIDTHS ARE REQUIRED. THE END OF AN UPPER BLANKET SHALL OVERLAP THE END OF A LOWER BLANKET BY AT LEAST SIX INCHES AND BOTH ENDS SHALL BE STAPLED IN PLACE. THE BLANKETS WILL BE STAKED AND/OR STAPLED INTO PLACE AS PER MANUFACTURER'S RECOMMENDATIONS.
16. THE SITE SHALL AT ALL TIMES BE GRADED AND MAINTAINED SUCH THAT ALL STORMWATER RUNOFF IS DIVERTED TO SOIL EROSION AND SEDIMENT CONTROL FACILITIES.
17. ALL STORM DRAINAGE OUTLETS SHALL BE STABILIZED, AS REQUIRED, BEFORE THE DISCHARGE POINTS BECOME OPERATIONAL.
18. CONSTRUCTION FENCING SHALL BE USED TO PROTECT EXISTING TREES TO REMAIN, WETLANDS AND OTHER SENSITIVE AREAS.
19. IF FOR ANY REASON THE CONSTRUCTION IS HALTED FOR EXTENDED PERIODS, THE CONTRACTOR SHALL STABILIZE THE SELECT MATERIAL BY HYDRO-SEED OR OTHER MEANS, TO THE SATISFACTION OF THE ENGINEER FOR ALL AREAS DEVOID OF VEGETATION.
20. STORMWATER FROM DISTURBED AREAS MUST BE PASSED THROUGH AN APPROVED CONTROL DEVICE BEFORE BEING DISCHARGED BEYOND DISTURBED AREAS OR DISCHARGED INTO INLETS OR OTHER DRAINAGE SYSTEMS.
21. DUST CONTROL - WATER SHALL BE APPLIED BY SPRINKLER OR WATER TRUCK DURING GRADING OPERATIONS TO MINIMIZE SEDIMENT TRANSPORT AND MAINTAIN ACCEPTABLE AIR QUALITY CONDITIONS. REPETITIVE TREATMENTS SHALL BE DONE AS NEEDED UNTIL GRADES ARE STABILIZED.
22. THE TIMELY MAINTENANCE OF SEDIMENT CONTROL STRUCTURES IS THE RESPONSIBILITY OF THE CONTRACTOR. ALL STRUCTURES SHALL BE MAINTAINED IN GOOD WORKING ORDER AT ALL TIMES. THE SEDIMENT LEVEL IN ALL SEDIMENT TRAPS SHALL BE CLOSELY MONITORED AND SEDIMENT REMOVED PROMPTLY WHEN MAXIMUM LEVELS ARE REACHED OR AS ORDERED BY THE ENGINEER. ALL SEDIMENT CONTROL STRUCTURES SHALL BE INSPECTED WEEKLY (MINIMUM) OR AS REQUIRED PER THE STORMWATER POLLUTION PREVENTION PLAN (SWPPP), AND AFTER EACH RAINFALL IN EXCESS OF 1/2 INCH TO INSURE PROPER OPERATION AS DESIGNED. AN INSPECTION SCHEDULE SHALL BE SET FORTH PRIOR TO THE START OF CONSTRUCTION.
23. THE CONTRACTOR SHALL REPAIR OR REPLACE DAMAGED EROSION CONTROL DEVICES IMMEDIATELY, AND IN NO CASE, MORE THAN TWENTY FOUR (24) HOURS AFTER OBSERVING SUCH DEFICIENCIES.
24. THE CONTRACTOR SHALL BE PREPARED TO IMPLEMENT INTERIM DRAINAGE CONTROLS AND EROSION CONTROL MEASURES AS MAY BE NECESSARY DURING THE COURSE OF CONSTRUCTION.
25. THE CONTRACTOR SHALL MAKE AVAILABLE ONSITE ALL EQUIPMENT, MATERIALS AND LABOR NECESSARY TO PERFORM EMERGENCY EROSION CONTROL AND DRAINAGE IMPROVEMENTS WITHIN FOUR (4) HOURS OF ANY IMPENDING EMERGENCY SITUATION.
26. ALL SOIL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE MAINTAINED BY THE CONTRACTOR UNTIL FINAL ACCEPTANCE OF THE SITE WORK BY THE OWNER. UPON CERTIFICATION OF FINAL ACCEPTANCE, THE OWNER WILL ASSUME RESPONSIBILITY FOR THE CONTINUED MAINTENANCE OF PERMANENT SOIL EROSION AND SEDIMENT CONTROL MEASURES.
27. PHASES OF CONSTRUCTION INCLUDING CLEARING AND GRUBBING, PRELIMINARY SITE PREPARATION, UTILITY INSTALLATION, PRELIMINARY GRADING, ETC., REQUIRE TREE PROTECTION MEASURES TO BE IN PLACE.
28. NO CONSTRUCTION ACTIVITIES OF ANY KIND SHOULD OCCUR WITHIN THE LIMITS OF THE PROTECTED AREAS INCLUDING, BUT NOT LIMITED TO GRADING, EXCAVATION, STOCKPILING OF MATERIALS, STORAGE OF CONSTRUCTION EQUIPMENT, VEHICLE PARKING, MOVEMENT OF WORKERS OR MACHINERY, OR DUMPING OF CONSTRUCTION DEBRIS.
29. CONTRACTOR SHALL REFER TO SITE DETAILS FOR THE PROTECTION MEASURES PROPOSED.
30. CONTRACTOR SHALL BE RESPONSIBLE FOR COMPLIANCE WITH ALL SEDIMENT AND EROSION CONTROL PRACTICES. THE SEDIMENT AND EROSION CONTROL PRACTICES ARE TO BE INSTALLED PRIOR TO ANY MAJOR SOIL DISTURBANCES AND MAINTAINED UNTIL PERMANENT PROTECTION IS ESTABLISHED.
31. ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSTALLED AS DESCRIBED IN THE CONSTRUCTION PHASING PLANS.
32. ALL TOPSOIL NOT TO BE USED FOR FINAL GRADING SHALL BE REMOVED FROM THE SITE IMMEDIATELY AND PLACED IN A STABILIZED STOCKPILE OR FILL AREA. ALL TOPSOIL REQUIRED FOR FINAL GRADING AND STORED ON SITE SHALL BE LIMED, FERTILIZED, TEMPORARILY SEEDED AND MULCHED WITHIN 10 DAYS.
33. THE CONTRACTOR IS RESPONSIBLE FOR ANY STREET CLEANING NECESSARY DURING THE COURSE OF THE PROJECT.
34. SEDIMENT AND EROSION CONTROL STRUCTURES SHALL BE REMOVED AND THE AREA STABILIZED WHE

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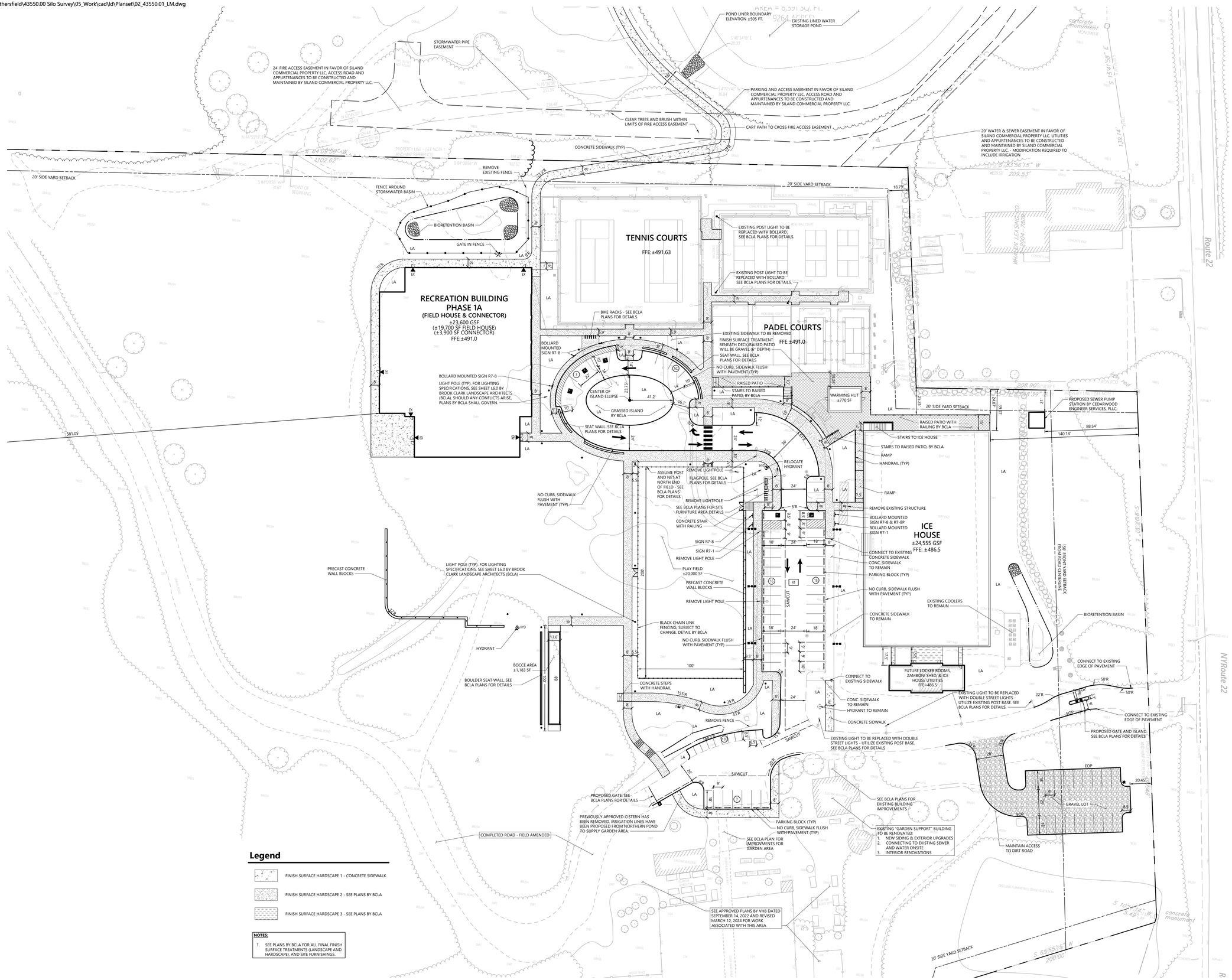

Legend

- FINISH SURFACE HARDSCAPE 1 - CONCRETE SIDEWALK
- FINISH SURFACE HARDSCAPE 2 - SEE PLANS BY BCLA
- FINISH SURFACE HARDSCAPE 3 - SEE PLANS BY BCLA

NOTES:

1. SEE PLANS BY BCLA FOR ALL FINAL FINISH SURFACE TREATMENTS (LANDSCAPE AND HARDSCAPE), AND SITE FURNISHINGS.

Sign Summary

M.U.T.C.D. Number	Specification Width	Specification Height	Desc.
R7-1	12"	18"	NO PARKING ANY TIME
R7-8	12"	18"	RESERVED PARKING
R7-8P	12"	6"	VAN ACCESIBLE

0 20 40 80 Feet

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Engineering, Surveying, Landscape Architecture and Geology, PC
100 Motor Parkway
Suite 350
Hauppauge, NY 11788
631.787.3400

Siland Recreation Facility

4391 Route 22, Town of Amenia
Dutchess County, New York

No.	Revision	Date	Appvd.
1	EDITS PER TOWN ENGINEER COMMENTS	12/11/2025	

Designed by: AMK
Checked by: PV/MRG
Issued for: Site Plan Modificatoin Approval
Not Approved for Construction
Date: July 25, 2025

Drawing Title: Layout and Materials Plan Phase 1A

Drawing Number: C-2.0

Project Number: 43550.01

STATE OF NEW YORK
EMMA ROSE BAKER
LICENSED PROFESSIONAL ENGINEER
110362-01

IT IS A VIOLATION OF SECTION 7209 OF ARTICLE 145 OF THE NEW YORK STATE EDUCATION LAW FOR ANY PERSON TO ALTER ANY DOCUMENT THAT BEARS THE SEAL OF A PROFESSIONAL ENGINEER, UNLESS THE PERSON IS ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER

Saved Tuesday, October 28, 2025 3:03:19 PM AKOWALCZYK Plotted Tuesday, December 9, 2025 4:17:49 PM Andria May Kowalczyk

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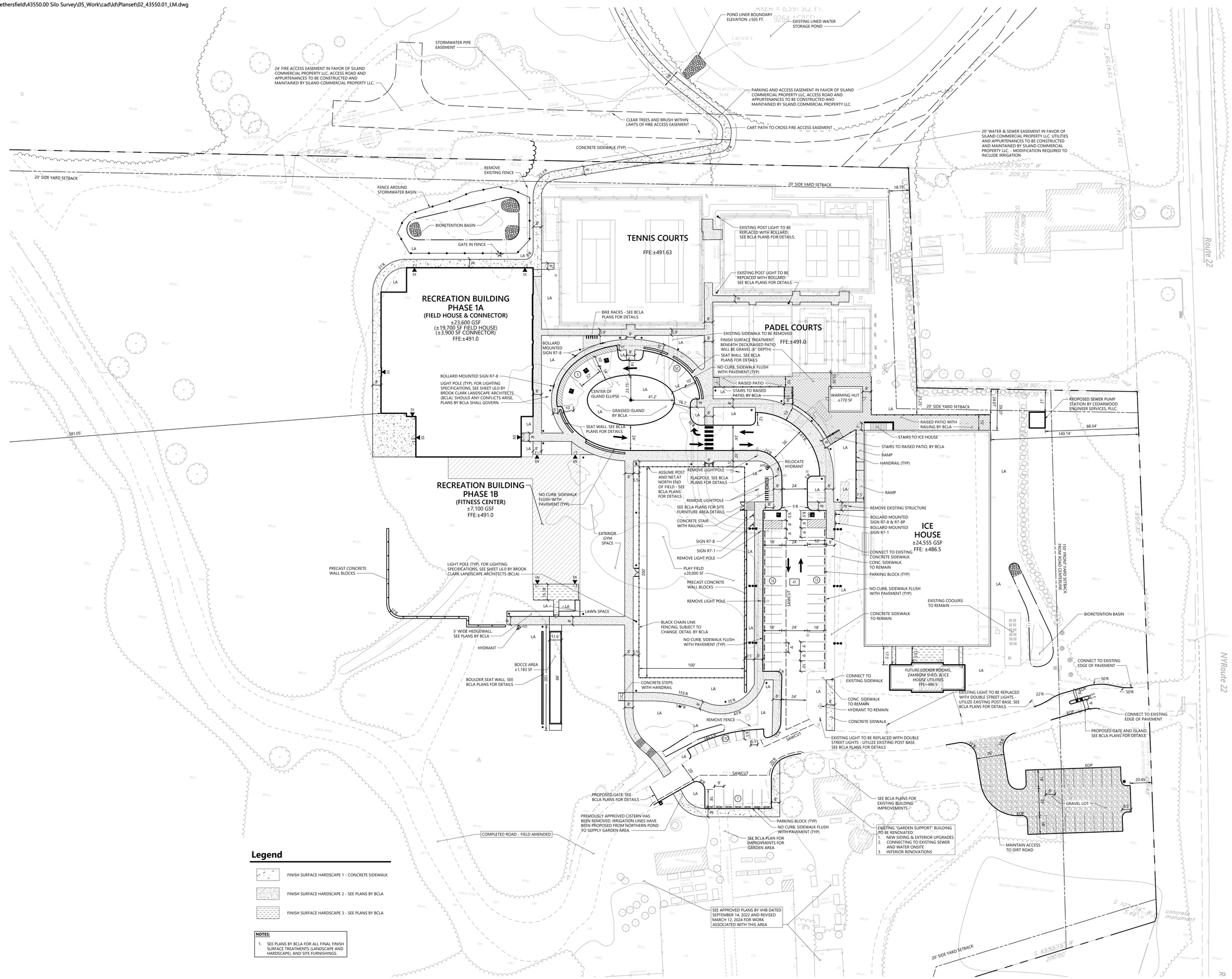

Legend

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0 20 40 80 Feet

Siland Recreation Facility

4391 Route 22, Town of Amenia
Dutchess County, New York

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Designed by: AMK
Checked by: PV/MRG
Issued for: Site Plan Modificatoin Approval — Not Approved for Construction
Date: July 25, 2025

Drawing Title: Layout and Materials Plan Phase 1A and 1B

Drawing Number: C-2.1

Project Number: 43550.01

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Suite 350
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631.787.3400

STATE OF NEW YORK — AMIA ROSE BRAUER — LICENSED PROFESSIONAL ENGINEER — 110362-01

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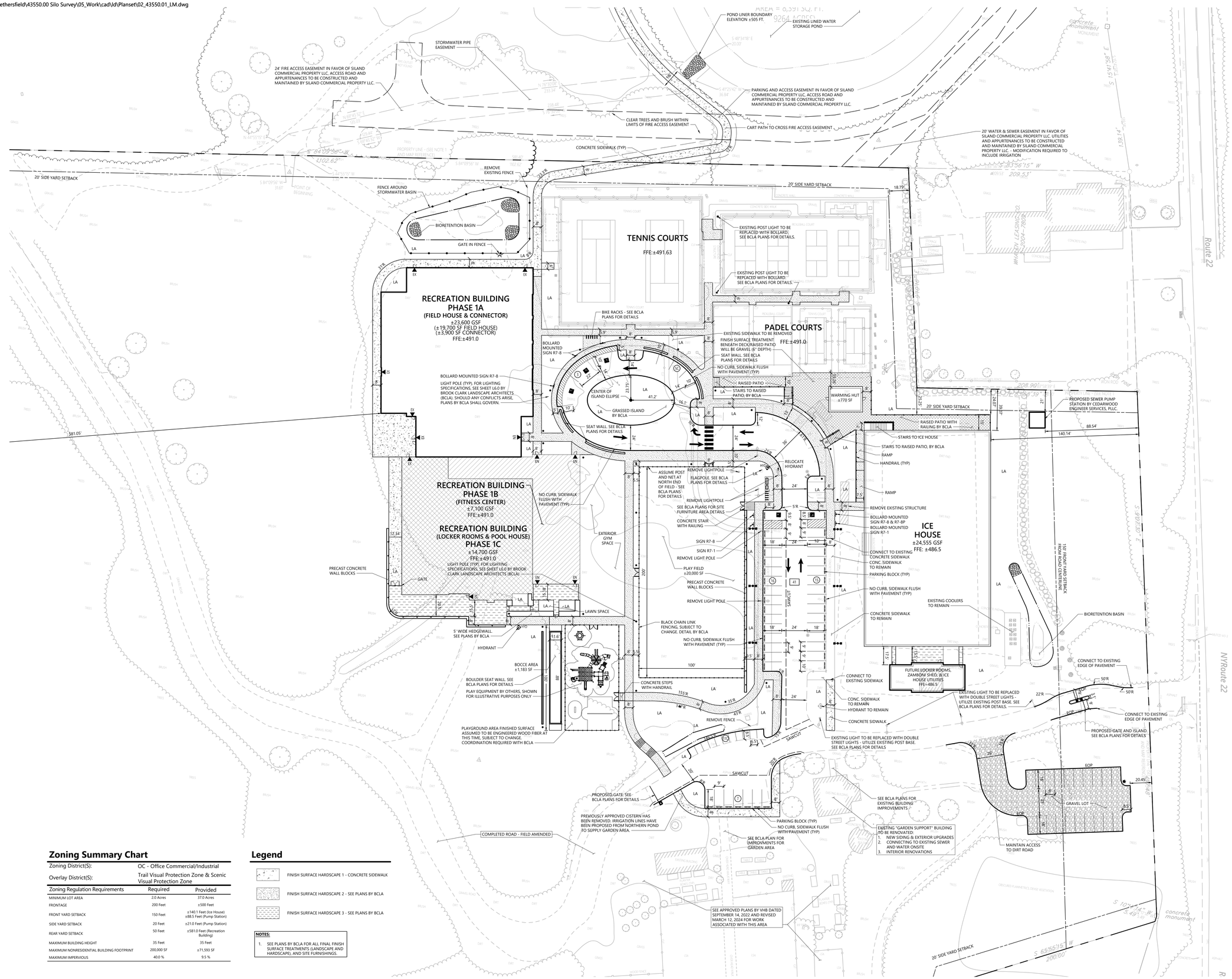
POND LINER BOUNDARY ELEVATION ±505 FT.
EXISTING LINED WATER STORAGE POND
STORMWATER PIPE EASEMENT
24' FIRE ACCESS EASEMENT IN FAVOR OF SILAND COMMERCIAL PROPERTY LLC. ACCESS ROAD AND APPURTENANCES TO BE CONSTRUCTED AND MAINTAINED BY SILAND COMMERCIAL PROPERTY LLC.
PARKING AND ACCESS EASEMENT IN FAVOR OF SILAND COMMERCIAL PROPERTY LLC. ACCESS ROAD AND APPURTENANCES TO BE CONSTRUCTED AND MAINTAINED BY SILAND COMMERCIAL PROPERTY LLC.
CLEAR TREES AND BRUSH WITHIN LIMITS OF FIRE ACCESS EASEMENT
CART PATH TO CROSS FIRE ACCESS EASEMENT
20' WATER & SEWER EASEMENT IN FAVOR OF SILAND COMMERCIAL PROPERTY LLC. UTILITIES AND APPURTENANCES TO BE CONSTRUCTED AND MAINTAINED BY SILAND COMMERCIAL PROPERTY LLC. - MODIFICATION REQUIRED TO INCLUDE IRRIGATION
CONCRETE SIDEWALK (TYP)
REMOVE EXISTING FENCE
20' SIDE YARD SETBACK
FENCE AROUND STORMWATER BASIN
BIORETENTION BASIN
GATE IN FENCE
TENNIS COURTS
FFE:±491.63
EXISTING POST LIGHT TO BE REPLACED WITH BOLLARD. SEE BCLA PLANS FOR DETAILS.
EXISTING POST LIGHT TO BE REPLACED WITH BOLLARD. SEE BCLA PLANS FOR DETAILS
RECREATION BUILDING PHASE 1A
(FIELD HOUSE & CONNECTOR)
±23,600 GSF
(±19,700 SF FIELD HOUSE)
(±3,900 SF CONNECTOR)
FFE:±491.0
BIKE RACKS - SEE BCLA PLANS FOR DETAILS
PADEL COURTS
FFE:±491.0
EXISTING SIDEWALK TO BE REMOVED
FINISH SURFACE TREATMENT BENEATH DECK/RAISED PATIO WILL BE GRAVEL (8" DEPTH)
SEAT WALL. SEE BCLA PLANS FOR DETAILS
NO CURB, SIDEWALK FLUSH WITH PAVEMENT (TYP)
BOLLARD MOUNTED SIGN R7-8
BOLLARD MOUNTED SIGN R7-8
LIGHT POLE (TYP). FOR LIGHTING SPECIFICATIONS, SEE SHEET L6.0 BY BROOK CLARK LANDSCAPE ARCHITECTS (BCLA). SHOULD ANY CONFLICTS ARISE, PLANS BY BCLA SHALL GOVERN.
CENTER OF ISLAND ELLIPSE
GRASSED ISLAND BY BCLA
SEAT WALL. SEE BCLA PLANS FOR DETAILS
RAISED PATIO
STAIRS TO RAISED PATIO BY BCLA
WARMING HUT ±770 SF
20' SIDE YARD SETBACK
PROPOSED SEWER PUMP STATION BY CEDARWOOD ENGINEER SERVICES, PLLC.
RAISED PATIO WITH RAILING BY BCLA
STAIRS TO ICE HOUSE
RAMP
HANDRAIL (TYP)
RELOCATE HYDRANT
ASSUME POST AND NET AT NORTH END OF FIELD - SEE BCLA PLANS FOR DETAILS
REMOVE LIGHTPOLE
FLAGPOLE. SEE BCLA PLANS FOR DETAILS
REMOVE LIGHTPOLE
SEE BCLA PLANS FOR SITE FURNITURE AREA DETAILS
CONCRETE STAIR WITH RAILING
SIGN R7-8
SIGN R7-1
REMOVE LIGHT POLE
PLAY FIELD ±20,000 SF
PRECAST CONCRETE WALL BLOCKS
REMOVE LIGHT POLE
BLACK CHAIN LINK FENCING, SUBJECT TO CHANGE. DETAIL BY BCLA
NO CURB, SIDEWALK FLUSH WITH PAVEMENT (TYP)
RAMP
REMOVE EXISTING STRUCTURE
BOLLARD MOUNTED SIGN R7-8 & R7-8P
BOLLARD MOUNTED SIGN R7-1
ICE HOUSE
±24,555 GSF
FFE: ±486.5
CONNECT TO EXISTING CONCRETE SIDEWALK
CONC. SIDEWALK TO REMAIN
PARKING BLOCK (TYP)
NO CURB, SIDEWALK FLUSH WITH PAVEMENT (TYP)
CONCRETE SIDEWALK TO REMAIN
EXISTING COOLERS TO REMAIN
15R' FRONT YARD SETBACK FROM ROAD CENTERLINE
BIORETENTION BASIN
RECREATION BUILDING PHASE 1B
(FITNESS CENTER)
±7,100 GSF
FFE:±491.0
RECREATION BUILDING
(LOCKER ROOMS & POOL HOUSE)
PHASE 1C
±14,700 GSF
FFE:±491.0
LIGHT POLE (TYP). FOR LIGHTING SPECIFICATIONS, SEE SHEET L6.0 BY BROOK CLARK LANDSCAPE ARCHITECTS (BCLA)
NO CURB, SIDEWALK FLUSH WITH PAVEMENT (TYP)
EXTERIOR GYM SPACE
PRECAST CONCRETE WALL BLOCKS
GATE
LAWN SPACE
5' WIDE HEDGEWALL SEE PLANS BY BCLA
HYDRANT
BOCCE AREA ±1,183 SF
BOULDER SEAT WALL. SEE BCLA PLANS FOR DETAILS
PLAY EQUIPMENT BY OTHERS, SHOWN FOR ILLUSTRATIVE PURPOSES ONLY
PLAYGROUND AREA FINISHED SURFACE ASSUMED TO BE ENGINEERED WOOD FIBER AT THIS TIME, SUBJECT TO CHANGE. COORDINATION REQUIRED WITH BCLA
CONCRETE STEPS WITH HANDRAIL
REMOVE FENCE
CONNECT TO EXISTING SIDEWALK
CONC. SIDEWALK TO REMAIN
HYDRANT TO REMAIN
CONCRETE SIDEWALK
FUTURE LOCKER ROOMS, ZAMBONI SHED, & ICE HOUSE UTILITIES FFE=486.5'
EXISTING LIGHT TO BE REPLACED WITH DOUBLE STREET LIGHTS - UTILIZE EXISTING POST BASE. SEE BCLA PLANS FOR DETAILS
EXISTING LIGHT TO BE REPLACED WITH DOUBLE STREET LIGHTS - UTILIZE EXISTING POST BASE. SEE BCLA PLANS FOR DETAILS.
CONNECT TO EXISTING EDGE OF PAVEMENT
PROPOSED GATE AND ISLAND. SEE BCLA PLANS FOR DETAILS
CONNECT TO EXISTING EDGE OF PAVEMENT
SAWCUT
PROPOSED GATE. SEE BCLA PLANS FOR DETAILS
PREVIOUSLY APPROVED CISTERN HAS BEEN REMOVED. IRRIGATION LINES HAVE BEEN PROPOSED FROM NORTHERN POND TO SUPPLY GARDEN AREA.
COMPLETED ROAD - FIELD AMENDED
PARKING BLOCK (TYP)
NO CURB, SIDEWALK FLUSH WITH PAVEMENT (TYP)
SEE BCLA PLAN FOR IMPROVMENTS FOR GARDEN AREA
SEE BCLA PLANS FOR EXISTING BUILDING IMPROVEMENTS
EXISTING "GARDEN SUPPORT" BUILDING TO BE RENOVATED:
1. NEW SIDING & EXTERIOR UPGRADES
2. CONNECTING TO EXISTING SEWER AND WATER ONSITE
3. INTERIOR RENOVATIONS
MAINTAIN ACCESS TO DIRT ROAD
SEE APPROVED PLANS BY VHB DATED SEPTEMBER 14, 2022 AND REVISED MARCH 12, 2024 FOR WORK ASSOCIATED WITH THIS AREA
30' SIDE YARD SETBACK
EOP
GRAVEL LOT
NYRoute 22
Route 22
concrete monument
MONUMENT
WHITEY LEASING (914) 664-7800
POLE #0033
S 15°41'18" E 139.14'
S 65°56'15" W 209.53'
S 65°56'15" W 209.90'
S 15°41'18" E 139.19'
S 65°56'15" W 208.53'
S 15°41'18" E 139.14'
S 65°56'15" W 209.53'
S 15°41'18" E 139.19'
S 65°56'15" W 209.90

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Saved Tuesday, December 9, 2025 4:10:16 PM AKOWALCZYK Plotted Tuesday, December 9, 2025 4:22:20 PM Andria May Kowalczyk

AREA = 8,391 SQ. FT. (0.19264 ACRES)

PROVIDE SLIGHT MOUND/ BERM AT START OF PATH TO PREVENT STORMWATER FROM FLOWING DOWN PATH

REPAIR ERODING HILLSIDE, SEED, & STABILIZE WITH E&S MATTING

2:1 SLOPE

BIORETENTION BASIN WITH UNDERDRAINS, BASIN FLOOR FINISH GRADE = 486.0

CONNECT BIORETENTION BASIN UNDERDRAINS INV=482.2

6" PVC PERFORATED UNDERDRAINS (TYP) INV=482.5

RECREATION BUILDING PHASE 1A (FIELD HOUSE & CONNECTOR)
±23,600 GSF
(±19,700 SF FIELD HOUSE)
(±3,900 SF CONNECTOR)
FFE:±491.0

RECREATION BUILDING PHASE 1B (FITNESS CENTER)
±7,100 GSF
FFE:±491.0

RECREATION BUILDING (LOCKER ROOMS & POOL HOUSE) PHASE 1C
±14,700 GSF
FFE:±491.0

TENNIS COURTS
FFE:±491.63

PADEL COURTS
FFE:±491.0

GRADING AND CONTOURS SHOWN WITHIN PATIO ARE FOR FINISHED GRADE BELOW

ICE HOUSE
±24,555 GSF
FFE: ±486.5

WARMING HUT
±770 SF
491.0 PATIO
486.99FG

FUTURE LOCKER ROOMS, ZAMBONI SHED, & ICE HOUSE UTILITIES
FFE=486.5

EXISTING STORMWATER PIPING AND STRUCTURES AT COURTS TO REMAIN (TYP)

RESET EXISTING 12" PIPE UPON LOWERING OF UPSTREAM STRUCTURE. DAYLIGHT INTO BASIN

LOWER STRUCTURE RIM=490.0, I=488.0

ROOF DRAINS AT WARMING HUT - EXTEND THROUGH PATIO DECK AND ALLOW TO DISCHARGE AT GRADE, ON GRAVEL

ROOF DRAIN LEADER, TELECOM AND ELECTRIC CONNECTIONS AND LOCATIONS SUBJECT TO CHANGE BASED ON FINAL ARCHITECTURAL MEP PLANS

ROOF DRAIN LEADER LOCATIONS SUBJECT TO CHANGE BASED ON FINAL ARCHITECTURAL MEP PLANS

STRUCTURE AND PIPING TO BE REMOVED

STRUCTURE AND EXCESS PIPING TO BE REMOVED

EXISTING PIPE SOUTH OF DMH10 TO REMAIN, CONNECT DMH10 TO EXISTING PIPE

EXISTING CATCH BASIN AND PIPING TO REMAIN

6"PVC UNDERDRAIN, CONNECT TO WALL UNDERDRAIN

CONNECT NEW STORM PIPE AND WALL UNDERDRAIN TO EXISTING CATCH BASIN

(1) 18" HDPE HEADER
(4) 12" HDPE LATERALS

UNDERGROUND INFILTRATION SYSTEM (WATER QUALITY TREATMENT)
STORMTRAP MC-3500 CHAMBERS (20 CHAMBERS)
WITH ISOLATOR ROW (1ST ROW)
WQ VOL. REQ'D = 3,947 CF
WQ VOL. PROV'D = 4,519 CF
TOP STONE COVER = 475.2 (12" STONE COVER)
TOP CHAMBER EL = 474.2 (45° CHAMBER HEIGHT)
BOTTOM CHAMBER EL = 470.45
BOTTOM STONE EL = 469.7 (9" STONE BASE)

UNDERGROUND SYSTEM SUBJECT TO CHANGE OR RELOCATED BASED ON RESULTS OF GROUNDWATER AND INFILTRATION TESTING RESULTS

DMH9 TO HAVE INTERNAL BYPASS WEIR (SEE DETAIL)

EXISTING CATCH BASIN AND PIPING TO REMAIN

BYPASS PIPE TO DIRECT STORMWATER FLOWS TO OFF-LINE UNDERGROUND INFILTRATION SYSTEM

CONNECT TO EXISTING CATCH BASIN

IF EXISTING CATCH BASIN CANNOT ACCOMMODATE NEW BYPASS PIPE, CATCH BASIN SHALL BE REPLACED WITH NEW STRUCTURE TO ACCOMMODATE ALL PIPES.

EXISTING CATCH BASIN AND PIPING TO REMAIN, RESET RIM TO EL=477.7

EXISTING MANHOLE AND PIPING TO REMAIN

SEE ORIGINAL APPROVED PLANS BY VHB DATED SEPTEMBER 14, 2022 AND REVISED MARCH 12, 2024 FOR WORK ASSOCIATED WITH THIS AREA

MAINTAIN 18" SEPARATION BETWEEN STORM (ABOVE) AND SEWER (BELOW)

6" PVC PERFORATED UNDERDRAINS (TYP) INV=479.0

BIORETENTION BASIN WITH UNDERDRAINS, BASIN FLOOR GRADE = 482.0

TOP OF BERM ELEV. 484.5

CONNECT BIORETENTION BASIN UNDERDRAINS INV=479.0

SWALE BEHIND WALL TO DIRECT RUNOFF TO CB12

SWALE BEHIND WALL TO DIRECT RUNOFF TO CB12

SWALE BEHIND WALL TO DIRECT RUNOFF TO AD3

6" PVC PERFORATED UNDERDRAIN AT TOE OF EMBANKMENT (SEE DETAIL) SLOPE AT 0.00025 FT/FT (0.25%)

6" PVC PERFORATED UNDERDRAINS (TYP) AT PLAYSCAPE AREA, I=488.0. UNDERDRAINS TO AVOID PLAYSCAPE FOUNDATIONS

CONNECT WALL UNDERDRAINS (BY OTHERS) TO CB12. UD INVERT AT CB12 SUBJECT TO WALL DESIGN.

REMOVE OR ABANDON EXISTING PIPE-IN-PLACE

CONNECT TO EXISTING PIPE

CONNECT TO EXISTING PIPE

CONNECT NEW 18"HDPE TO EXISTING CATCH BASIN, EX CB AND PIPING TO REMAIN

CLEANOUT (TYP.)

BERM AT ELEV. 479.5

SAWCUT

2-WAY CO.

12"PVC

NYRoute 22

0 20 40 80 Feet

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Engineering, Surveying, Landscape Architecture and Geology, PC
100 Motor Parkway
Suite 350
Hauppauge, NY 11788
631.787.3400

Siland Recreation Facility

4391 Route 22, Town of Amenia Dutchess County, New York

No.	Revision	Date	Appvd.
1	EDITS PER TOWN ENGINEER COMMENTS	12/11/2025	

Designed by: AMK
Checked by: PV/MRG

Issued for: Site Plan Modificatoin Approval
Not Approved for Construction

Date: July 25, 2025

Drawing Title: Grading and Drainage Plan

Drawing Number: C-3.0

IT IS A VIOLATION OF SECTION 7209 OF ARTICLE 145 OF THE NEW YORK STATE EDUCATION LAW FOR ANY PERSON TO ALTER ANY DOCUMENT THAT BEARS THE SEAL OF A PROFESSIONAL ENGINEER, UNLESS THE PERSON IS ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER

Project Number: 43550.01

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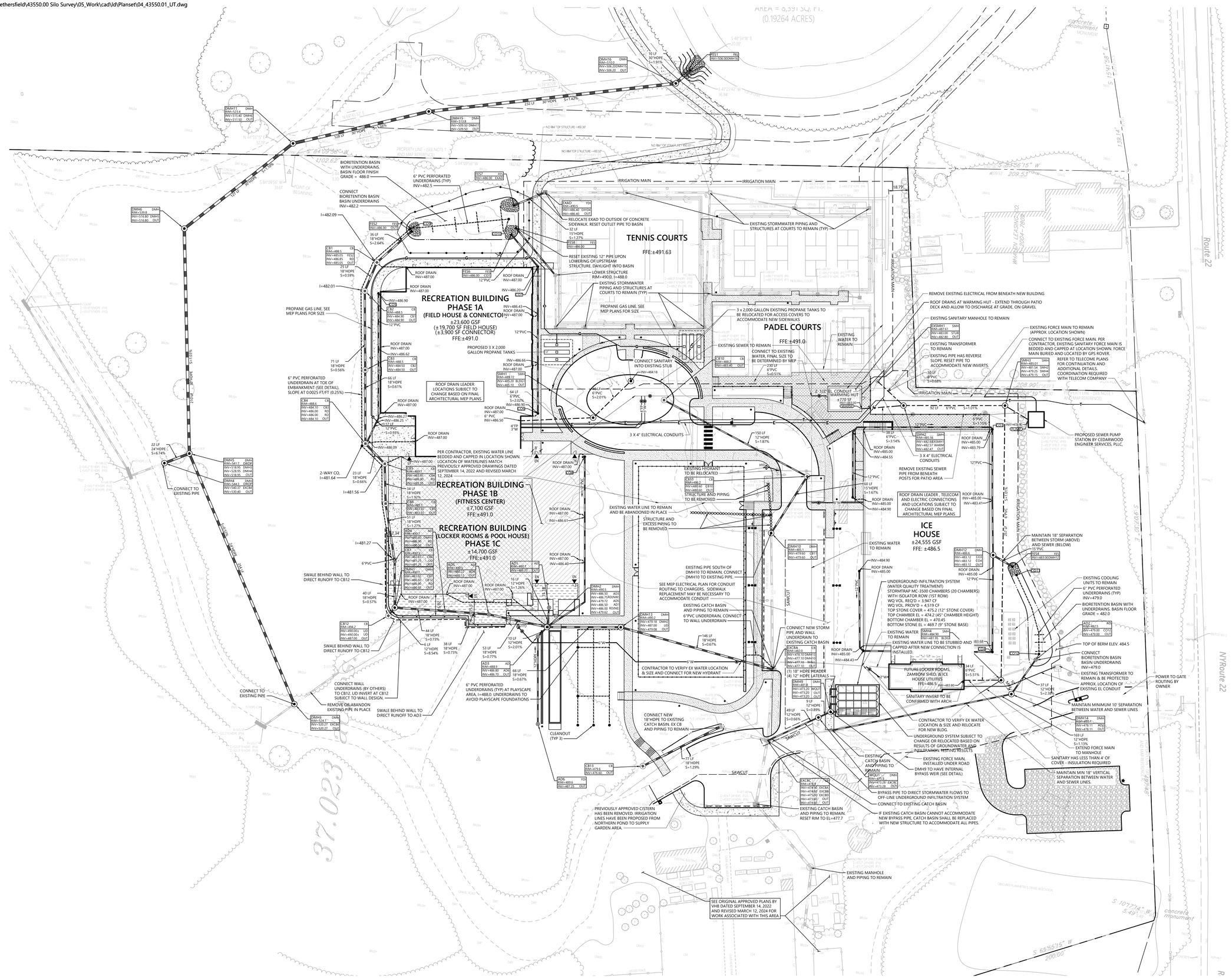
Saved Tuesday, December 9, 2025 4:06:13 PM AKOWALCZYK Plotted Tuesday, December 9, 2025 4:23:38 PM Andria May Kowalczyk


TENNIS COURTS
FFE:±491.63
PADEL COURTS
FFE:±491.0
RECREATION BUILDING
PHASE 1A
(FIELD HOUSE & CONNECTOR)
±23,600 GSF
(±19,700 SF FIELD HOUSE)
(±3,900 SF CONNECTOR)
FFE:±491.0
RECREATION BUILDING
PHASE 1B
(FITNESS CENTER)
±7,100 GSF
FFE:±491.0
RECREATION BUILDING
(LOCKER ROOMS & POOL HOUSE)
PHASE 1C
±14,700 GSF
FFE:±491.0
ICE
HOUSE
±24,555 GSF
FFE: ±486.5
IRRIGATION MAIN
PROPOSED 3 X 2,000 GALLON PROPANE TANKS
3 x 2,000 GALLON EXISTING PROPANE TANKS TO BE RELOCATED FOR ACCESS COVERS TO ACCOMMODATE NEW SIDEWALKS
EXISTING SEWER TO REMAIN
CONNECT TO EXISTING WATER, FINAL SIZE TO BE DETERMINED BY MEP
CONNECT SANITARY INTO EXISTING STUB
EXISTING WATER TO REMAIN
EXISTING STORMWATER PIPING AND STRUCTURES AT COURTS TO REMAIN (TYP)
RELOCATE EXAD TO OUTSIDE OF CONCRETE SIDEWALK. RESET OUTLET PIPE TO BASIN
RESET EXISTING 12" PIPE UPON LOWERING OF UPSTREAM STRUCTURE. DAYLIGHT INTO BASIN
LOWER STRUCTURE RIM=490.0, I=488.0
BIORETENTION BASIN WITH UNDERDRAINS. BASIN FLOOR FINISH GRADE = 486.0
CONNECT BIORETENTION BASIN UNDERDRAINS INV=482.2
6" PVC PERFORATED UNDERDRAINS (TYP) INV=482.5
PROPANE GAS LINE. SEE MEP PLANS FOR SIZE
6" PVC PERFORATED UNDERDRAIN AT TOE OF EMBANKMENT (SEE DETAIL). SLOPE AT 0.00025 FT/FT (0.25%)
ROOF DRAIN LEADER LOCATIONS SUBJECT TO CHANGE BASED ON FINAL ARCHITECTURAL MEP PLANS
PER CONTRACTOR, EXISTING WATER LINE BEDDED AND CAPPED IN LOCATION SHOWN. LOCATION OF WATERLINES MATCH PREVIOUSLY APPROVED DRAWINGS DATED SEPTEMBER 14, 2022 AND REVISED MARCH 12, 2024
EXISTING HYDRANT TO BE RELOCATED
EXISTING WATER LINE TO REMAIN AND BE ABANDONED IN PLACE
STRUCTURE AND EXCESS PIPING TO BE REMOVED
EXISTING PIPE SOUTH OF DMH10 TO REMAIN, CONNECT DMH10 TO EXISTING PIPE.
SEE MEP ELECTRICAL PLAN FOR CONDUIT ROUTING TO CHARGERS. SIDEWALK REPLACEMENT MAY BE NECESSARY TO ACCOMMODATE CONDUIT
EXISTING CATCH BASIN AND PIPING TO REMAIN
6"PVC UNDERDRAIN, CONNECT TO WALL UNDERDRAIN
CONNECT NEW STORM PIPE AND WALL UNDERDRAIN TO EXISTING CATCH BASIN
CONTRACTOR TO VERIFY EX WATER LOCATION & SIZE AND CONNECT FOR NEW HYDRANT
(1) 18" HDPE HEADER
(4) 12" HDPE LATERALS
CONNECT NEW 18"HDPE TO EXISTING CATCH BASIN, EX CB AND PIPING TO REMAIN
CLEANOUT (TYP 3)
6" PVC PERFORATED UNDERDRAINS (TYP) AT PLAYSCAPE AREA, I=488.0. UNDERDRAINS TO AVOID PLAYSCAPE FOUNDATIONS
SWALE BEHIND WALL TO DIRECT RUNOFF TO CB12
SWALE BEHIND WALL TO DIRECT RUNOFF TO AD3
CONNECT WALL UNDERDRAINS (BY OTHERS) TO CB12. UD INVERT AT CB12 SUBJECT TO WALL DESIGN.
REMOVE OR ABANDON EXISTING PIPE IN PLACE
CONNECT TO EXISTING PIPE
2-WAY CO.
PREVIOUSLY APPROVED CISTERN HAS BEEN REMOVED. IRRIGATION LINES HAVE BEEN PROPOSED FROM NORTHERN POND TO SUPPLY GARDEN AREA.
SEE ORIGINAL APPROVED PLANS BY VHB DATED SEPTEMBER 14, 2022 AND REVISED MARCH 12, 2024 FOR WORK ASSOCIATED WITH THIS AREA
EXISTING MANHOLE AND PIPING TO REMAIN
SAWCUT
REMOVE EXISTING ELECTRICAL FROM BENEATH NEW BUILDING
ROOF DRAINS AT WARMING HUT - EXTEND THROUGH PATIO DECK AND ALLOW TO DISCHARGE AT GRADE, ON GRAVEL
EXISTING SANITARY MANHOLE TO REMAIN
EXISTING TRANSFORMER TO REMAIN
EXISTING PIPE HAS REVERSE SLOPE. RESET PIPE TO ACCOMMODATE NEW INVERTS.
EXISTING FORCE MAIN TO REMAIN (APPROX. LOCATION SHOWN)
CONNECT TO EXISTING FORCE MAIN. PER CONTRACTOR, EXISTING SANITARY FORCE MAIN IS BEDDED AND CAPPED AT LOCATION SHOWN. FORCE MAIN BURIED AND LOCATED BY GPS ROVER.
REFER TO TELECOME PLANS FOR CONTINUATION AND ADDITIONAL DETAILS. COORDINATION REQUIRED WITH TELECOM COMPANY
PROPOSED SEWER PUMP STATION BY CEDARWOOD ENGINEER SERVICES, PLLC.
REMOVE EXISTING SEWER PIPE FROM BENEATH POSTS FOR PATIO AREA
ROOF DRAIN LEADER , TELECOM AND ELECTRIC CONNECTIONS AND LOCATIONS SUBJECT TO CHANGE BASED ON FINAL ARCHITECTURAL MEP PLANS
EXISTING WATER TO REMAIN
UNDERGROUND INFILTRATION SYSTEM (WATER QUALITY TREATMENT)
STORMTRAP MC-3500 CHAMBERS (20 CHAMBERS) WITH ISOLATOR ROW (1ST ROW)
WQ VOL. REQ'D = 3,947 CF
WQ VOL. PROV'D = 4,519 CF
TOP STONE COVER = 475.2 (12" STONE COVER)
TOP CHAMBER EL = 474.2 (45° CHAMBER HEIGHT)
BOTTOM CHAMBER EL = 470.45
BOTTOM STONE EL = 469.7 (5" STONE BASE)
EXISTING WATER LINE TO BE STUBBED AND CAPPED AFTER NEW CONNECTION IS INSTALLED.
FUTURE LOCKER ROOMS, ZAMBONI SHED, &ICE HOUSE UTILITIES
SANITARY INVERT TO BE CONFIRMED WITH ARCH
CONTRACTOR TO VERIFY EX WATER LOCATION & SIZE AND RELOCATE FOR NEW BLDG.
UNDERGROUND SYSTEM SUBJECT TO CHANGE OR RELOCATED BASED ON RESULTS OF GROUNDWATER AND INFILTRATION TESTING RESULTS
EXISTING FORCE MAIN, INSTALLED UNDER ROAD
DMH9 TO HAVE INTERNAL BYPASS WEIR (SEE DETAIL)
BYPASS PIPE TO DIRECT STORMWATER FLOWS TO OFF-LINE UNDERGROUND INFILTRATION SYSTEM
CONNECT TO EXISTING CATCH BASIN
IF EXISTING CATCH BASIN CANNOT ACCOMMODATE NEW BYPASS PIPE, CATCH BASIN SHALL BE REPLACED WITH NEW STRUCTURE TO ACCOMMODATE ALL PIPES.
EXISTING CATCH BASIN AND PIPING TO REMAIN. RESET RIM TO EL=477.7
EXISTING COOLING UNITS TO REMAIN
6" PVC PERFORATED UNDERDRAINS (TYP) INV=479.0
BIORETENTION BASIN WITH UNDERDRAINS. BASIN FLOOR GRADE = 482.0
TOP OF BERM ELEV. 484.5
CONNECT BIORETENTION BASIN BASIN UNDERDRAINS INV=479.0
EXISTING TRANSFORMER TO REMAIN & BE PROTECTED
APPROX. LOCATION OF EXISTING EL CONDUIT
MAINTAIN MINIMUM 10' SEPARATION BETWEEN WATER AND SEWER LINES
EXTEND FORCE MAIN TO MANHOLE
SANITARY HAS LESS THAN 4' OF COVER - INSULATION REQUIRED
MAINTAIN MIN 18" VERTICAL SEPARATION BETWEEN WATER AND SEWER LINES.
MAINTAIN 18" SEPARATION BETWEEN STORM (ABOVE) AND SEWER (BELOW)
POWER TO GATE ROUTING BY OWNER
Route 22
NYRoute 22
CONCRETE MONUMENT
AREA = 8,391 SQ. FT. (0.19264 ACRES)
S 48°34'48" E 43.00'
S 41°25'12" W 36.84'
N 44°55'15" W 209.5'
S 44°55'15" E 209.90'
S 10°17'14" W 5.49'
S 85°55'15" W 200.00'
N 10°17'14" E 5.49'
N 85°55'15" E 200.00'
S 44°55'15" E 209.90'
N 44°55'15" W 209.90

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THE FOLLOWING NOTES HAVE BEEN PROVIDED BY CEDARWOOD ENGINEERING:

GENERAL NOTES:

1. UNDERGROUND UTILITIES ARE APPROXIMATE IN LOCATION. THE CONTRACTOR SHALL CONFIRM LOCATION AND ELEVATION OF ALL CONNECTION AND CROSSINGS OF UTILITIES. ANY DAMAGE TO FACILITIES SHALL BE REPAIRED TO THE SATISFACTION OF THE ENGINEER AT THE CONTRACTOR'S EXPENSE.
2. PROVIDE 5 FEET MINIMUM COVER OVER TOP OF WATER MAIN UNLESS OTHERWISE NOTED ON PLAN.
3. THE CONTRACTOR SHALL MAINTAIN A MINIMUM HORIZONTAL SEPARATION OF 10 FEET OR A MINIMUM VERTICAL SEPARATION OF 18 INCHES BETWEEN OUTSIDE WALLS OF SANITARY SEWER, STORM AND WATER MAINS.
4. UNLESS OTHERWISE NOTED ON THE PLANS, ALL EXISTING LANDSCAPE FEATURES LOCATED WITHIN OR OUTSIDE OF DESIGNATED RIGHTS-OF-WAY OR PERMANENT EASEMENTS WHICH ARE DISTURBED OR DAMAGED BY THE CONTRACTOR DURING CONSTRUCTION, (INCLUDING BUT NOT LIMITED TO: CULVERT PIPES, SWALES, TREES, SHRUBS, BUSHES, PLANTERS, SIGNS, ASPHALT DRIVES, CONCRETE DRIVES, GRAVEL DRIVES, FENCES, AND WALKWAYS) SHALL BE RESTORED AND/OR REPLACED IN KIND, SIZE, MATERIAL AND TYPE AS APPLICABLE, BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER. ALL DRIVEWAY CULVERTS MAY NOT BE SHOWN ON THE PLANS FOR CLARITY. CONTRACTOR SHALL SAW CUT ASPHALT AND CONCRETE PAVEMENT AT ALL ROAD AND DRIVEWAY CROSSINGS, UNLESS OTHERWISE SPECIFIED.
5. THE CONTRACTOR SHALL COORDINATE THE TEMPORARY SUPPORT AND/OR RELOCATION OF UTILITY POLES, WHERE NECESSARY, WITH THE RESPECTIVE UTILITY. SUCH COORDINATION AND SUPPORT SHALL BE AT NO ADDITIONAL COST TO THE OWNER.
6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR RESTORING ANY SURVEY OR RIGHT-OF-WAY MONUMENTS DISTURBED DURING CONSTRUCTION. THE CONTRACTOR SHALL EMPLOY A LICENSED LAND SURVEYOR TO RESTORE ALL DISTURBED MONUMENTS TO THEIR ORIGINAL LOCATION.
7. RESTORE ALL SURFACES TO AS GOOD OR BETTER CONDITION THAN BEFORE CONSTRUCTION AS SOON AS POSSIBLE FOLLOWING COMPLETION OF WORK IN ANY AREA.
8. ALL HORIZONTAL AND VERTICAL FITTINGS SHALL BE RESTRAINED USING MECHANICAL JOINT RESTRAINT AND CONCRETE THRUST BLOCKS. INSTALLING CONCRETE THRUST BLOCKS DOES NOT ALLEVIATE THE CONTRACTOR'S RESPONSIBILITY TO INSTALL MECHANICAL JOINT RESTRAINT AND NO ADDITIONAL PAYMENT WILL BE MADE.
9. CONTRACTOR TO VERIFY EXISTING PIPE SIZE/MATERIAL AND LOCATION PRIOR TO COMPLETING CONNECTIONS.
10. AT ALL STORMWATER CULVERT CROSSINGS, WATER MAIN INSTALLATION SHALL BE BELOW THE EXISTING CULVERT UNLESS OTHERWISE SHOWN ON PLANS.
11. UNLESS OTHERWISE NOTED THE LIMITS OF CLEARING WILL BE EQUAL TO THE BOUNDARIES OF THE EASEMENTS/HIGHWAY RIGHT-OF-WAY.
12. CONTRACTOR SHALL PROTECT ALL EXISTING WATER MAINS AND SERVICES DURING CONSTRUCTION UNTIL FULL TRANSFER OF SERVICES TO NEW MAINS IS COMPLETE.
13. CONTRACTOR SHALL LOCATE ALL EXISTING CURB BOXES AND TRANSFER WATER SERVICES UNLESS OTHERWISE NOTED.
14. CONTRACTOR SHALL CONTACT 811/ DIG SAFELY NEW YORK SEVENTY-TWO HOURS PRIOR TO ANY EXCAVATION TO ACCURATELY ESTABLISH THE LOCATION OF ALL UNDERGROUND UTILITIES ON THE PROJECT SITE.

STANDARD NOTES FOR WATER SYSTEMS:

PART 1. GENERAL
THE CONTRACTOR WILL BE RESPONSIBLE FOR THE PROPER PRESSURE TEST, LEAKAGE TEST, AND DISINFECTION OF ALL WATER PIPE, FITTINGS, SPECIALS, ETC., AND WATER STORAGE FACILITIES INSTALLED WHICH CAN CONVEY OR STORE POTABLE WATER IN ACCORDANCE WITH CURRENT AWWA PROCEDURES.

PART 2. PRODUCTS
AS REQUIRED TO COMPLETE THE WORK.

PART 3. EXECUTION
3.1. WATER MAIN PRESSURE & LEAKAGE TESTING
3.1.1. TEST PIPING TO 150 PSI OR 1.5 TIMES THE WORKING PRESSURE IN THE AREA, WHICHEVER IS GREATER. MEASURE THE TEST PRESSURE AT THE LOWEST POINT IN THE PIPE SECTION AND CORRECT TO THE ELEVATION OF THE GAUGE.
3.1.2. THE LENGTH OF PIPING AND SECTIONS INCLUDED IN THE TESTS SHALL MEET THE APPROVAL OF THE ENGINEER, BUT SHALL NOT EXCEED 1,000 LINEAL FEET.
3.1.3. ANY AIR TRAPPED IN THE MAINS SHALL BE RELIEVED AT HIGH POINTS THROUGH HYDRANTS, OR TAPS INSTALLED FOR THIS PURPOSE. THESE TAPS SHALL BE TEMPORARY INSTALLATIONS AND PLUGGED AFTER ACCEPTANCE.
3.1.4. MAINTAIN THE TEST PRESSURE FOR A PERIOD OF 2 HOURS. PRESSURE SHALL BE MAINTAINED WITHIN 5 PSI OF THE SPECIFIED TEST PRESSURE FOR THE DURATION OF THE TEST. AT THE END OF THE TEST PERIOD, IF THE TEST PRESSURE REMAINS CONSTANT, THE PIPE SECTION SHALL HAVE PASSED THE TEST. IF THE PRESSURE HAS DROPPED, IT SHALL BE BROUGHT BACK TO THE TEST PRESSURE BY PUMPING A KNOWN VOLUME OF WATER, EITHER A GRADUATED CONTAINER OR METERING, BACK INTO THE PIPE. THE VOLUME OF WATER USED TO BRING THE PRESSURE BACK UP TO TEST PRESSURE, REPRESENTING LEAKAGE FROM THE PIPE, SHALL BE RECORDED IF THE LEAKAGE IS LESS THAN THE ALLOWABLE LEAKAGE SPECIFIED, THE PIPE SHALL HAVE PASSED THE TEST.
3.1.5. IF THE LINE FAILS THE TEST, THE CONTRACTOR SHALL EXPLORE FOR THE CAUSE OF THE EXCESSIVE LEAKAGE AND COMPLETE REPAIRS. AFTER REPAIRS HAVE BEEN MADE, THE LINE SHALL BE RETESTED. THIS PROCEDURE SHALL BE REPEATED UNTIL THE PIPE COMPLIES. ANY COSTS ASSOCIATED WITH REPAIRS OR RETESTING SHALL BE AT THE CONTRACTORS EXPENSE.
3.1.6. TEST PRESSURE SHALL BE HELD ON THE PIPING FOR A PERIOD OF AT LEAST 2 HOURS, UNLESS A LONGER PERIOD IS REQUESTED BY THE ENGINEER.
3.1.7. HYDROSTATIC LEAKAGE TESTING FOR DUCTILE IRON WATER MAINS SHALL BE COMPLETED IN ACCORDANCE WITH THE LATEST EDITION OF ANSI/AWWA C600-93.
3.1.8. HYDROSTATIC LEAKAGE TESTING FOR HIGH DENSITY POLYETHYLENE PIPING SHALL COMPLY WITH THE LATEST EDITIONS OF AWWA C651, ASTM F2164, ASTM 1412, AWWA MANUAL OF PRACTICE M55 CHAPTER 9, AND PPI HANDBOOK OF POLYETHYLENE PIPE CHAPTER 2.
3.2. WATER MAIN DISINFECTION
3.2.1. UPON COMPLETION OF ALL WATER SUPPLY RELATED CONSTRUCTION, ALL MAINS, VALVES, HYDRANTS AND OTHER APPURTENANCES SHALL BE FLUSHED, DISINFECTED AND TESTED FOR BACTERIOLOGICAL QUALITY IN ACCORDANCE WITH AWWA C651.TABLETS SHALL NOT BE USED FOR CHLORINATION.
3.2.2. THE CONTRACTOR SHALL FLUSH THE PIPE WITH WATER AT A MINIMUM VELOCITY OF 2.5 FEET PER SECOND (FPS) TO CLEAR ALL FOREIGN MATERIAL FROM THE PIPE.
3.2.3. THE CONTRACTOR SHALL USE THE CONTINUOUS FEED METHOD (SEC. 5.2 OF THE LATEST VERSION OF C651), BUT MAY SUBMIT ALTERNATE METHODS OF DISINFECTION, 48 HOURS PRIOR TO START OF WORK, TO ENGINEER & OWNER FOR APPROVAL. THE WATER FROM THE EXISTING DISTRIBUTION SYSTEM, AND THE CHLORINE SOLUTION SHALL BOTH BE FED INTO THE NEW PIPELINES AT A CONSTANT RATE. THE PROPORTION OF THE TWO RATES SHALL PRODUCE A MINIMUM CHLORINE CONCENTRATION OF 50 MILLIGRAMS PER LITER (MG/L) OF AVAILABLE CHLORINE, BUT NO MORE THAN 100 MG/L. USE HIGH RANGE TEST KIT TO DETERMINE CONCENTRATION.
3.2.4. THE ENTIRE PIPELINE SYSTEM SHALL BE FILLED WITH THE DISINFECTION SOLUTION AND HELD FOR A MINIMUM OF 24 HOURS. TO INSURE PROPER DISINFECTION, THE SOLUTION SHALL TEST A MINIMUM OF 25 MILLIGRAMS PER LITER CHLORINE RESIDUAL AFTER THE 24-HOUR PERIOD IN ALL SECTIONS OF THE MAIN. REPEAT THE ENTIRE PROCEDURE IF THE RESIDUAL IS LESS THAN 25 MG/L.
3.2.5. AFTER DISINFECTION, THE PIPELINES ARE TO BE FLUSHED WITH WATER FROM THE EXISTING DISTRIBUTION SYSTEM UNTIL THE CHLORINE CONCENTRATION IN THE WATER IS NO HIGHER THAN THAT GENERALLY PREVAILING IN THE SYSTEM.
3.2.6. THE CONTRACTOR SHALL PROPERLY DISPOSE OF ALL WATER USED TO DISINFECT THE PIPE. DISCHARGE/DISPOSE OF SUPER CHLORINATED WATER IN A MANNER THAT WILL NOT ADVERSELY AFFECT PLANTS AND ANIMALS. COMPLY WITH ALL APPLICABLE LOCAL & STATE REGULATIONS FOR WASTE DISCHARGE. UNDER NO CIRCUMSTANCES WILL THE EMPTYING OF WATER ONTO ROADWAYS, OR INTO DITCHES, CULVERTS, STREAMS, OR WETLANDS BE ALLOWED.
3.2.7. AFTER DISINFECTION AND FINAL FLUSHING, THE WATER MAIN SHALL BE TESTED FOR BACTERIOLOGICAL QUALITY BEFORE PUTTING PIPE INTO SERVICE. A MINIMUM OF TWO CONSECUTIVE SETS OF SAMPLES SHALL BE TAKEN AT LEAST 24-HOURS APART, IN ACCORDANCE WITH THE LATEST EDITION OF AWWA C651. BOTH SETS OF SAMPLES SHALL INDICATE BACTERIOLOGICAL SAFE WATER BEFORE PUTTING THE FACILITY IN OPERATION. TESTS SHALL BE CONDUCTED BY A NYSELAP CERTIFIED LABORATORY APPROVED BY THE NEW YORK STATE HEALTH DEPARTMENT IF THE TEST FAILS, THE CONTRACTOR SHALL AGAIN DISINFECT THE LINE IN THE SAME MANNER UNTIL THE COLIFORM TEST IS PASSED. NO PART OF THE WATER SYSTEM SHALL BE BROUGHT INTO SERVICE UNTIL ACCEPTABLE DISINFECTION HAS BEEN PROVIDED AND NOTIFICATION HAS BEEN PROVIDED BY THE NYS DEPARTMENT OF HEALTH AUTHORIZING THAT THE TESTED FACILITIES CAN BE BROUGHT INTO SERVICE. RESULTS OF ALL TESTING SHALL BE SUBMITTED TO THE NYS DEPARTMENT OF HEALTH AS PART OF THE ENGINEERS CERTIFICATION.

STANDARD NOTES FOR SEWER FORCE MAIN SYSTEMS:

1. SANITARY MAIN PRESSURE & LEAKAGE TESTING
1.1. TEST PIPING TO 150 PSI OR 1.5 TIMES THE WORKING PRESSURE IN THE AREA, WHICHEVER IS GREATER. MEASURE THE TEST PRESSURE AT THE LOWEST POINT IN THE PIPE SECTION AND CORRECT TO THE ELEVATION OF THE GAUGE.
1.2. THE LENGTH OF PIPING AND SECTIONS INCLUDED IN THE TESTS SHALL MEET THE APPROVAL OF THE ENGINEER, BUT SHALL NOT EXCEED 1,000 LINEAL FEET.
1.3. ANY AIR TRAPPED IN THE MAINS SHALL BE RELIEVED AT HIGH POINTS THROUGH HYDRANTS, OR TAPS INSTALLED FOR THIS PURPOSE. THESE TAPS SHALL BE TEMPORARY INSTALLATIONS AND PLUGGED AFTER ACCEPTANCE.
1.4. MAINTAIN THE TEST PRESSURE FOR A PERIOD OF 2 HOURS. PRESSURE SHALL BE MAINTAINED WITHIN 5 PSI OF THE SPECIFIED TEST PRESSURE FOR THE DURATION OF THE TEST. AT THE END OF THE TEST PERIOD, IF THE TEST PRESSURE REMAINS CONSTANT, THE PIPE SECTION SHALL HAVE PASSED THE TEST. IF THE PRESSURE HAS DROPPED, IT SHALL BE BROUGHT BACK TO THE TEST PRESSURE BY PUMPING A KNOWN VOLUME OF WATER, EITHER A GRADUATED CONTAINER OR METERING, BACK INTO THE PIPE. THE VOLUME OF WATER USED TO BRING THE PRESSURE BACK UP TO TEST PRESSURE, REPRESENTING LEAKAGE FROM THE PIPE, SHALL BE RECORDED IF THE LEAKAGE IS LESS THAN THE ALLOWABLE LEAKAGE SPECIFIED, THE PIPE SHALL HAVE PASSED THE TEST.
1.5. RESULTS OF ALL TESTING SHALL BE SUBMITTED TO THE DUTCHESS COUNTY DEPARTMENT OF HEALTH AS PART OF THE ENGINEERS CERTIFICATION.

STANDARD NOTES FOR TESTING GRAVITY SANITARY COLLECTION SYSTEMS:

A. ONCE CONSTRUCTED, ALL SANITARY SEWERS AND MANHOLES SHALL BE WATERTIGHT AND FREE FROM LEAKAGE. THE RATE OF INFILTRATION, INTO THE SANITARY SEWER SYSTEM BETWEEN ANY TWO ADJACENT MANHOLES OR THE ENTIRE SYSTEM SHALL NOT BE IN EXCESS OF 100 GALLONS PER INCH OF PIPE DIAMETER PER MILE PER DAY (100 GPD/IN/MI). THE CONTRACTOR SHALL BE REQUIRED TO REPAIR ALL VISIBLE LEAKS TO THE SATISFACTION OF THE DCDOH, EVEN IF THE INFILTRATION REQUIREMENTS ARE MET.
B. ANY LEAKAGE FOUND DURING THE INFILTRATION TEST SHALL BE CORRECTED BY THE CONTRACTOR AT HIS OR HER EXPENSE. THE METHOD OF REPAIR SHALL BE APPROVED BY THE DCDOH. GROUTING OF THE JOINT OR CRACK TO REPAIR THE LEAKAGE SHALL NOT BE PERMITTED. IF THE DEFECTIVE PORTION OF THE SANITARY SEWER CANNOT BE LOCATED, THE CONTRACTOR SHALL REMOVE AND RECONSTRUCT AS MUCH OF THE WORK AS NECESSARY TO OBTAIN A SYSTEM THAT PASSES INFILTRATION REQUIREMENTS.
C. ALL GRAVITY SANITARY SEWERS CONSTRUCTED OF FLEXIBLE PIPE (PVC AND HDPE) SHALL BE MANDREL TESTED NO SOONER THAN 30 DAYS AFTER INSTALLATION IN ACCORDANCE WITH THESE STANDARDS.
D. THE CONTRACTOR SHALL BEAR THE COMPLETE COST AND SUPPLY ALL EQUIPMENT NECESSARY TO PERFORM THE REQUIRED TESTS.
E. ALL TESTS SHALL BE CONDUCTED UNDER THE OBSERVATION OF THE DCDOH'S INSPECTOR. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO SCHEDULE TESTING WITH THE INSPECTOR.
E.1. LOW PRESSURE AIR TEST. ALL GRAVITY SANITARY SEWERS SHALL BE TESTED FOR INFILTRATION BY MEANS OF A LOW PRESSURE AIR TEST AS GENERALLY DESCRIBED HEREIN. ALTERNATE INFILTRATION TESTS WILL ONLY BE ALLOWED UPON WRITTEN APPROVAL BY THE DCDOH.
E.1.1. EQUIPMENT
1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ALL EQUIPMENT AND SUPPLIES NECESSARY TO PERFORM A LOW PRESSURE AIR TEST INCLUDING BUT NOT LIMITED TO THE FOLLOWING:
a. MECHANICAL OR PNEUMATIC PLUGS;
b. AIR CONTROL PANEL;
c. SHUT-OFF VALVE, PRESSURE REGULATIVE VALVE, PRESSURE RELIEF VALVE AND INPUT PRESSURE GAUGE. THE PRESSURE REGULATOR OR RELIEF VALVE SET SHALL BE SET NO HIGHER THAN 10 PSIG TO AVOID OVER PRESSURIZATION; AND
d. CONTINUOUS MONITORING PRESSURE GAUGE HAVING A RANGE OF 0 TO AT LEAST 10 PSI. THE GAUGE SHALL BE NO LESS THAN FOUR INCHES IN DIAMETER WITH MINIMUM DIVISIONS OF 0.10 PSI AND AN ACCURACY OF ± 0.04 PSI.
2. TO REDUCE THE POTENTIAL FOR SEWER LINE OVER-PRESSURIZATION, TWO SEPARATE HOSES SHALL BE USED. ONE HOSE WILL CONNECT THE CONTROL PANEL TO THE SEALED LINE FOR INTRODUCING LOW PRESSURE AIR. THE OTHER WILL BE USED FOR CONSTANT MONITORING OF AIR PRESSURE BUILDUP IN THE LINE.
3. IF PNEUMATIC PLUGS ARE UTILIZED, A SEPARATE HOSE SHALL BE REQUIRED TO INFLATE THE PLUGS.
a. GROUND WATER LEVEL. THE GROUND WATER LEVEL SHALL BE DETERMINED BY EXCAVATION BY THE CONTRACTOR.
b. AIR PRESSURE ADJUSTMENT. THE AIR PRESSURE CORRECTION, WHICH MUST BE ADDED TO THE 3.5 PSIG NORMAL TEST STARTING PRESSURE, SHALL BE CALCULATED BY DIVIDING THE AVERAGE VERTICAL HEIGHT, IN FEET OF GROUNDWATER ABOVE THE INVERT OF THE SEWER PIPE TO BE TESTED, BY 2.31. THE RESULT GIVES THE AIR PRESSURE CORRECTION IN POUNDS PER SQUARE INCH TO BE ADDED. THE ALLOWABLE PRESSURE DROP OF 1.0 PSIG (OR 0.5 PSIG) AND THE MINIMUM TIME PERIODS ARE GIVEN IN TABLE A OR TABLE B.
c. MAXIMUM TEST PRESSURE. IN NO CASE SHOULD THE STALLING TEST PRESSURE EXCEED 9.0 PSIG. IF THE AVERAGE VERTICAL HEIGHT OF GROUNDWATER ABOVE THE PIPE INVERT IS MORE THAN 12.7 FEET, THE SECTION SO SUBMERGED MAY BE TESTED USING 9.0 PSIG AS THE STARTING TEST PRESSURE. THE 9 PSIG LIMIT IS INTENDED TO FURTHER ENSURE WORKMAN SAFETY AND FALLS WITHIN THE RANGE OF THE PRESSURE MONITORING GAUGES NORMALLY USED.
E.1.2 TEST PROCEDURE. THE FOLLOWING ARE GENERAL PROCEDURES TO BE EMPLOYED IN THE PERFORMANCE OF THE TEST. TEST DATA SHEETS SHALL BE SUBMITTED TO THE DCDOH.
1. PLUG INSTALLATION AND TESTING.
a. AFTER A SEGMENT OF PIPE HAS BEEN BACKFILLED TO FINAL GRADE, PREPARED FOR TESTING, AND THE SPECIFIED WAITING PERIOD HAS ELAPSED, THE PLUGS SHALL BE SECURELY PLACED IN THE LINE AT THE ENDS OF EACH SEGMENT TO BE TESTED.
b. SEAL TEST ALL PLUGS BEFORE USE. SEAL TESTING MAY BE ACCOMPLISHED BY LAYING ONE LENGTH OF PIPE ON THE GROUND AND SEALING IT AT BOTH ENDS WITH THE PLUGS TO BE CHECKED. THE SEALED PIPE SHOULD BE PRESSURIZED TO 9 PSIG. THE PLUGS SHALL HOLD AGAINST THIS PRESSURE WITHOUT BRACING AND WITHOUT ANY MOVEMENT OF THE PLUGS OUT OF THE PIPE. NO PERSONS SHALL BE ALLOWED IN THE DIRECT LINE OF THE PIPE WHILE THE PLUGS ARE TESTED.
c. PLUG THE UPSTREAM END OF THE LINE FIRST TO PREVENT ANY UPSTREAM WATER FROM COLLECTING IN THE TEST LINE. THIS IS PARTICULARLY IMPORTANT IN HIGH GROUNDWATER SITUATIONS.
d. WHEN PLUGS ARE BEING PLACED, THE PIPE ADJACENT TO THE MANHOLE SHALL BE VISUALLY INSPECTED TO DETECT ANY EVIDENCE OF SHEAR IN THE PIPE DUE TO DIFFERENTIAL SETTLEMENT BETWEEN THE PIPE AND THE MANHOLE. A PROBABLE POINT OF LEAKAGE IS AT THE JUNCTION OF THE MANHOLE AND THE PIPE. THIS FAULT MAY BE COVERED BY THE PIPE PLUG, AND THUS NOT REVEALED BY THE AIR TEST.
2. LINE PRESSURIZATION. LOW PRESSURE AIR SHALL BE SLOWLY INTRODUCED INTO THE SEALED LINE UNTIL THE INTERNAL AIR PRESSURE REACHES 4.0 PSIG GREATER THAN THE AVERAGE BACK PRESSURE OF ANY GROUNDWATER ABOVE THE PIPE, BUT NOT GREATER THAN 9.0 PSIG.
3. PRESSURE STABILIZATION. AFTER A CONSTANT PRESSURE OF 4.0 PSIG (GREATER THAN THE AVERAGE GROUNDWATER BACK PRESSURE) IS REACHED, THE AIR SUPPLY SHALL BE THROTTLED TO MAINTAIN THAT INTERNAL PRESSURE FOR AT LEAST TWO MINUTES. THIS TIME PERMITS THE TEMPERATURE OF THE ENTERING AIR TO EQUALIZE WITH THE TEMPERATURE OF THE PIPE WALL.
4. TIMING PRESSURE LOSS.
a. WHEN TEMPERATURES HAVE BEEN EQUALIZED AND THE PRESSURE STABILIZED AT 4.0 PSIG (GREATER THAN THE AVERAGE GROUNDWATER BACK PRESSURE), THE AIR HOSE FROM THE CONTROL PANEL TO THE AIR SUPPLY SHALL BE SHUT OFF OR DISCONNECTED. THE CONTINUOUS MONITORING PRESSURE GAUGE SHALL THEN BE OBSERVED WHILE THE PRESSURE IS DECREASED TO NO LESS THAN 3.5 PSIG (GREATER THAN THE AVERAGE BACK PRESSURE OF ANY GROUNDWATER OVER THE PIPE). AT A READING OF 3.5 PSIG, OR ANY CONVENIENT OBSERVED PRESSURE READING BETWEEN 3.5 PSIG AND 4.0 PSIG (GREATER THAN THE AVERAGE GROUNDWATER BACK PRESSURE), TIMING SHALL COMMENCE WITH A STOP WATCH OR OTHER TIMING DEVICE THAT IS AT LEAST 99.8% ACCURATE.
b. A PREDETERMINED REQUIRED TIME FOR A SPECIFIED PRESSURE DROP SHALL BE USED TO DETERMINE THE LINE'S ACCEPTABILITY. TRADITIONALLY, A PRESSURE DROP OF 1.0 PSIG HAS BEEN SPECIFIED. HOWEVER, OTHER PRESSURE DROP VALUES MAY BE SPECIFIED, PROVIDED THAT THE REQUIRED HOLDING TIMES ARE ADJUSTED ACCORDINGLY.
c. IF THE SPECIFIED PRESSURE DROP IS 0.5 PSIG RATHER THAN THE MORE TRADITIONAL 1.0 PSIG, THE REQUIRED TEST TIMES FOR A 1.0 PSIG PRESSURE DROP MUST BE HALVED. SPECIFYING A 0.5 PSIG PRESSURE DROP IS DESIRABLE IN THAT IT CAN REDUCE THE TIME NEEDED TO ACCOMPLISH THE AIR TEST WITHOUT SACRIFICING TEST INTEGRITY. THEREFORE, THE FOLLOWING SUBSECTIONS CONTAIN PROVISIONS FOR BOTH THE TRADITIONAL 1.0 PSIG PRESSURE DROP AND THE MORE EFFICIENT 0.5 PSIG DROP, WHICH IS GIVEN IN PARENTHESES.
5. DETERMINATION OF LINE ACCEPTANCE. IF THE TIME SHOWN IN TABLE A OR TABLE B, FOR THE DESIGNATED PIPE SIZE AND LENGTH ELAPSES BEFORE THE AIR PRESSURE DROPS 1.0 PSIG (OR 0.5 PSIG), THE SECTION UNDERGOING THE TEST SHALL BE DEEMED TO HAVE PASSED AND SHALL BE PRESUMED TO BE FREE OF DEFECTS. THE TEST MAY BE DISCONTINUED ONCE THE PRESCRIBED TIME HAS ELAPSED EVEN THOUGH THE 1.0 PSIG (OR 0.5 PSIG) DROP HAS NOT OCCURRED.
6. DETERMINATION OF LINE FAILURE. IF THE PRESSURE DROPS 1.0 PSIG (OR 0.5 PSIG) BEFORE THE APPROPRIATE TIME SHOWN IN TABLE A OR TABLE B HAS ELAPSED, THE AIR LOSS RATE SHALL BE CONSIDERED EXCESSIVE AND THE SECTION OF PIPE SHALL BE DETERMINED TO HAVE FAILED THE TEST.
E.1.3 TEST TIMES.
1. TEST TIME CRITERIA. THE RAMSEIER TEST TIME CRITERIA REQUIRES THAT NO TEST SECTION SHALL BE ACCEPTED IF IT LOSES MORE THAN "Q" CUBIC FEET PER MINUTE PER SQUARE FOOT OF INTERNAL PIPE SURFACE AREA FOR ANY PORTION CONTAINING LESS THAN 625 SQUARE FEET INTERNAL PIPE SURFACE AREA. THE TOTAL LEAKAGE FROM ANY TEST SECTION SHALL NOT EXCEED 625Q CUBIC FEET PER MINUTE.
2. ALLOWABLE AIR LOSS RATE. A Q VALUE OF 0.0015 CUBIC FEET PER MINUTE PER SQUARE FOOT SHALL BE UTILIZED TO ASSURE THE OWNER OF QUALITY PIPE MATERIALS, GOOD WORKMANSHIP AND TIGHT JOINTS.
3. TEST TIME CALCULATION.
a. ALL TEST TIMES SHALL BE CALCULATED USING RAMSEIER'S EQUATION:
T = (0.085) (D * K)/Q
WHERE:
T = SHORTEST TIME, IN SECONDS, ALLOWED FOR THE AIR PRESSURE TO DROP 1.0 PSIG
K = 0.000419 DL, BUT NOT LESS THAN 1.0
Q = 0.0015 CUBIC FEET/MINUTE/SQUARE FEET OF INTERNAL SURFACE
D = NOMINAL PIPE DIAMETER IN INCHES
L = LENGTH OF PIPE BEING TESTED IN FEET
b. FOR MORE EFFICIENT TESTING OF LONG TEST SECTIONS AND/OR SECTIONS OF LARGER DIAMETER PIPES, A TIMED PRESSURE DROP OF 0.5 PSIG MAY BE USED IN LIEU OF THE 3.0 PSIG TIMED PRESSURE DROP. IF A 0.5 PSIG PRESSURE DROP IS USED, THE APPROPRIATE REQUIRED TEST TIMES SHALL BE EXACTLY HALF AS LONG AS IT IS OBTAINED USING RAMSEIER'S EQUATION FOR "T" CITED ABOVE.
E.1. MANDREL TEST FOR SELECT PIPE.
E.2.1 A 5% "GO-NO-GO" MANDREL DEFLECTION TEST SHALL BE PERFORMED ON ALL HDPE AND PVC GRAVITY SANITARY SEWER PIPES.
E.2.2 THE MANDREL TEST SHALL BE CONDUCTED WITH A RIGID DEVICE SIZED TO PASS 5% OR LESS DEFLECTION (OR DEFORMATION) OF THE BASE INSIDE DIAMETER OF THE PIPE. THE TEST SHALL BE CONDUCTED NO EARLIER THAN 30 DAYS AFTER REACHING FINAL TRENCH BACKFILL GRADE, PROVIDED THAT, IN THE OPINION OF THE DCDOH, SUFFICIENT WATER DENSIFICATION OR RAINFALL HAS OCCURRED TO THOROUGHLY SETTLE THE SOIL THROUGHOUT THE ENTIRE TRENCH DEPTH. IF, IN THE OPINION OF THE DCDOH, DENSIFICATION HAS NOT BEEN ACHIEVED WITHIN THE 30-DAY TIME FRAME, THE MANDREL SIZE SHALL BE INCREASED TO MEASURE A DEFLECTION LIMIT OF 3%.
E.2.3 THE MANDREL (GO-NO-GO) DEVICE SHALL BE CYLINDRICAL IN SHAPE AND CONSTRUCTED WITH NINE OR TEN EVENLY SPACED ARMS OR PRONGS. MANDRELS WITH LESS THAN THE REQUIRED ARMS SHALL NOT BE ALLOWED. THE MANDREL DIAMETER DIMENSION "D" SHALL BE EQUAL TO THE INSIDE DIAMETER OF THE SANITARY SEWER. ALLOWANCES FOR PIPE WALL THICKNESS TOLERANCES OR OVALITY (FROM HEAT, SHIPPING, POOR PRODUCTION AND THE LIKE) SHALL NOT BE DEDUCTED FROM THE "D" DIMENSION BUT SHALL BE COUNTED AS PART OF THE 5% OR LESS DEFLECTION ALLOWANCE. EACH PIPE MATERIAL OR TYPE REQUIRED TO BE MANDREL TESTED SHALL BE TESTED WITH A MANDREL APPROVED BY THE PIPE MANUFACTURER, WHILE MEETING THE REQUIREMENTS OF THIS CHAPTER. THE "D" MANDREL DIMENSION SHALL CARRY A TOLERANCE OF ± 0.01 INCHES.
E.2.4 THE MANDREL SHALL BE HAND PULLED THROUGH ALL SEWER LINES. ANY SECTION OF SEWER NOT PASSING THE MANDREL SHALL BE UNCOVERED, REPLACED OR REPAIRED TO THE DCDOH'S SATISFACTION AND THEN RETESTED.
E.2.5 THE CONTACT LENGTH (L) SHALL BE MEASURED BETWEEN POINTS OF CONTACT ON THE MANDREL AIM. THE LENGTH SHALL NOT BE LESS THAN THAT SHOWN IN TABLE C.
E.2.6 THE CONTRACTOR SHALL PROVIDE PROVING RINGS TO CHECK THE MANDREL. DRAWINGS OF MANDRELS WITH COMPLETE DIMENSIONS SHALL BE FURNISHED BY THE CONTRACTOR TO THE DCDOH UPON REQUEST FOR EACH DIAMETER AND SPECIFICATION OF PIPE.

STANDARD NOTES FOR TESTING SANITARY MANHOLES:

1. Each manhole shall be visually inspected for leakage or evidence thereof. If the manhole shows leakage, it shall be repaired to the satisfaction of the town and reinspected and retested at the contractor's expense.
2. Manholes will be checked by the town after installation and again before the one-year warranty period ends. If manholes show signs of leakage, they shall be vacuum tested by an approved company and repaired at the contractor's expense.
3. The contractor shall test all manholes using the Standard Test Method for Concrete Sewer Manholes by the Negative Air pressure (Vacuum) Test.
3.1. Scope.
3.1.1. This section covers procedures for testing precast concrete manhole sections using the vacuum test method to demonstrate the integrity of the installed materials and the construction procedures. This test method is used for testing concrete manhole sections utilizing mortar, mastic, or gasketed joints and is intended to be used as a preliminary test to enable the contractor to demonstrate the condition of the concrete manholes prior to backfill. It may also be used to test manholes after backfilling; however, the contractor must correlate the testing with the connector supplier.
3.1.2. This test method is the companion to metric Test Method C1244M; therefore no SI equivalents are shown in this test method.
3.2. Reference documents.
3.2.1. ASTM standards:
3.2.1.1. C822, Terminology Relating to Concrete Pipe and Related Products/2;
3.2.1.2. C924, Practice for Testing Concrete Pipe Sewer Lines by Low-pressure Air Test Method/2; and
3.2.1.3. C969, Practice for Infiltration and Exfiltration Acceptance Testing of Installed Precast Concrete Pipe Sewer Lines/2.
3.2.2. This practice is under the jurisdiction of ASTM C-13 on concrete pipe, most recent edition.
3.3. Procedures.
3.3.1. All lift holes and any pipes entering the manholes are to be plugged. A vacuum will then be drawn and the vacuum drop over a specified time period will be used to determine the acceptability of the manhole.
3.3.2. The test head shall be placed at the top of the manhole in accordance with the manufacturer's recommendations.
3.3.3. A vacuum of 10 in. of mercury shall be drawn on the manhole, the valve on the vacuum line of the test head will be closed and the vacuum pump shut off. The time shall be measured for the vacuum to drop to 9 in. of mercury.
3.3.4. The manhole shall be considered to pass if the time for the vacuum reading to drop from 10 in. of mercury to 9 in. of mercury meets or exceeds the values indicated in Table D.
3.3.5. If the manhole fails the initial test, necessary repairs shall be made using an approved method. The manhole shall then be retested until a satisfactory test result is obtained.

STANDARD NOTES FOR LEAKAGE TESTS FOR SANITARY STRUCTURES

1. Tanks, vaults, wells and other fluid containing structures, (excluding manholes), shall be tested before backfilling by filling the structure with water to overflowing, or other level as may be directed by the Engineer, and observing the water surface level twenty-four hours thereafter.
1.1. When testing absorbent materials such as concrete, the structure shall be filled with water at least 24 hours before the test is started.
2. The exterior surface, especially at the construction joint, will be inspected for leakage during and upon completion of the 24-hour test.
2.1. Leakage will be considered to be within the allowable limits when there is no visible sign of leakage on the exterior surface and where the water surface does not drop except as associated with evaporation.
2.2. A slight dampness on the exterior wall surface during the test period will not be considered as leakage, except in the case of pre-stressed concrete structures.

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Siland Recreation Facility

4391 Route 22, Town of Amenia
Dutchess County, New York

No.	Revision	Date	Appvd.
1	EDITS PER TOWN ENGINEER COMMENTS	12/11/2025	

Designed by: AMK
Checked by: PV/MRG
Issued for: Site Plan Modificatoin Approval
Not Approved for Construction
Date: July 25, 2025

Drawing Title: Utility Notes

Drawing Number: C-4.1

IT IS A VIOLATION OF SECTION 7209 OF ARTICLE 145 OF THE NEW YORK ST

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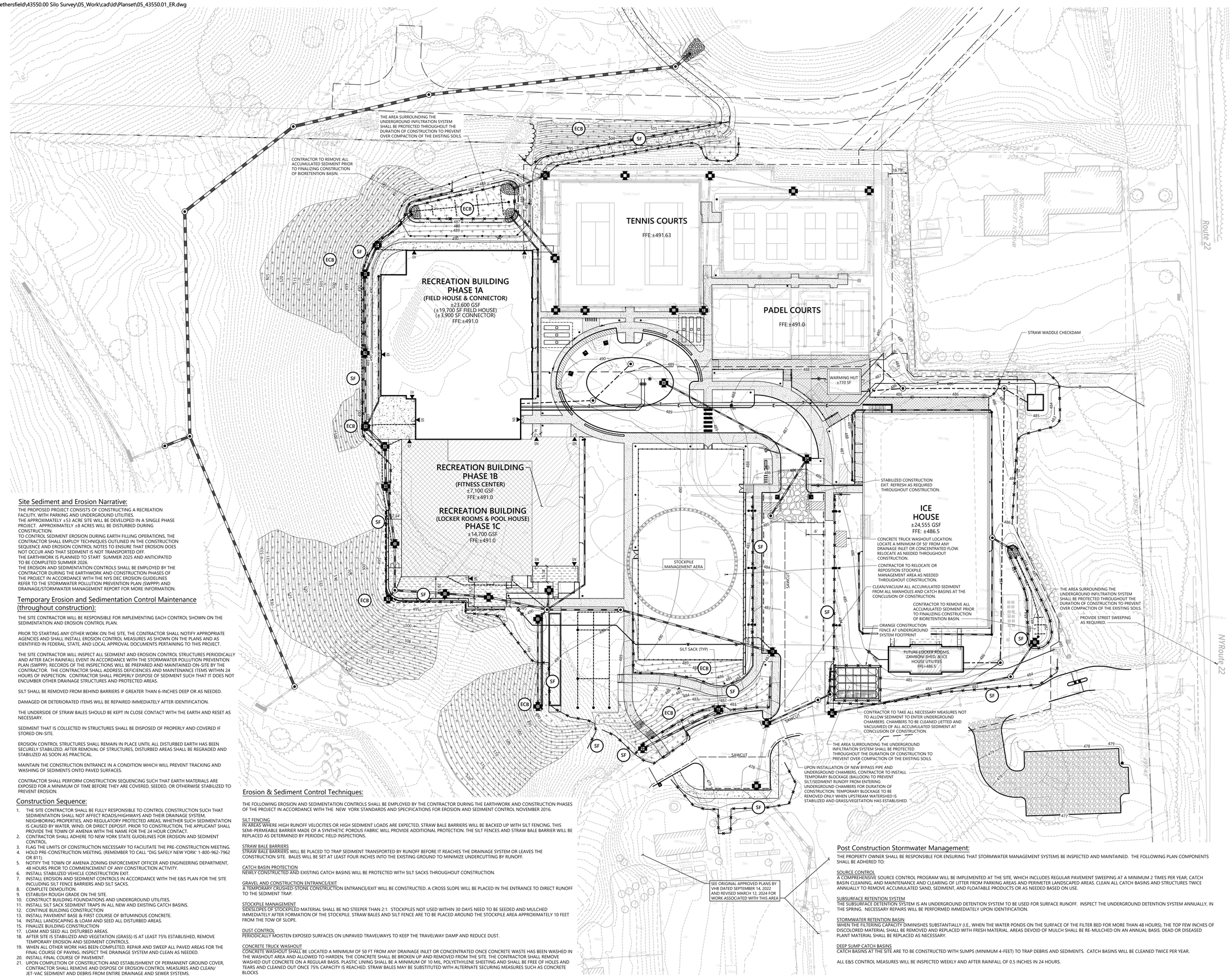

Site Sediment and Erosion Narrative:

THE PROPOSED PROJECT CONSISTS OF CONSTRUCTING A RECREATION FACILITY, WITH PARKING AND UNDERGROUND UTILITIES.
THE APPROXIMATELY ±53 ACRE SITE WILL BE DEVELOPED IN A SINGLE PHASE PROJECT. APPROXIMATELY ±8 ACRES WILL BE DISTURBED DURING CONSTRUCTION.
TO CONTROL SEDIMENT EROSION DURING EARTH FILLING OPERATIONS, THE CONTRACTOR SHALL EMPLOY TECHNIQUES OUTLINED IN THE CONSTRUCTION SEQUENCE AND EROSION CONTROL NOTES TO ENSURE THAT EROSION DOES NOT OCCUR AND THAT SEDIMENT IS NOT TRANSPORTED OFF.
THE EARTHWORK IS PLANNED TO START SUMMER 2025 AND ANTICIPATED TO BE COMPLETED SUMMER 2026.
THE EROSION AND SEDIMENTATION CONTROLS SHALL BE EMPLOYED BY THE CONTRACTOR DURING THE EARTHWORK AND CONSTRUCTION PHASES OF THE PROJECT IN ACCORDANCE WITH THE NYS DEC EROSION GUIDELINES
REFER TO THE STORMWATER POLLUTION PREVENTION PLAN (SWPPP) AND DRAINAGE/STORMWATER MANAGEMENT REPORT FOR MORE INFORMATION.

Temporary Erosion and Sedimentation Control Maintenance (throughout construction):

THE SITE CONTRACTOR WILL BE RESPONSIBLE FOR IMPLEMENTING EACH CONTROL SHOWN ON THE SEDIMENTATION AND EROSION CONTROL PLAN.

PRIOR TO STARTING ANY OTHER WORK ON THE SITE, THE CONTRACTOR SHALL NOTIFY APPROPRIATE AGENCIES AND SHALL INSTALL EROSION CONTROL MEASURES AS SHOWN ON THE PLANS AND AS IDENTIFIED IN FEDERAL, STATE, AND LOCAL APPROVAL DOCUMENTS PERTAINING TO THIS PROJECT.

THE SITE CONTRACTOR WILL INSPECT ALL SEDIMENT AND EROSION CONTROL STRUCTURES PERIODICALLY AND AFTER EACH RAINFALL EVENT IN ACCORDANCE WITH THE STORMWATER POLLUTION PREVENTION PLAN (SWPPP). RECORDS OF THE INSPECTIONS WILL BE PREPARED AND MAINTAINED ON-SITE BY THE CONTRACTOR. THE CONTRACTOR SHALL ADDRESS DEFICIENCIES AND MAINTENANCE ITEMS WITHIN 24 HOURS OF INSPECTION. CONTRACTOR SHALL PROPERLY DISPOSE OF SEDIMENT SUCH THAT IT DOES NOT ENCUMBER OTHER DRAINAGE STRUCTURES AND PROTECTED AREAS.

SILT SHALL BE REMOVED FROM BEHIND BARRIERS IF GREATER THAN 6-INCHES DEEP OR AS NEEDED.

DAMAGED OR DETERIORATED ITEMS WILL BE REPAIRED IMMEDIATELY AFTER IDENTIFICATION.

THE UNDERSIDE OF STRAW BALES SHOULD BE KEPT IN CLOSE CONTACT WITH THE EARTH AND RESET AS NECESSARY.

SEDIMENT THAT IS COLLECTED IN STRUCTURES SHALL BE DISPOSED OF PROPERLY AND COVERED IF STORED ON-SITE.

EROSION CONTROL STRUCTURES SHALL REMAIN IN PLACE UNTIL ALL DISTURBED EARTH HAS BEEN SECURELY STABILIZED. AFTER REMOVAL OF STRUCTURES, DISTURBED AREAS SHALL BE REGRADED AND STABILIZED AS SOON AS PRACTICAL.

MAINTAIN THE CONSTRUCTION ENTRANCE IN A CONDITION WHICH WILL PREVENT TRACKING AND WASHING OF SEDIMENTS ONTO PAVED SURFACES.

CONTRACTOR SHALL PERFORM CONSTRUCTION SEQUENCING SUCH THAT EARTH MATERIALS ARE EXPOSED FOR A MINIMUM OF TIME BEFORE THEY ARE COVERED, SEEDED, OR OTHERWISE STABILIZED TO PREVENT EROSION.

Construction Sequence:

1. THE SITE CONTRACTOR SHALL BE FULLY RESPONSIBLE TO CONTROL CONSTRUCTION SUCH THAT SEDIMENTATION SHALL NOT AFFECT ROADS/HIGHWAYS AND THEIR DRAINAGE SYSTEM, NEIGHBORING PROPERTIES, AND REGULATORY PROTECTED AREAS, WHETHER SUCH SEDIMENTATION IS CAUSED BY WATER, WIND, OR DIRECT DEPOSIT. PRIOR TO CONSTRUCTION, THE APPLICANT SHALL PROVIDE THE TOWN OF AMENIA WITH THE NAME FOR THE 24 HOUR CONTACT.
2. CONTRACTOR SHALL ADHERE TO NEW YORK STATE GUIDELINES FOR EROSION AND SEDIMENT CONTROL.
3. FLAG THE LIMITS OF CONSTRUCTION NECESSARY TO FACILITATE THE PRE-CONSTRUCTION MEETING.
4. HOLD PRE-CONSTRUCTION MEETING. (REMEMBER TO CALL "DIG SAFELY NEW YORK" 1-800-962-7962 OR 811).
5. NOTIFY THE TOWN OF AMENIA ZONING ENFORCEMENT OFFICER AND ENGINEERING DEPARTMENT, 48 HOURS PRIOR TO COMMENCEMENT OF ANY CONSTRUCTION ACTIVITY.
6. INSTALL STABILIZED VEHICLE CONSTRUCTION EXIT.
7. INSTALL EROSION AND SEDIMENT CONTROLS IN ACCORDANCE WITH THE E&S PLAN FOR THE SITE INCLUDING SILT FENCE BARRIERS AND SILT SACKS.
8. COMPLETE DEMOLITION.
9. ESTABLISH ROUGH GRADE ON THE SITE.
10. CONSTRUCT BUILDING FOUNDATIONS AND UNDERGROUND UTILITIES.
11. INSTALL SILT SACK SEDIMENT TRAPS IN ALL NEW AND EXISTING CATCH BASINS.
12. CONTINUE BUILDING CONSTRUCTION
13. INSTALL PAVEMENT BASE & FIRST COURSE OF BITUMINOUS CONCRETE.
14. INSTALL LANDSCAPING & LOAM AND SEED ALL DISTURBED AREAS.
15. FINALIZE BUILDING CONSTRUCTION
17. LOAM AND SEED ALL DISTURBED AREAS.
18. AFTER SITE IS STABILIZED AND VEGETATION (GRASS) IS AT LEAST 75% ESTABLISHED, REMOVE TEMPORARY EROSION AND SEDIMENT CONTROLS.
19. WHEN ALL OTHER WORK HAS BEEN COMPLETED, REPAIR AND SWEEP ALL PAVED AREAS FOR THE FINAL COURSE OF PAVING. INSPECT THE DRAINAGE SYSTEM AND CLEAN AS NEEDED.
20. INSTALL FINAL COURSE OF PAVEMENT.
21. UPON COMPLETION OF CONSTRUCTION AND ESTABLISHMENT OF PERMANENT GROUND COVER, CONTRACTOR SHALL REMOVE AND DISPOSE OF EROSION CONTROL MEASURES AND CLEAN/JET-VAC SEDIMENT AND DEBRIS FROM ENTIRE DRAINAGE AND SEWER SYSTEMS.

Erosion & Sediment Control Techniques:

THE FOLLOWING EROSION AND SEDIMENTATION CONTROLS SHALL BE EMPLOYED BY THE CONTRACTOR DURING THE EARTHWORK AND CONSTRUCTION PHASES OF THE PROJECT IN ACCORDANCE WITH THE NEW YORK STANDARDS AND SPECIFICATIONS FOR EROSION AND SEDIMENT CONTROL NOVEMBER 2016.

SILT FENCING
IN AREAS WHERE HIGH RUNOFF VELOCITIES OR HIGH SEDIMENT LOADS ARE EXPECTED, STRAW BALE BARRIERS WILL BE BACKED UP WITH SILT FENCING. THIS SEMI-PERMEABLE BARRIER MADE OF A SYNTHETIC POROUS FABRIC WILL PROVIDE ADDITIONAL PROTECTION. THE SILT FENCES AND STRAW BALE BARRIER WILL BE REPLACED AS DETERMINED BY PERIODIC FIELD INSPECTIONS.

STRAW BALE BARRIERS
STRAW BALE BARRIERS WILL BE PLACED TO TRAP SEDIMENT TRANSPORTED BY RUNOFF BEFORE IT REACHES THE DRAINAGE SYSTEM OR LEAVES THE CONSTRUCTION SITE. BALES WILL BE SET AT LEAST FOUR INCHES INTO THE EXISTING GROUND TO MINIMIZE UNDERCUTTING BY RUNOFF.

CATCH BASIN PROTECTION
NEWLY CONSTRUCTED AND EXISTING CATCH BASINS WILL BE PROTECTED WITH SILT SACKS THROUGHOUT CONSTRUCTION.

GRAVEL AND CONSTRUCTION ENTRANCE/EXIT
A TEMPORARY CRUSHED-STONE CONSTRUCTION ENTRANCE/EXIT WILL BE CONSTRUCTED. A CROSS SLOPE WILL BE PLACED IN THE ENTRANCE TO DIRECT RUNOFF TO THE SEDIMENT TRAP.

STOCKPILE MANAGEMENT
SIDESLOPES OF STOCKPILED MATERIAL SHALL BE NO STEEPER THAN 2:1. STOCKPILES NOT USED WITHIN 30 DAYS NEED TO BE SEEDED AND MULCHED IMMEDIATELY AFTER FORMATION OF THE STOCKPILE. STRAW BALES AND SILT FENCE ARE TO BE PLACED AROUND THE STOCKPILE AREA APPROXIMATELY 10 FEET FROM THE TOW OF SLOPE.

DUST CONTROL
PERIODICALLY MOISTEN EXPOSED SURFACES ON UNPAVED TRAVELWAYS TO KEEP THE TRAVELWAY DAMP AND REDUCE DUST.

CONCRETE TRUCK WASHOUT
CONCRETE WASHOUT SHALL BE LOCATED A MINIMUM OF 50 FT FROM ANY DRAINAGE INLET OR CONCENTRATED ONCE CONCRETE WASTE HAS BEEN WASHED IN THE WASHOUT AREA AND ALLOWED TO HARDEN, THE CONCRETE SHALL BE BROKEN UP AND REMOVED FROM THE SITE. THE CONTRACTOR SHALL REMOVE WASHED OUT CONCRETE ON A REGULAR BASIS. PLASTIC LINING SHALL BE A MINIMUM OF 10 MIL, POLYETHYLENE SHEETING AND SHALL BE FREE OF HOLES AND TEARS AND CLEANED OUT ONCE 75% CAPACITY IS REACHED. STRAW BALES MAY BE SUBSTITUTED WITH ALTERNATE SECURING MEASURES SUCH AS CONCRETE BLOCKS

Post Construction Stormwater Management:

THE PROPERTY OWNER SHALL BE RESPONSIBLE FOR ENSURING THAT STORMWATER MANAGEMENT SYSTEMS BE INSPECTED AND MAINTAINED. THE FOLLOWING PLAN COMPONENTS SHALL BE ADHERED TO:

SOURCE CONTROL
A COMPREHENSIVE SOURCE CONTROL PROGRAM WILL BE IMPLEMENTED AT THE SITE, WHICH INCLUDES REGULAR PAVEMENT SWEEPING AT A MINIMUM 2 TIMES PER YEAR, CATCH BASIN CLEANING, AND MAINTENANCE AND CLEARING OF LITTER FROM PARKING AREAS AND PERIMETER LANDSCAPED AREAS. CLEAN ALL CATCH BASINS AND STRUCTURES TWICE ANNUALLY TO REMOVE ACCUMULATED SAND, SEDIMENT, AND FLOATABLE PRODUCTS OR AS NEEDED BASED ON USE.

SUBSURFACE RETENTION SYSTEM
THE SUBSURFACE DETENTION SYSTEM IS AN UNDERGROUND DETENTION SYSTEM TO BE USED FOR SURFACE RUNOFF. INSPECT THE UNDERGROUND DETENTION SYSTEM ANNUALLY, IN THE SPRING. NECESSARY REPAIRS WILL BE PERFORMED IMMEDIATELY UPON IDENTIFICATION.

STORMWATER RETENTION BASIN
WHEN THE FILTERING CAPACITY DIMINISHES SUBSTANTIALLY (I.E., WHEN THE WATER PONDS ON THE SURFACE OF THE FILTER BED FOR MORE THAN 48 HOURS), THE TOP FEW INCHES OF DISCOLORED MATERIAL SHALL BE REMOVED AND REPLACED WITH FRESH MATERIAL. AREAS DEVOID OF MULCH SHALL BE RE-MULCHED ON AN ANNUAL BASIS. DEAD OR DISEASED PLANT MATERIAL SHALL BE REPLACED AS NECESSARY.

DEEP SUMP CATCH BASINS
CATCH BASINS AT THE SITE ARE TO BE CONSTRUCTED WITH SUMPS (MINIMUM 4-FEET) TO TRAP DEBRIS AND SEDIMENTS. CATCH BASINS WILL BE CLEANED TWICE PER YEAR.

ALL E&S CONTROL MEASURES WILL BE INSPECTED WEEKLY AND AFTER RAINFALL OF 0.5 INCHES IN 24 HOURS.

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THIS PLAN PROVIDES GENERAL GUIDANCE FOR THE CONSTRUCTION ACTIVITIES THAT MAY OCCUR. THE CONTRACTOR IS FULLY RESPONSIBLE TO PROVIDE AND MAINTAIN PROPER EROSION AND SEDIMENT CONTROL AT ALL TIMES. ADDITIONAL EROSION AND SEDIMENT CONTROL MEASURES MAY BE REQUIRED THROUGHOUT CONSTRUCTION BY THE TOWN, OWNER, OR OWNER'S REPRESENTATIVE.

EROSION CONTROL BLANKET (ECB)

SILT FENCE (SF)

0 20 40 80 Feet

Siland Recreation Facility

4391 Route 22, Town of Amenia
Dutchess County, New York

No.	Revision	Date	Appvd.
1	EDITS PER TOWN ENGINEER COMMENTS	12/11/2025	

Designed by: AMK
Checked by: PV/MRG
Issued for
Date: July 25, 2025

Site Plan
Modificatoin Approval
Not Approved for Construction

Drawing Title
Erosion and Sediment Control Plan

Drawing Number
C-5.0

STATE OF NEW YORK
ANNA ROSE BRAUER
110362-01
LICENSED PROFESSIONAL ENGINEER

IT IS A VIOLATION OF SECTION 7209 OF ARTICLE 145 OF THE NEW YORK STATE EDUCATION LAW FOR ANY PERSON TO ALTER ANY DOCUMENT THAT BEARS THE SEAL OF A PROFESSIONAL ENGINEER, UNLESS THE PERSON IS ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER

Project Number
43550.01

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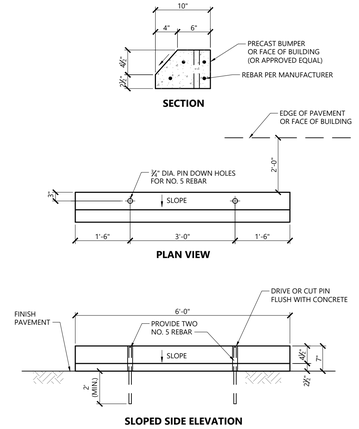
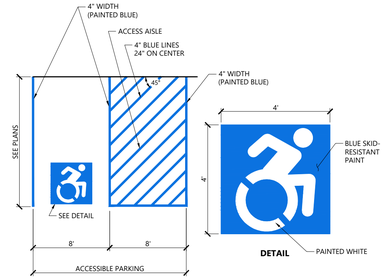


Parking Block

1/16

N.T.S. Source: VHB LD_417



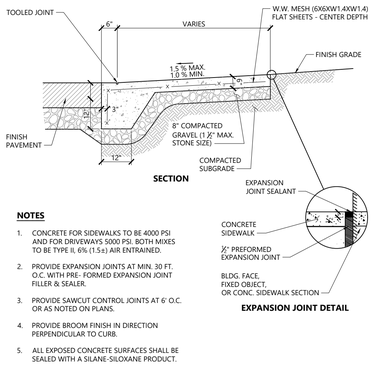
NOTES

1. ALL DIMENSIONS TO CENTER OF PAVEMENT STRIPING.
2. ALL SLOPES THROUGHOUT THE ACCESSIBLE PARKING AND AISLE AREAS SHALL NOT EXCEED 1.5%.
3. THE ACCESSIBLE SYMBOL DEPICTED ABOVE DOES NOT COMPLY WITH THE AMERICANS WITH DISABILITIES ACT (ADA) AND IS SHOWN FOR COMPLIANCE WITH STATE AND LOCAL REGULATIONS ONLY.

Accessible Parking Space

12/19

N.T.S. Source: VHB LD_552C



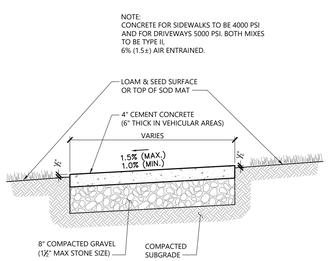
NOTES

1. CONCRETE FOR SIDEWALKS TO BE 4000 PSI AND FOR DRIVEWAYS 5000 PSI. BOTH MIXES TO BE TYPE II, 6% (1.5±) AIR ENTRAINED.
2. PROVIDE EXPANSION JOINTS AT MIN. 30 FT. O.C. WITH PRE- FORMED EXPANSION JOINT FILLER & SEALER.
3. PROVIDE SAWCUT CONTROL JOINTS AT 6' O.C. OR AS NOTED ON PLANS.
4. PROVIDE BROOM FINISH IN DIRECTION PERPENDICULAR TO CURB.
5. ALL EXPOSED CONCRETE SURFACES SHALL BE SEALED WITH A SILANE-SILOXANE PRODUCT.

Monolithic Concrete Curb (MCC) & Sidewalk

3/20

N.T.S. Source: VHB LD_421



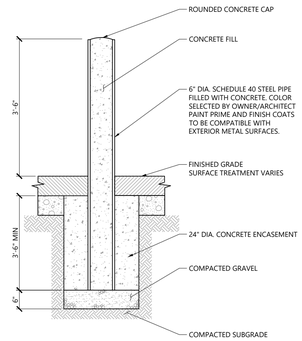
NOTES

1. PROVIDE EXPANSION JOINTS AT MIN. 30 FT. O.C. WITH PRE- FORMED JOINT FILLER.
2. PROVIDE TOOLED CONTROL JOINTS AT 6' O.C.
3. PROVIDE BROOM FINISH IN DIRECTION PERPENDICULAR TO SIDEWALK DIRECTION.

Concrete Sidewalk in Landscape Area

1/16

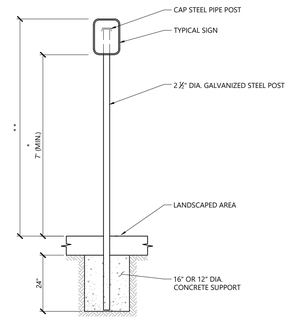
N.T.S. Source: VHB LD_426



Bollard

12/19

N.T.S. Source: VHB LD_700



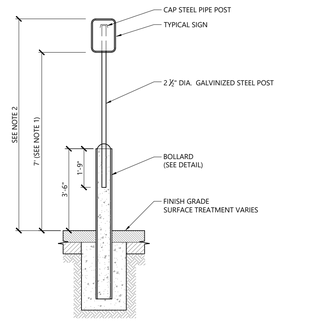
* THIS DIMENSION SHALL BE A MINIMUM OF 5' FOR ACCESSIBLE SIGNAGE.

* * THIS DIMENSION SHALL BE A MAXIMUM OF 8' FOR ACCESSIBLE SIGNAGE.

Sign Post - Type 'A'

1/16

N.T.S. Source: VHB LD_701



1. THIS DIMENSION SHALL BE A MINIMUM OF 5' FOR ACCESSIBLE SIGNAGE.
2. THIS DIMENSION SHALL BE A MAXIMUM OF 8' FOR ACCESSIBLE SIGNAGE

Bollard Mounted Sign

2/20

N.T.S. Source: VHB LD_703

STANDARD DUTY FLEXIBLE PAVEMENT

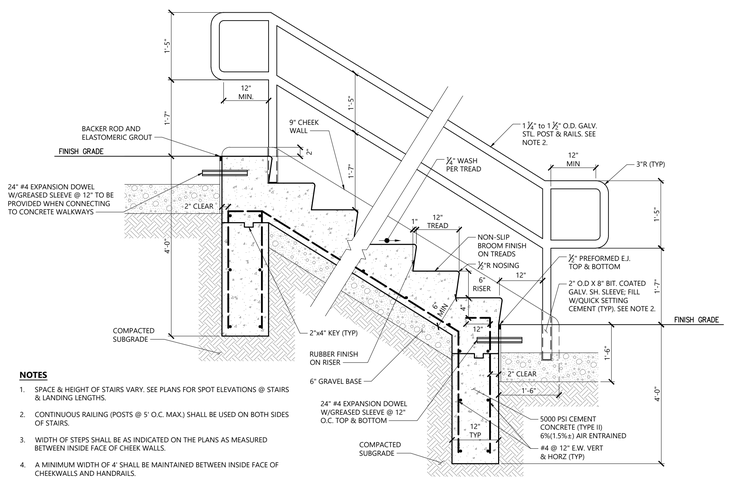
NOTES

PAVEMENT SECTIONS ARE SUBJECT TO CHANGE AND WILL BE BASED ON THE RESULTS OF FURTHER GEOTECHNICAL INVESTIGATIONS.

Bituminous Concrete Pavement Sections

1/16

N.T.S. Source: Daniel G. Loucks Geotechnical Engineering LD_430



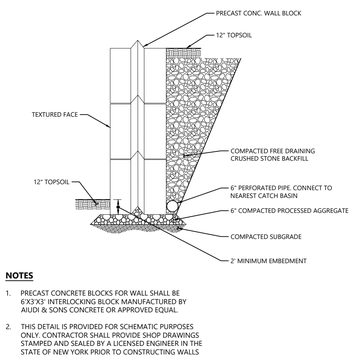
NOTES

1. SPACE & HEIGHT OF STAIRS VARY. SEE PLANS FOR SPOT ELEVATIONS @ STAIRS & LANDING LENGTHS.
2. CONTINUOUS RAILING (POSTS @ 5' O.C. MAX.) SHALL BE USED ON BOTH SIDES OF STAIRS.
3. WIDTH OF STEPS SHALL BE AS INDICATED ON THE PLANS AS MEASURED BETWEEN INSIDE FACE OF CHEEK WALLS.
4. A MINIMUM WIDTH OF 4' SHALL BE MAINTAINED BETWEEN INSIDE FACE OF CHEEKWALLS AND HANDRAILS.

Concrete Steps with Handrail

11/15

N.T.S. Source: VHB LD_765

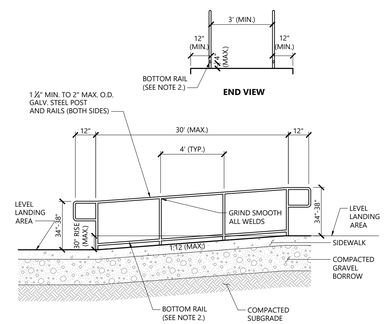


NOTES

1. PRECAST CONCRETE BLOCKS FOR WALL SHALL BE 6'X3'X3' INTERLOCKING BLOCK MANUFACTURED BY AIUDI & SONS CONCRETE OR APPROVED EQUAL.
2. THIS DETAIL IS PROVIDED FOR SCHEMATIC PURPOSES ONLY. CONTRACTOR SHALL PROVIDE SHOP DRAWINGS STAMPED AND SEALED BY A LICENSED ENGINEER IN THE STATE OF NEW YORK PRIOR TO CONSTRUCTING WALLS

Precast Concrete Wall Block

N.T.S. Source: VHB



NOTES

1. FOR ADDITIONAL INFORMATION ON RAMPS SEE SECTION 405 RAMPS OF THE DEPARTMENT OF JUSTICE 2010 STANDARDS.
2. EDGE PROTECTION TO BE PROVIDED BY EXTENDING THE RAMP SURFACE 12 INCHES BEYOND THE INSIDE FACE OF THE HANDRAIL OR PROVIDING A BOTTOM RAIL WITH THE BOTTOM OF THE RAIL TO BE NO HIGHER THAN 4 INCHES ABOVE THE RAMP SURFACE.
3. REFER TO SIDEWALK DETAIL FOR SIDEWALK CONSTRUCTION.

ADA Ramp

1/16

N.T.S. Source: VHB LD_764A

vhb.com

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100 Motor Parkway
Suite 350
Hauppauge, NY 11788
631.787.3400

Siland Recreation Facility

4391 Route 22, Town of Amenia
Dutchess County, New York

No.	Revision	Date	Appvd.
1	EDITS PER TOWN ENGINEER COMMENTS	12/11/2025	

Designed by: AMK
Checked by: PV/MRG
Issued for:
Date: July 25, 2025

Site Plan
Modificatoin Approval
Not Approved for Construction

Drawing Title
Site Details 1

Drawing Number
C-6.0

IT IS A VIOLATION OF SECTION 7209 OF ARTICLE 145 OF THE NEW YORK STATE EDUCATION LAW FOR ANY PERSON TO ALTER ANY DOCUMENT THAT BEARS THE SEAL OF A PROFESSIONAL ENGINEER, UNLESS THE PERSON IS ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER

Project Number
43550.01

Saved Tuesday, October 28, 2025 3:06:05 PM AKOWALCZYK Plotted Tuesday, December 9, 2025 9:55:30 AM Andria May Kowalczyk

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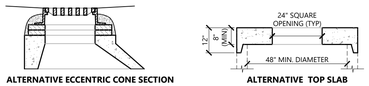
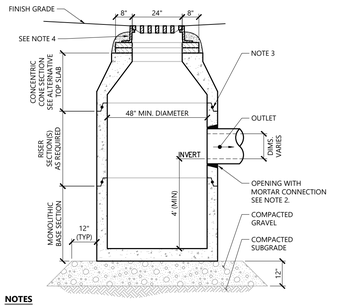


ALTERNATIVE ECCENTRIC CONE SECTION

ALTERNATIVE TOP SLAB

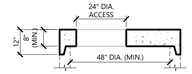


NOTES

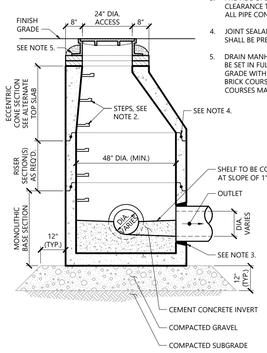
1. ALL SECTIONS SHALL BE DESIGNED FOR HS-20 LOADING.
2. PROVIDE OPENINGS FOR PIPES WITH 2" MAX. CLEARANCE TO OUTSIDE OF PIPE. MORTAR ALL PIPE CONNECTIONS.
3. JOINT SEALANT BETWEEN PRECAST SECTIONS SHALL BE PREFORMED BUTYL RUBBER.
4. CATCH BASIN FRAME AND GRATE SHALL BE SET IN FULL MORTAR BED. ADJUST TO GRADE WITH CLAY BRICK AND MORTAR (2 BRICK COURSES TYPICALLY, 5 BRICK COURSES MAXIMUM).

Catch Basin (CB) 1/16

N.T.S. Source: VHB LD_100



ALTERNATE TOP SLAB

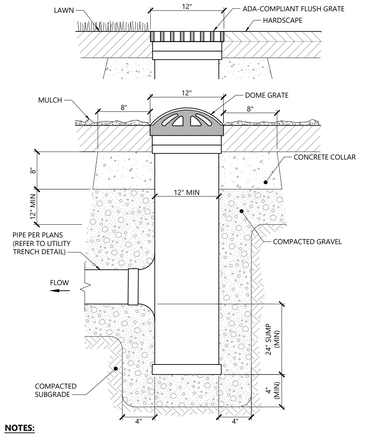


NOTES

1. ALL SECTIONS SHALL BE DESIGNED FOR HS-20 LOADING. DIAMETER OF STRUCTURES SHALL BE COORDINATED WITH PIPE CONFIGURATIONS.
2. COPOLYMER MANHOLE STEPS SHALL BE INSTALLED AT 12" O.C. FOR THE FULL DEPTH OF THE STRUCTURE.
3. PROVIDE OPENINGS FOR PIPES WITH 2" MAX. CLEARANCE TO OUTSIDE OF PIPE. MORTAR ALL PIPE CONNECTIONS.
4. JOINT SEALANT BETWEEN PRECAST SECTIONS SHALL BE PREFORMED BUTYL RUBBER.
5. DRAIN MANHOLE FRAME AND COVER SHALL BE SET IN FULL MORTAR BED. ADJUST TO GRADE WITH CLAY BRICK AND MORTAR (2 BRICK COURSES TYPICALLY, 5 BRICK COURSES MAXIMUM)

Drain Manhole (DMH) 1/16

N.T.S. Source: VHB LD_115



NOTES:

1. AREA DRAINS SHALL BE NYLOPLAST 12" DIAMETER DRAIN BASIN, OR APPROVED EQUAL.
2. GRATES SHALL BE NYLOPLAST 12" PEDESTRIAN MODEL 1299CGP OR 12" DOME GRATE MODEL 1299CGD (OR APPROVED EQUAL).

Area Drain (AD) Type 1 12/19

N.T.S. Source: VHB LD_193

vhb.com

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Hauppauge, NY 11788
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BIORETENTION SOIL MIX (BIOMIX): **INSTALL THROUGHOUT ENTIRE FOOTPRINT OF BASINS, SEE BASIN DETAILS FOR DEPTH**

A. BIORETENTION SOIL SHALL BE A LOOSE UNIFORM MIX OF SAND, COMPOST, AND LOAM, FREE OF STONES, STUMPS, ROOTS OR OTHER SIMILAR OBJECTS LARGER THAN TWO (2) INCHES IN DIAMETER, AND WITHOUT MATERIAL TOXIC TO PLANT GROWTH.

B. BIORETENTION SOIL SHALL SUPPORT VIGOROUS PLANT GROWTH.

C. THE BIORETENTION SOIL SHALL BE FREE OF NOXIOUS OR INVASIVE WEEDS INCLUDING THE FOLLOWING: KNOTWEED, PHRAGMITES, PURPLE LOOSESTRIFE, BERMUDA GRASS, QUACKGRASS, JOHNSON GRASS, MUGWORT, NUTSEDGE, POISON IVY, CANADIAN THISTLE, OR TEARTHUMB.

D. BIORETENTION SOIL MAY BE MANUFACTURED USING A BLEND OF SAND WITH AMENDMENTS.

E. BIORETENTION SOIL SHALL MEET THE FOLLOWING LABORATORY TEST PARAMETERS:
- PH 6.0 - 7.0
- MOISTURE CONTENT 25% - 55%
- ORGANIC MATTER CONTENT 3% - 10% (DRY WEIGHT BASIS)
- SOLUBLE SALTS 2.0 MMHOS (DS) MAXIMUM
- STONE AND DEBRIS < 5% (BY WEIGHT)
- FOREIGN MATTER < 0.05% (BY WEIGHT)
- INFILTRATION RATE 5.0 IN/HR (MIN)
- CEC OF TOTAL SOIL: MINIMUM 10 meq/100 mL at pH of 7.0.

F. THE BIORETENTION SOIL SHALL MEET THE FOLLOWING MECHANICAL ANALYSIS, AS DETERMINED USING ASTM D422 STANDARD TEST METHOD FOR PARTICLE-SIZE ANALYSIS OF SOILS.
- TEXTURAL CLASS % OF TOTAL DRY WEIGHT
- EXCLUDE ANY MATERIAL > 4.76 mm - 0%
- VERY COARSE SAND/GRAVEL: GRAVEL (2.0 to 4.76 mm) 5% MAXIMUM (PERCENT BY DRY WEIGHT),
- SAND* (0.42 to 2.0 mm) 90 - 80% (PERCENT BY DRY WEIGHT),
- SILT/CLAY (less than 0.075mm) 5% MAXIMUM (PERCENT BY DRY WEIGHT).

* IT SHOULD BE NOTED THAT THE "SAND" FRACTION IS AN ASTM DERIVED PARTICLE SIZE SPECIFICATION AND DOES NOT NECESSARILY REFER TO THE ASTM C-33 SAND REQUIREMENT OFTEN INCLUDED IN GENERIC BSM MIX REQUIREMENTS. THIS IS A PERFORMANCE SPECIFICATION THAT ALLOWS FOR A VARIETY OF SOIL MIXES THAT ULTIMATELY MEETS THE FRACTIONS OUTLINED IN TABLE 1).

Table 1: Acceptable particle size distribution of final bioretention soil mix

Sieve #	Sieve Size - in (mm)	% Passing
4	0.187 (4.75)	100
10	0.079 (2)	95
40	0.017 (0.42)	10 – 20
200	0.003 (0.075)	< 5

G. PERMEABILITY: BIORETENTION SOIL SHALL HAVE A MINIMUM PERMEABILITY OF 5 INCHES PER HOUR, AS DETERMINED BY ASTM D2434 STANDARD TEST METHOD FOR PERMEABILITY OF GRANULAR SOILS.

H. IN-SITU CONFIRMATION OF INFILTRATION RATE: PRIOR TO THE PLACEMENT OF BIORETENTION MATERIAL THE CONTRACTOR SHALL LAY TEST STRIPS AND ESTABLISH COMPACTION AND DENSITY RATES FOR THE BIORETENTION MATERIALS. THE CONTRACTOR SHALL THEN PERFORM DOUBLE RING PERMEAMETER OR INFILTROMETER TESTS PER ASTM D3385-03 TO CONFIRM MINIMUM INFILTRATION RATES ARE ACHIEVED. PLEASE NOTE THIS MAY TAKE SEVERAL ITERATIONS BEFORE MATERIAL IS ACCEPTED AND FINAL MATERIAL AND PLANTINGS CAN BE PLACED.

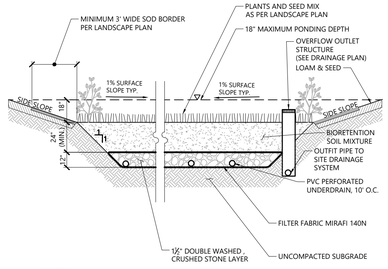
I. ORGANIC AMENDMENT. THE COMPOST FOR ORGANIC AMENDMENT SHALL MEET THE FOLLOWING REQUIREMENTS:

COMPOST SHALL BE A WELL-DECOMPOSED HUMUS MATERIAL DERIVED FROM THE AEROBIC DECOMPOSITION OF BIODEGRADABLE MATTER, FREE OF VIABLE WEED SEEDS AND OTHER PLANT PROPAGULES (EXCEPT AIRBORNE WEED SPECIES), FOREIGN DEBRIS SUCH AS GLASS, PLASTIC, ETC. AND SUBSTANCES TOXIC TO PLANTS. COMPOST SHALL BE SUITABLE FOR USE AS A SOIL AMENDMENT AND SHALL SUPPORT THE GROWTH OF ORNAMENTAL NURSERY STOCK AND TURF ESTABLISHMENT. COMPOST SHALL BE IN A SHREDDED OR GRANULAR FORM AND FREE FROM HARD LUMPS. THE LEVEL OF TOXIC ELEMENTS AND COMPOUNDS IN ORGANIC MATTER SHALL BE BELOW THE DEP TYPE I STANDARDS FOR SLUDGE AND THE EPA STANDARDS FOR CLASS A "EXCEPTIONAL QUALITY SLUDGE", WHICHEVER IS MORE STRINGENT. LEVELS OF PATHOGENS SHALL BE BELOW BOTH FEDERAL AND STATE THRESHOLDS. COMPOSTED MATERIAL WITH AN UNPLEASANT ODOR, SUCH AS THAT OF AMMONIA OR FECAL MATERIAL SHALL BE REJECTED BY THE ENGINEER. BIOSOLIDS SHALL NOT BE INCLUDED AS SOURCE MATERIALS FOR COMPOST.

COMPOST SHALL HAVE THE FOLLOWING PROPERTIES:
- MAXIMUM PARTICLE SIZE OF 1 IN.; AND
- STABILITY <<10 MG CO2 - C/G BVS DAY; OR
- ≤10°C ABOVE AMBIENT TEMPERATURE (DEWAR SELF-HEATING TEST); OR
- ≥6 USING SOLVITA TEST KIT.

THE SOLVITA TEST KIT SHALL BE PROCURED BY THE CONTRACTOR, AND THE COMPOST SAMPLES SHALL BE TESTED ON SITE IN THE PRESENCE OF THE ENGINEER FOR THE FOLLOWING:
- MOISTURE CONTENT BETWEEN 35% AND 55%
- PH RANGE BETWEEN 5.5 AND 7.5
- MINIMUM ORGANIC MATTER CONTENT OF 40% (MINIMUM DRY WEIGHT)
- MAXIMUM ELECTRICAL CONDUCTIVITY OF 0.4 S/M
- MAXIMUM OF 1% FOREIGN MATTER
- C:N RATIO RANGE OF 11-25:1

J. SOIL TEST REPORTS
1. PROVIDE NAMES AND LOCATION OF ALL SOURCES OF ALL COMPOST, SAND AND OTHER BORROW SUPPLIERS, PRIOR TO ORDERING MATERIAL. IN ADDITION, FOR BIORETENTION SOIL MIXTURE MATERIALS, SUBMIT SOIL TEST REPORTS TO THE REPRESENTATIVE FOR REVIEW AND APPROVAL.
2. ALL COMPOST SHALL BE ACCOMPANIED BY CERTIFIED LABORATORY CAPABLE OF PROVIDING TESTING AS SPECIFIED HEREIN.
3. SOIL TESTING SHALL BE INCIDENTAL TO THE COST OF THIS ITEM. SUBMIT SOIL TEST REPORTS ACCOMPANIED BY A ONE-POUND REPRESENTATIVE SAMPLE OF THE SOIL AT LEAST ONE MONTH BEFORE ANY SOIL SPREADING IS SCHEDULED. CONTRACTOR SHALL BE RESPONSIBLE FOR TIMELY PROCUREMENT OF RESULTS, INCLUDING ANY COSTS FOR EXPEDITED TESTING.
4. DO NOT ORDER MATERIALS UNTIL APPROVAL HAS BEEN OBTAINED. DELIVERED MATERIALS SHALL BE FROM THE SAME SOURCE AS THE TESTED MATERIAL.
5. THE CONTRACTOR SHALL EMPLOY A CERTIFIED TESTING LABORATORY TO TEST THE MATERIAL AND SHALL SUBMIT TEST REPRESENTATIVE SAMPLES OF BIORETENTION SOIL MIXTURE REPORTS TO THE REPRESENTATIVE. REPORTS SHALL INCLUDE:
   a. TESTS FOR PHOSPHORUS, NITROGEN, POTASSIUM, CALCIUM, SOLUBLE SALTS, SOIL PH, MOISTURE CONTENT, ORGANIC MATTER CONTENT, AND SOIL TEXTURE ANALYSIS IN ACCORDANCE WITH THE CURRENT STANDARDS OF THE ASSOCIATION OF OFFICIAL AGRICULTURE CHEMISTS.
   b. TEST SHALL INCLUDE A SOIL PARTICLE GRADATION ANALYSIS AND PERMEABILITY RATE FOR THE BIORETENTION SOIL MIXTURE.
   c. RESULTS OF INFILTRATION TEST (ASTM D-3385).



NOTES

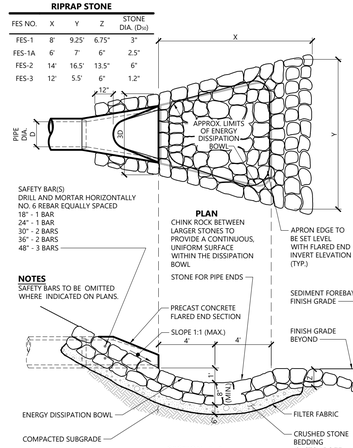
1. INSTALL UNDERDRAINS AT 10 FEET ON CENTER. CONNECT TO DRAINS PER PLAN.
2. SIDE SLOPES SHALL BE 3:1 MAX. 2% MIN.

Bioretention Basin 1/16

N.T.S. Source: VHB LD_353

RIPRAP STONE

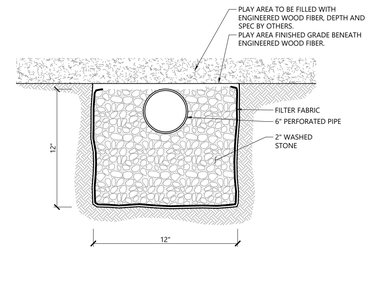
FES NO.	X	Y	Z	STONE DIA. (D_{50})
FES-1	8'	9.25'	6.75"	3"
FES-1A	6'	7'	6"	2.5"
FES-2	14'	16.5'	13.5"	6"
FES-3	12'	5.5'	6"	1.2"



SECTION A-A

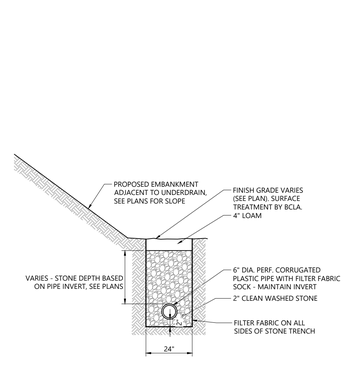
Flared End Section (FES) at Bioretention Basin 3/19

N.T.S. Source: VHB LD_134B



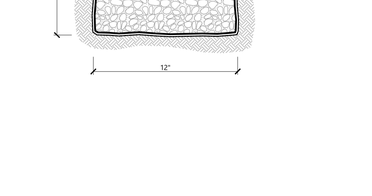
Underdrain (UD) AT PLAYSCAPE AREA 1/16

N.T.S. Source: VHB REV LD_184



Underdrain at toe of Embankment

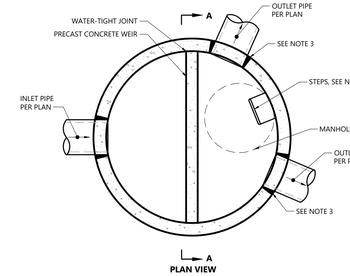
N.T.S. Source:



SECTION A-A

DMH9 with Internal Diversion Weir 3/20

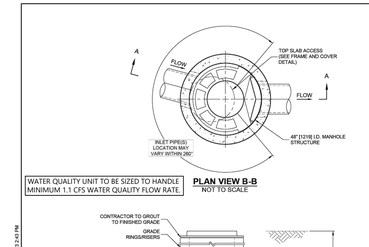
N.T.S. Source: VHB LD_162A



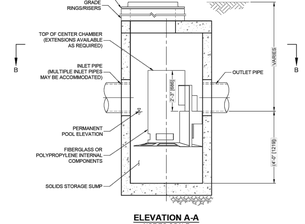
PLAN VIEW

NOTES

1. ALL SECTIONS SHALL BE DESIGNED FOR HS-20 LOADING. DIAMETER OF STRUCTURES SHALL BE COORDINATED WITH PIPE CONFIGURATIONS.
2. COPOLYMER MANHOLE STEPS SHALL BE INSTALLED AT 12" O.C. FOR THE FULL DEPTH OF THE STRUCTURE.
3. FOR HDPE, PVC, AND DI PIPE, PROVIDE FLEXIBLE BOOT CONNECTION INSTALLED PER MANUFACTURER'S RECOMMENDATIONS. FOR RCP, PROVIDE OPENINGS FOR PIPES WITH 2" MAX. CLEARANCE TO OUTSIDE OF PIPE AND MORTAR CONNECTIONS.
4. JOINT SEALANT BETWEEN PRECAST SECTIONS SHALL BE PREFORMED BUTYL RUBBER.
5. DRAIN MANHOLE FRAME AND COVER SHALL BE SET IN FULL MORTAR BED. ADJUST TO GRADE WITH CLAY BRICK AND MORTAR (2 BRICK COURSES TYPICALLY, 5 BRICK COURSES MAXIMUM)



PLAN VIEW B-B
NOT TO SCALE



ELEVATION A-A
NOT TO SCALE

CASCADE separator™

CASCADE SEPARATOR DESIGN NOTES

THE STANDARD CS-4 CONFIGURATION IS SHOWN. ALTERNATE CONFIGURATIONS ARE AVAILABLE AND ARE LISTED BELOW. SOME CONFIGURATIONS MAY BE COMBINED TO SUIT SITE REQUIREMENTS.

CONFIGURATION DESCRIPTION
GRATED INLET ONLY (NO INLET PIPE)
GRATED INLET WITH INLET PIPE OR PIPES
CURB INLET ONLY (NO INLET PIPE)
CURB INLET WITH INLET PIPE OR PIPES

FRAME AND COVER
(DIAMETER VARIES)
NOT TO SCALE

SITE SPECIFIC DATA REQUIREMENTS

STRUCTURE ID				
WATER QUALITY FLOW RATE (cfs [L/s])				
PEAK FLOW RATE (cfs [L/s])				
RETURN PERIOD OF PEAK FLOW (yrs)				
RIM ELEVATION				
PIPE DATA		INVERT	MATERIAL	DIAMETER
INLET PIPE 1				
INLET PIPE 2				
OUTLET PIPE				
NOTES / SPECIAL REQUIREMENTS:				

GENERAL NOTES
1. CONTECH TO PROVIDE ALL MATERIALS UNLESS NOTED OTHERWISE.
2. FOR SITE SPECIFIC DRAWINGS WITH DETAILED STRUCTURE DIMENSIONS AND WEIGHT, PLEASE CONTACT YOUR CONTECH ENGINEERED SOLUTIONS LLC REPRESENTATIVE. www.ContechES.com
3. CASCADE SEPARATOR WATER QUALITY STRUCTURE SHALL BE IN ACCORDANCE WITH ALL DESIGN DATA AND INFORMATION CONTAINED IN THIS DRAWING. CONTECH TO BE NOTIFIED OF ANY PROPOSED CHANGES IN THE REQUIREMENTS OF THIS DRAWING.
4. CASCADE SEPARATOR STRUCTURE SHALL MEET AASHTO HS20 LOAD RATING, ASSUMING EARTH COVER OF 0' - 2' [610], AND GROUNDWATER ELEVATION AT, OR BELOW, THE OUTLET PIPE INVERT ELEVATION. ENGINEER OF RECORD TO CONFIRM ACTUAL GROUNDWATER ELEVATION. CASTINGS SHALL MEET AASHTO M306 AND BE CAST WITH THE CONTECH LOGO.
5. CASCADE SEPARATOR STRUCTURE SHALL BE PRECAST CONCRETE CONFORMING TO ASTM C478 AND AASHTO LOAD FACTOR DESIGN METHOD.
6. ALTERNATE UNITS ARE SHOWN IN MILLIMETERS [mm].

INSTALLATION NOTES
A. ANY SUB-BASE / BACKFILL DEPTH, AND/OR ANTI-FLOTATION PROVISIONS ARE SITE-SPECIFIC DESIGN CONSIDERATIONS AND SHALL BE DETERMINED BY THE ENGINEER OF RECORD.
B. CONTRACTOR TO PROVIDE EQUIPMENT WITH SUFFICIENT LIFTING AND REACH CAPACITY TO LIFT AND SET THE CASCADE SEPARATOR MANHOLE STRUCTURE.
C. CONTRACTOR TO INSTALL JOINT SEALANT BETWEEN ALL STRUCTURE SECTIONS AND ASSEMBLE STRUCTURE.
D. CONTRACTOR TO PROVIDE, INSTALL, AND GROUT INLET AND OUTLET PIPE(S). MATCH PIPE INVERTS WITH ELEVATIONS SHOWN. ALL PIPE CENTERLINES TO MATCH PIPE OPENING CENTERLINE.
E. CONTRACTOR TO TAKE APPROPRIATE MEASURES TO ENSURE UNIT IS WATER TIGHT, HOLDING WATER TO FLOWLINE INVERT MINIMUM. IT IS SUGGESTED THAT ALL JOINTS BELOW PIPE INVERTS ARE GROUTED.

CONTECH ENGINEERED SOLUTIONS LLC
www.contechES.com
9100 Centre Pointe Dr., Suite 400, West Chester, OH 45069
800-338-1122 513-645-7000 513-645-7993 FAX

CS-4
CASCADE SEPARATOR
STANDARD DETAIL

Siland Recreation Facility

4391 Route 22, Town of Amenia
Dutchess County, New York

No.	Revision	Date	Appvd.
1	EDITS PER TOWN ENGINEER COMMENTS	12/11/2025	

Designed by: AMK
Checked by: PV/MRG

Issued for
Site Plan
Modificatoin Approval
Not Approved for Construction

Date: July 25, 2025

Drawing Title: Site Details 2

Drawing Number: C-6.1

Project Number: 43550.01

STATE OF NEW YORK
AMIA ROSE BAKER
LICENSED PROFESSIONAL ENGINEER
No. 110362-01

IT IS A VIOLATION OF SECTION 7209 OF ARTICLE 145 OF THE NEW YORK STATE EDUCATION LAW FOR ANY PERSON TO ALTER ANY DOCUMENT THAT BEARS THE SEAL OF A PROFESSIONAL ENGINEER, UNLESS THE PERSON IS ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER

Saved Tuesday, October 28, 2025 3:06:05 PM AKOWALCZYK Plotted Tuesday, December 9, 2025 9:55:39 AM Andria May Kowalczyk

I:\COMMON\ACTIVE\CONTECH CASCADE\STANDARD DRAWINGS\CASCADE PROCESS\CS-4 STD_DWG 05/30/2013 2:43 PM

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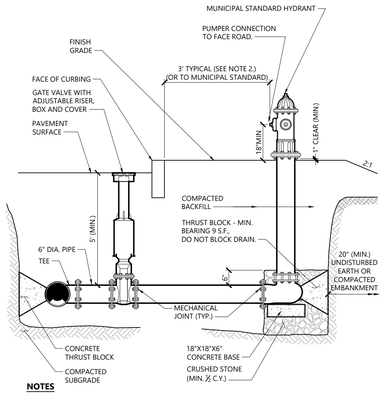


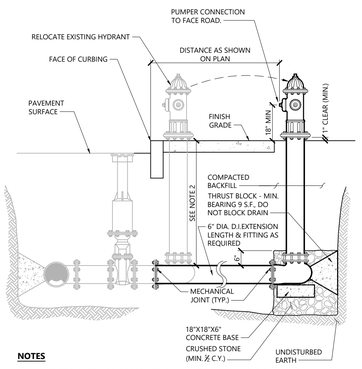
NOTES

1. CONCRETE THRUST BLOCKS TO BE USED ONLY WHERE THEY CAN BEAR ON UNDISTURBED EARTH AS SHOWN. USE CLAMPS AND TIE RODS OR OTHER ACCEPTABLE METHOD OF JOINT RESTRAINT WHERE SOIL CONDITIONS PROHIBIT THE USE OF THRUST BLOCKS.
2. HYDRANT IN SIDEWALK AREAS TO BE LOCATED TO PROVIDE MINIMUM CLEAR SIDEWALK PASSAGE WIDTH OF 3 FEET AT HYDRANT.
3. A 36-INCH CLEAR SPACE SHALL BE MAINTAINED AROUND THE CIRCUMFERENCE OF THE HYDRANT UNLESS OTHERWISE APPROVED BY AUTHORITY HAVING JURISDICTION.

Hydrant Construction

12/18

N.T.S. Source: VHB LD_250



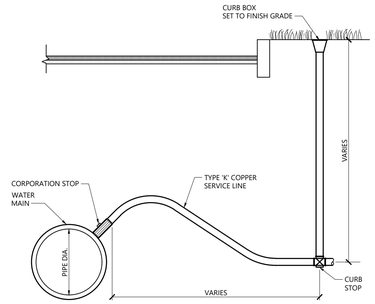
NOTES

1. CONCRETE THRUST BLOCKS TO BE USED ONLY WHERE THEY CAN BEAR ON UNDISTURBED EARTH. USE CLAMPS AND TIE RODS OR OTHER ACCEPTABLE METHOD OF JOINT RESTRAINT WHERE SOIL CONDITIONS PROHIBIT THE USE OF THRUST BLOCKS.
2. DIMENSIONS SHALL MEET MUNICIPAL REQUIREMENTS.
3. HYDRANT IN SIDEWALK AREAS TO BE LOCATED TO PROVIDE MINIMUM CLEAR SIDEWALK PASSAGE WIDTH OF 2 FEET AT HYDRANT.
4. A 36-INCH CLEAR SPACE SHALL BE MAINTAINED AROUND THE CIRCUMFERENCE OF THE HYDRANT UNLESS OTHERWISE APPROVED BY AUTHORITY HAVING JURISDICTION.

Hydrant Relocation Detail

3/20

N.T.S. Source: VHB LD_251



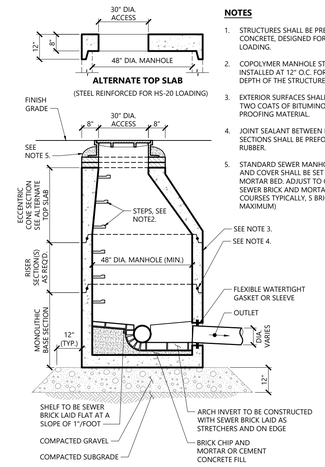
NOTES

1. INSTALLATIONS SHALL CONFORM WITH MUNICIPAL WATER WORKS SPECIFICATIONS AND STANDARDS.

Corporation/Curb Stop with Box

1/16

N.T.S. Source: VHB LD_256



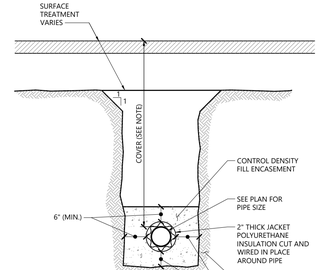
NOTES

1. STRUCTURES SHALL BE PRECAST CONCRETE, DESIGNED FOR HS-20 LOADING.
2. COPOLYMER MANHOLE STEPS SHALL BE INSTALLED AT 12" O.C. FOR THE FULL DEPTH OF THE STRUCTURE.
3. EXTERIOR SURFACES SHALL BE GIVEN TWO COATS OF BITUMINOUS WATER-PROOFING MATERIAL.
4. JOINT SEALANT BETWEEN PRECAST SECTIONS SHALL BE PREFORMED BUTYL RUBBER.
5. STANDARD SEWER MANHOLE FRAME AND COVER SHALL BE SET IN FULL MORTAR BED. ADJUST TO GRADE WITH SEWER BRICK AND MORTAR (2 BRICK COURSES TYPICALLY, 5 BRICK COURSES MAXIMUM)

Sanitary Sewer Manhole (SMH)

1/16

N.T.S. Source: VHB LD_200



NOTES

1. SEWER LINE SHALL BE INSULATED WHEN COVER IS LESS THAN FOUR (4) FEET AND WHERE SHOWN ON PLANS.
2. WATER LINE SHALL BE INSULATED WHEN COVER IS LESS THAN FIVE (5) FEET AND WHERE SHOWN ON PLANS.
3. BACKFILL PLACED IN UTILITY TRENCHES INCLUDING DISTURBED AREAS SURROUNDING UTILITY TRENCHES SHALL BE PLACED AND COMPACTED IN 12" (MAX.) VERTICAL LIFTS.

Utility - Pipe Insulation

12/19

N.T.S. Source: VHB LD_304

ADS

Advanced Drainage Systems, Inc.

SiteAssist FOR STORMTECH INSTALLATION INSTRUCTIONS VISIT OUR APP

MC-3500 STORMTECH CHAMBER SPECIFICATIONS

1. CHAMBERS SHALL BE STORMTECH MC-3500.
2. CHAMBERS SHALL BE ARCH-SHAPED AND SHALL BE MANUFACTURED FROM VIRGIN, IMPACT-MODIFIED POLYPROPYLENE COPOLYMERS.
3. CHAMBERS SHALL MEET THE REQUIREMENTS OF ASTM F2418, "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS" CHAMBER CLASSIFICATION 45x76 DESIGNATION SS.
4. CHAMBER ROWS SHALL PROVIDE CONTINUOUS, UNOBSTRUCTED INTERNAL SPACE WITH NO INTERNAL SUPPORTS THAT WOULD IMPEDE FLOW OR LIMIT ACCESS FOR INSPECTION.
5. THE STRUCTURAL DESIGN OF THE CHAMBERS, THE STRUCTURAL BACKFILL, AND THE INSTALLATION REQUIREMENTS SHALL ENSURE THAT THE LOAD FACTORS SPECIFIED IN THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, SECTION 12.12, ARE MET FOR: 1) LONG-DURATION DEAD LOADS AND 2) SHORT-DURATION LIVE LOADS, BASED ON THE AASHTO DESIGN TRUCK WITH CONSIDERATION FOR IMPACT AND MULTIPLE VEHICLE PRESENCES.
6. CHAMBERS SHALL BE DESIGNED, TESTED AND ALLOWABLE LOAD CONFIGURATIONS DETERMINED IN ACCORDANCE WITH ASTM F2787, "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS". LOAD CONFIGURATIONS SHALL INCLUDE: 1) INSTANTANEOUS (+1 MIN) AASHTO DESIGN TRUCK LIVE LOAD ON MINIMUM COVER, 2) MAXIMUM PERMANENT (75+70) COVER LOAD AND 3) ALLOWABLE COVER WITH PARKED (1-WEEK) AASHTO DESIGN TRUCK.
7. REQUIREMENTS FOR HANDLING AND INSTALLATION:
   - THE MINIMUM THE WIDTH OF CHAMBERS DURING SHIPPING AND HANDLING, CHAMBERS SHALL HAVE INTEGRAL, INTERLOCKING STACKING LUGS.
   - TO ENSURE A SECURE JOINT DURING INSTALLATION AND BACKFILL, THE HEIGHT OF THE CHAMBER JOINT SHALL NOT BE LESS THAN 3".
   - TO ENSURE THE INTEGRITY OF THE ARCH SHAPE DURING INSTALLATION, a) THE ARCH STIFFNESS CONSTANT SHALL BE GREATER THAN OR EQUAL TO 450 LBS/FT/%. THE ASC IS DEFINED IN SECTION 6.2.8 OF ASTM F2418, AND b) TO RESIST CHAMBER DEFORMATION DURING INSTALLATION AT ELEVATED TEMPERATURES (ABOVE 73° F / 23° C), CHAMBERS SHALL BE PRODUCED FROM REFLECTIVE GOLD OR YELLOW COLORS.
8. ONLY CHAMBERS THAT ARE APPROVED BY THE SITE DESIGN ENGINEER WILL BE ALLOWED. UPON REQUEST BY THE SITE DESIGN ENGINEER OR OWNER, THE CHAMBER MANUFACTURER SHALL SUBMIT A STRUCTURAL EVALUATION FOR APPROVAL BEFORE DELIVERY OF CHAMBERS TO THE PROJECT SITE. THE STRUCTURAL EVALUATION SHALL:
   - BE SEALED BY A REGISTERED PROFESSIONAL ENGINEER.
   - THE STRUCTURAL EVALUATION SHALL DEMONSTRATE THAT THE SAFETY FACTORS ARE GREATER THAN OR EQUAL TO 1.95 FOR DEAD LOAD AND 1.75 FOR LIVE LOAD, THE MINIMUM REQUIRED BY ASTM F2787 AND BY SECTIONS 3 AND 12 OF THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS FOR THERMOPLASTIC PIPE.
   - THE TEST DERIVED CREEP MODULUS AS SPECIFIED IN ASTM F2418 SHALL BE USED FOR PERMANENT DEAD LOAD DESIGN EXCEPT THAT IT SHALL BE THE 75-YEAR MODULUS USED FOR DESIGN.
9. CHAMBERS AND END CAPS SHALL BE PRODUCED AT AN ISO 9001 CERTIFIED MANUFACTURING FACILITY.

IMPORTANT - NOTES FOR THE BIDDING AND INSTALLATION OF MC-3500 CHAMBER SYSTEM

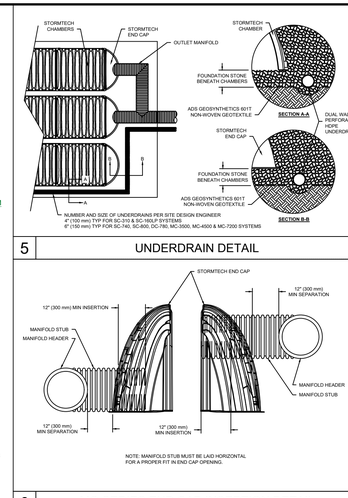
1. STORMTECH MC-3500 CHAMBERS SHALL NOT BE INSTALLED UNTIL THE MANUFACTURER'S REPRESENTATIVE HAS COMPLETED A PRE-CONSTRUCTION MEETING WITH THE INSTALLERS.
2. STORMTECH MC-3500 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH MC-3500/MC-4500 CONSTRUCTION GUIDE".
3. CHAMBERS ARE NOT TO BE BACKFILLED WITH A DOZER OR AN EXCAVATOR SITUATED OVER THE CHAMBERS. STORMTECH RECOMMENDS 3 BACKFILL METHODS:
   - STONESHOOTER LOCATED OFF THE CHAMBER BED.
   - BACKFILL AS ROWS ARE BUILT USING AN EXCAVATOR ON THE FOUNDATION STONE OR SUBGRADE.
   - BACKFILL FROM OUTSIDE THE EXCAVATION USING A LONG BOOM HOE OR EXCAVATOR.
4. THE FOUNDATION STONE SHALL BE LEVELED AND COMPACTED PRIOR TO PLACING CHAMBERS.
5. JOINTS BETWEEN CHAMBERS SHALL BE PROPERLY SEATED PRIOR TO PLACING STONE.
6. MAINTAIN MINIMUM- SPACING BETWEEN THE CHAMBER ROWS.
7. INLET AND OUTLET MANIFOLDS MUST BE INSERTED A MINIMUM OF 12" (300 mm) INTO CHAMBER END CAPS.
8. EMBEDMENT STONE SURROUNDING CHAMBERS MUST BE A CLEAN, CRUSHED, ANGULAR STONE MEETING THE AASHTO M43 DESIGNATION OF #3 OR #4.
9. STONE MUST BE PLACED ON THE TOP CENTER OF THE CHAMBER TO ANCHOR THE CHAMBERS IN PLACE AND PRESERVE ROW SPACING.
10. THE CONTRACTOR MUST REPORT ANY DISCREPANCIES WITH CHAMBER FOUNDATION MATERIALS BEARING CAPACITIES TO THE SITE DESIGN ENGINEER.
11. ADS RECOMMENDS THE USE OF "FLEXSTORM CATCH IT" INSERTS DURING CONSTRUCTION FOR ALL INLETS TO PROTECT THE SUBSURFACE STORMWATER MANAGEMENT SYSTEM FROM CONSTRUCTION SITE RUNOFF.

NOTES FOR CONSTRUCTION EQUIPMENT

1. STORMTECH MC-3500 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH MC-3500/MC-4500 CONSTRUCTION GUIDE".
2. THE USE OF EQUIPMENT OVER MC-3500 CHAMBERS IS LIMITED:
   - NO EQUIPMENT IS ALLOWED ON BARE CHAMBERS.
   - NO RUBBER TIRED LOADER, DUMP TRUCK, OR EXCAVATORS ARE ALLOWED UNTIL PROPER FILL DEPTHS ARE REACHED IN ACCORDANCE WITH THE "STORMTECH MC-3500/MC-4500 CONSTRUCTION GUIDE".
   - FULL LIMITS FOR CONSTRUCTION EQUIPMENT CAN BE FOUND IN THE "STORMTECH MC-3500/MC-4500 CONSTRUCTION GUIDE".
3. FULL 36" (900 mm) OF STABILIZED COVER MATERIALS OVER THE CHAMBERS IS REQUIRED FOR DUMP TRUCK TRAVEL OR DUMPING.

USE OF A DOZER TO PUSH EMBEDMENT STONE BETWEEN THE ROWS OF CHAMBERS MAY CAUSE DAMAGE TO CHAMBERS AND IS NOT AN ACCEPTABLE BACKFILL METHOD. ANY CHAMBERS DAMAGED BY USING THE "DUMP AND PUSH" METHOD ARE NOT COVERED UNDER THE STORMTECH STANDARD WARRANTY.

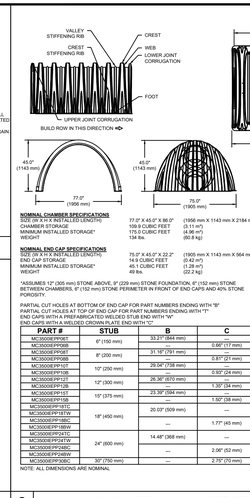
CONTACT STORMTECH AT 1-888-892-2694 WITH ANY QUESTIONS ON INSTALLATION REQUIREMENTS OR WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT.



5 UNDERDRAIN DETAIL

NOTE: MANIFOLD STUB MUST BE LAID HORIZONTAL FOR A PROPER FIT IN END CAP OPENING.

6 MC-SERIES END CAP INSERTION DETAIL



NOMINAL CHAMBER SPECIFICATIONS
SIZE (W X H X INSTALLED LENGTH): 77.0" X 45.0" X 86.0" (1956 mm X 1143 mm X 2184 mm)
CHAMBER STORAGE: 109.9 CUBIC FEET (3.11 m³)
MINIMUM INSTALLED STORAGE*: 175.0 CUBIC FEET (4.96 m³)
WEIGHT: 134 lbs. (60.8 kg)

NOMINAL END CAP SPECIFICATIONS
SIZE (W X H X INSTALLED LENGTH): 75.0" X 45.0" X 22.2" (1905 mm X 1143 mm X 564 mm)
END CAP STORAGE: 14.9 CUBIC FEET (0.42 m³)
MINIMUM INSTALLED STORAGE*: 45.1 CUBIC FEET (1.28 m³)
WEIGHT: 49 lbs. (22.2 kg)

*ASSUMES 12" (305 mm) STONE ABOVE, 9" (229 mm) STONE FOUNDATION, 6" (152 mm) STONE BETWEEN CHAMBERS, 6" (152 mm) STONE PERIMETER IN FRONT OF END CAPS AND 40% STONE POROSITY.

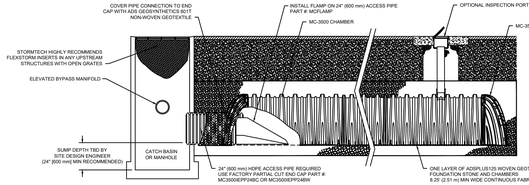
PARTIAL CUT HOLES AT BOTTOM OF END CAP FOR PART NUMBERS ENDING WITH "B"
PARTIAL CUT HOLES AT TOP OF END CAP FOR PART NUMBERS ENDING WITH "T"
END CAPS WITH A PREFABRICATED WELDED STUB END WITH "W"
END CAPS WITH A WELDED CROWN PLATE END WITH "C"

PART #	STUB	B	C
MC3500IEPP06T	6" (150 mm)	33.2"† (844 mm)	—
MC3500IEPP06B		—	0.82" (17 mm)
MC3500IEPP08T	8" (200 mm)	31.18" (791 mm)	—
MC3500IEPP08B		—	0.81" (21 mm)
MC3500IEPP10T	10" (250 mm)	29.04" (738 mm)	—
MC3500IEPP10B		—	0.93" (24 mm)
MC3500IEPP12T	12" (300 mm)	26.36" (670 mm)	—
MC3500IEPP12B		—	1.35" (34 mm)
MC3500IEPP15T	15" (375 mm)	23.39" (594 mm)	—
MC3500IEPP15B		—	1.50" (38 mm)
MC3500IEPP18TC	18" (450 mm)	20.03" (509 mm)	—
MC3500IEPP18TW		—	—
MC3500IEPP18BC		—	1.77" (45 mm)
MC3500IEPP18BW			
MC3500IEPP24TC	24" (600 mm)	14.48" (368 mm)	—
MC3500IEPP24TW		—	—
MC3500IEPP24BC		—	2.06" (52 mm)
MC3500IEPP24BW			
MC3500IEPP30W	30" (750 mm)	—	2.75" (70 mm)

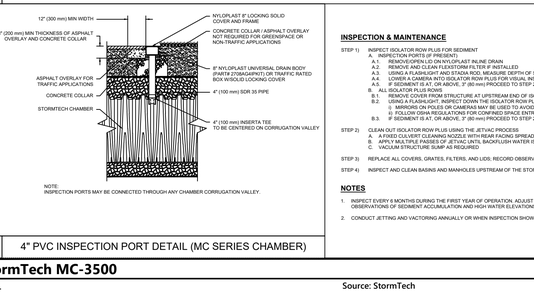
NOTE: ALL DIMENSIONS ARE NOMINAL

CUSTOM PARTIAL CUT INVERTS ARE AVAILABLE UPON REQUEST. INVENTORIED MANIFOLDS INCLUDE 6", 8", 10", 12", 15", 18", 24" AND 30" SIZES AND 15-48" (375-1200 mm) ECCENTRIC MANIFOLDS. CUSTOM INVERT LOCATIONS ON THE MC-3500 END CAP CUT IN THE FIELD ARE NOT RECOMMENDED FOR PIPES LARGER THAN 12" (250 mm). THE INVERT LOCATION IN COLUMN 'B' ARE THE HIGHEST POSSIBLE FOR THE PIPE SIZE.

2 MC-3500 TECHNICAL SPECIFICATIONS



3 MC-3500 ISOLATOR ROW PLUS DETAIL



4 4" PVC INSPECTION PORT DETAIL (MC SERIES CHAMBER)

INSPECTION & MAINTENANCE

STEP 1) INSPECT ISOLATOR ROW PLUS FOR SEDIMENT
- A. INSPECTION PORTS (IF PRESENT)
  - A.1: REMOVE/OPEN LID ON NYLOPLAST INLINE DRAIN
  - A.2: REMOVE CONCRETE COLLAR / ASPHALT OVERLAY
  - A.3: USING A FLASHLIGHT AND STADIA ROD, MEASURE DEPTH OF SEDIMENT AND RECORD ON MAINTENANCE LOG.
  - A.4: LOWER A CAMERA INTO ISOLATOR ROW PLUS FOR VISUAL INSPECTION OF SEDIMENT LEVELS (OPTIONAL)
  - A.5: IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.
- B. ALL ISOLATOR PLUS ROWS
  - B.1: REMOVE COVER FROM STRUCTURE AT UPSTREAM END OF ISOLATOR ROW PLUS
  - B.2: USING A CAMERA, INSPECT DOWN THE ISOLATOR ROW PLUS THROUGH OUTLET PIPE
    - i) MAN ENTRY IS REQUIRED FOR CONFINED SPACE ENTRY IF ENTERING MANHOLE
    - ii) FOLLOW OSHA REGULATIONS FOR CONFINED SPACE ENTRY IF ENTERING MANHOLE
  - B.3: IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.

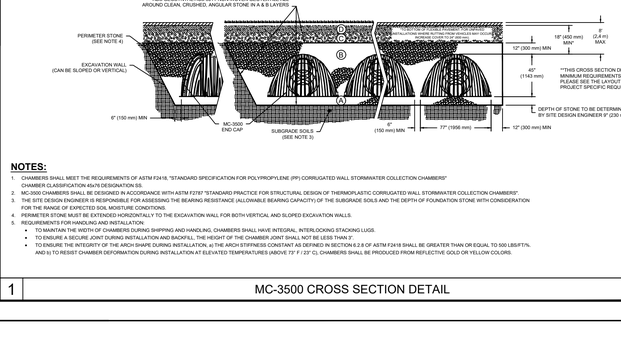
STEP 2) CLEAN OUT ISOLATOR ROW PLUS USING THE JETVAC PROCESS
- A. A FIXED CULTIVATING NOZZLE WITH REAR FACING SPREAD OF 45° (1.1 m) OR MORE IS PREFERRED
- B. APPLY MULTIPLE PASSES OF JETVAC UNTIL BACKFLUSH WATER IS CLEAN
- C. VACUUM STRUCTURE SUMP AS REQUIRED

STEP 3) REPLACE ALL COVERS, GRATES, FILTERS, AND LIDS; RECORD OBSERVATIONS AND ACTIONS.

STEP 4) INSPECT AND CLEAN BASINS AND MANHOLES UPSTREAM OF THE STORMTECH SYSTEM.

NOTES

1. INSPECT EVERY 6 MONTHS DURING THE FIRST YEAR OF OPERATION. ADJUST THE INSPECTION INTERVAL BASED ON PREVIOUS OBSERVATIONS OF SEDIMENT ACCUMULATION AND HIGH WATER ELEVATIONS.
2. CONDUCT JETTING AND VACTORING ANNUALLY OR WHEN INSPECTION SHOWS THAT MAINTENANCE IS NECESSARY.



NOTES:

1. CHAMBERS SHALL MEET THE REQUIREMENTS OF ASTM F2418, "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS" CHAMBER CLASSIFICATION 45x76 DESIGNATION SS.
2. MC-3500 CHAMBERS SHALL BE DESIGNED IN ACCORDANCE WITH ASTM F2787 "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
3. THE SITE DESIGN ENGINEER IS RESPONSIBLE FOR ASSESSING THE BEARING RESISTANCE (ALLOWABLE BEARING CAPACITY) OF THE SUBGRADE SOILS AND THE DEPTH OF FOUNDATION STONE WITH CONSIDERATION FOR THE RANGE OF EXPECTED SOIL MOISTURE CONDITIONS.
4. PERIMETER STONE MUST BE EXTENDED HORIZONTALLY TO THE EXCAVATION WALL FOR BOTH VERTICAL AND SLOPED EXCAVATION WALLS.
5. REQUIREMENTS FOR HANDLING AND INSTALLATION
   - TO MAINTAIN THE WIDTH OF CHAMBERS DURING SHIPPING AND HANDLING, CHAMBERS SHALL HAVE INTEGRAL, INTERLOCKING STACKING LUGS.
   - TO ENSURE A SECURE JOINT DURING INSTALLATION AND BACKFILL, THE HEIGHT OF THE CHAMBER JOINT SHALL NOT BE LESS THAN 3".
   - TO ENSURE THE INTEGRITY OF THE ARCH SHAPE DURING INSTALLATION, a) THE ARCH STIFFNESS CONSTANT AS DEFINED IN SECTION 6.2.8 OF ASTM F2418 SHALL BE GREATER THAN OR EQUAL TO 500 LBS/FT/%, AND b) TO RESIST CHAMBER DEFORMATION DURING INSTALLATION AT ELEVATED TEMPERATURES (ABOVE 73° F / 23° C), CHAMBERS SHALL BE PRODUCED FROM REFLECTIVE GOLD OR YELLOW COLORS.

1 MC-3500 CROSS SECTION DETAIL

StormTech MC-3500

N.T.S. Source: StormTech

StormTech® Chamber Systems
888-892-2694 | WWW.STORMTECH.COM

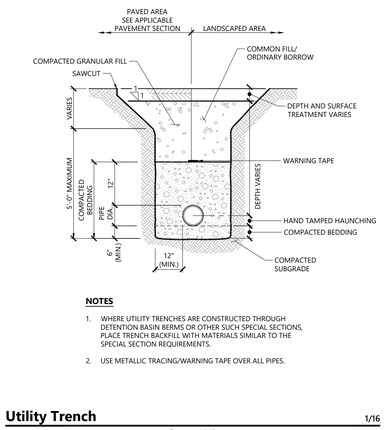
4640 TRUEMAN BLVD HILLIARD, OH 43026

SHEET 1

MC-3500 STANDARD DETAILS

DRAWN: JLM | DATE: 01/10/24
REVIEWED: JLM | PROJECT NO:
REV:

ADVANCED DRAINAGE SYSTEMS, INC. ("ADS") HAS PREPARED THIS DETAIL BASED ON REFERENCED STANDARDS. ADS HAS NOT PERFORMED ANY ENGINEERING OR DESIGN SERVICES FOR THIS PROJECT. FOR HAS ENGINEERED(+) VERIFIED THE INFORMATION SUPPLIED. GENERAL RECOMMENDATIONS AND ARE NOT SPECIFIC FOR THIS PROJECT. UNLESS THE PLANS ARE STAMPED AND SEALED BY THE SITE DESIGN ENGINEER, THE SITE DESIGN ENGINEER SHALL REVIEW THESE DETAILS PRIOR TO CONSTRUCTION AND SEALING THE DOCUMENT. IT IS THE SITE DESIGN ENGINEER'S RESPONSIBILITY TO DESIGN THE SYSTEM IN ACCORDANCE WITH THE SPECIFIC REQUIREMENTS FOR THE PROJECT.



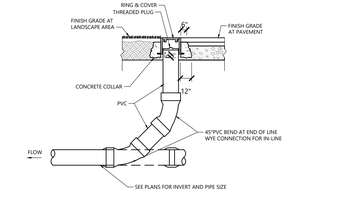
NOTES

1. WHERE UTILITY TRENCHES ARE CONSTRUCTED THROUGH DETENTION BASIN BERMS OR OTHER SUCH SPECIAL SECTIONS, PLACE TRENCH BACKFILL WITH MATERIALS SIMILAR TO THE SPECIAL SECTION REQUIREMENTS.
2. USE METALLIC TRACING/WARNING TAPE OVER ALL PIPES.

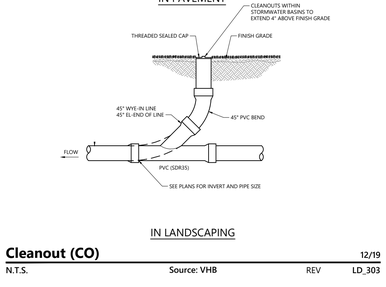
Utility Trench

1/16

N.T.S. Source: VHB LD_300



IN PAVEMENT



IN LANDSCAPING

Cleanout (CO)

12/19

N.T.S. Source: VHB REV LD_303

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No.	Revision	Date	Appvd.
1	EDITS PER TOWN ENGINEER COMMENTS	12/11/2025	

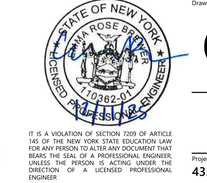
Designed by: AMK | Checked by: PV/MRG

Issued for: Site Plan Modificatoin Approval | Date: July 25, 2025

Not Approved for Construction

Drawing Title: Site Details 3

Drawing Number: C-6.2



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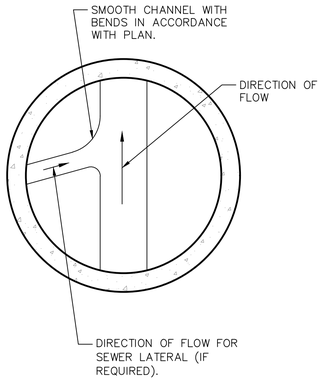
Project Number: 43550.01

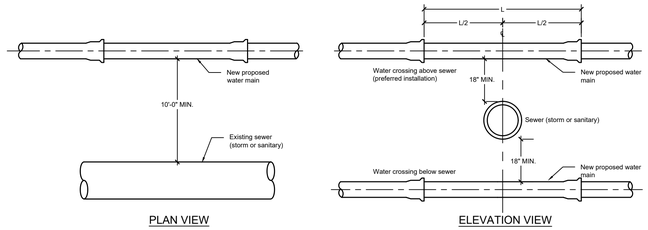
Saved Tuesday, October 28, 2025 3:06:05 PM AKOWALCZYK Plotted Tuesday, December 9, 2025 9:55:51 AM Andria May Kowalczyk

\\vhb.com\gbl\proj\Wethersfield\43550.00 Silo Survey\05_Work\cad\ld\Planset\06_43550.01-DT.dwg



Sewer Manhole Flow Channels

N.T.S. Source: VHB

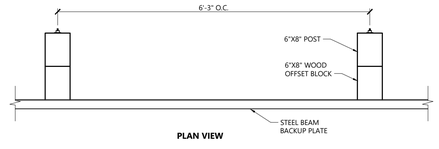


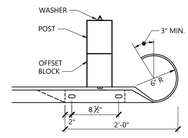
3 WATER MAIN/SEWER CROSSING
NTS

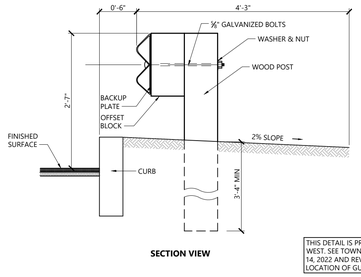
NOTES:
1. New water mains shall be laid at least 10 feet horizontally (see Plan View) from any existing or proposed sanitary, septic tank, or subsoil treatment system. The distance shall be measured edge to edge.
2. Water mains crossing sewers (either storm or sanitary) shall be laid to provide a minimum vertical distance of 18 inches between the outside of the water main and outside of the sewer (see Elevation View). This shall be the case where the water main is either above or below the sewer with preference to the water main located above the sewer.
3. At crossings, one full length of water pipe shall be located so both joints will be as far from the sewer as possible. Special structural support for the water and sewer pipes may be required which shall be determined in the field by the engineer.
4. When it is impossible to obtain the minimum specified separation distances, the following methods of installation may be used:
   - Such deviation may allow installation of the water main closer to a sewer, provided that the water main is laid in a separate trench or on an undisturbed earth shelf located on one side of the sewer at such an elevation that the bottom of the water main is at least 18 inches above the top of the gravity sewer.
   - The sewer materials shall be water works grade 150 psi (1.0 mpa) pressure rated pipe meeting AWWA standards or pipe approved by the reviewing authority and shall be pressure tested to ensure water tightness.
5. If it is impossible to obtain the installation methods listed above, the following methods of installation may be used for areas not meeting separation requirements (in addition to replacing sewer in the future with pressure rated pipe):
   - Fused (jointless) water main may be installed.
   - The joint of either the water or sewer may be encased in flowable fill for one foot, centered at the joint.
6. No water pipe shall pass through or come in contact with any part of a sewer manhole. water mains should be located at least 10 feet from sewer manholes.
7. It is the contractor's responsibility to determine the exact locations of the existing utilities. The contractor shall verify elevations of existing utilities to ensure adequate clearance for the water line exists. The contractor shall notify the engineer (in writing) of conflicting elevations, allowing the engineer adequate time to revise grades without necessitating removal and reconstruction of work already completed by the contractor.

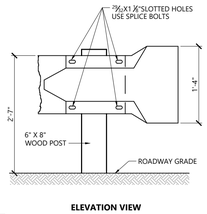
Water Main/Sewer Crossing

N.T.S. Source: Cedarwood Engineering







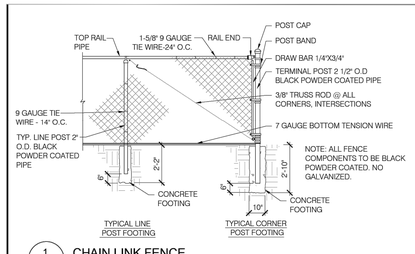


THIS DETAIL IS PROVIDED FOR THE ACCESS ROAD TO THE WEST. SEE TOWN-APPROVED PLANSET DATED SEPTEMBER 14, 2022 AND REVISED MARCH 12, 2024 BY VHB FOR LOCATION OF GUARDRAIL ALONG ACCESS ROAD.

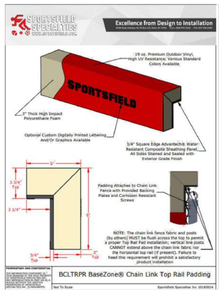
Steel Beam Guardrail with Wood Post

10/20

N.T.S. Source: VHB LD_455

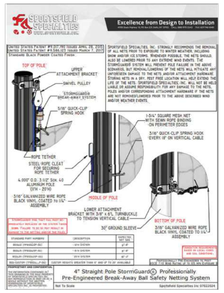


1 LD1.1 CHAIN LINK FENCE
1/2"=1'-0"



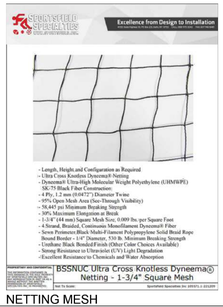
BASEZONE CHAIN LINK TOP RAIL PADDING BY SPORTSFIELD SPECIALTIES. COLOR AND GRAPHICS T.B.D.

2 LD1.1 CHAIN LINK FENCE TOP RAIL AND POST PADDING
NOT TO SCALE

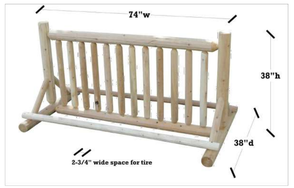


4" STRAIGHT POLE STORMGUARD PROFESSIONAL PRE-ENGINEERED BREAK-AWAY BALL SAFETY NETTING SYSTEM BY SPORTSFIELD SPECIALTIES.

3 LD1.1 PULLEY AND VERTICLE SLIDE CABLE SYSTEM
NOT TO SCALE



4 LD1.1 NETTING MESH
NOT TO SCALE



BIKE RACK TO BE BY LOG KAYAK RACK BY HITCH EXCLUSIVES. UNFINISHED. ALLOW TO WEATHER GRAY. MOUNTING ANCHORS AVAILABLE IF REQUESTED BY CLIENT.

5 LD1.1 BIKE RACK
NOT TO SCALE

DETAILS ENCLOSED HERE ARE PROVIDED FROM BCLA FOR BID PURPOSES AND ARE SUBJECT TO CHANGE. FINAL SITE FURNISHING DETAILS WILL BE REMOVED FROM FINAL VHB CONSTRUCTION DRAWINGS PROVIDED BY BCLA.

Site Furnishing Details

N.T.S. Source: BCLA

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Siland Recreation Facility

4391 Route 22, Town of Amenia
Dutchess County, New York

No.	Revision	Date	Appvd.
1	EDITS PER TOWN ENGINEER COMMENTS	12/11/2025	

Designed by: AMK
Checked by: PV/MRG

Issued for
Site Plan
Modificatoin Approval
Not Approved for Construction

Date
July 25, 2025

Drawing Title
Site Details 4

Drawing Number
C-6.3

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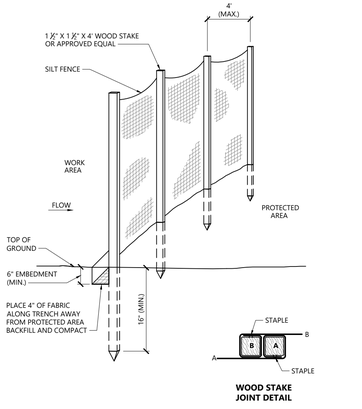
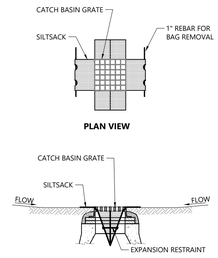


WOOD STAKE JOINT DETAIL

Silt Fence Barrier

1/16

N.T.S. | Source: VHB | LD_650



SECTION VIEW

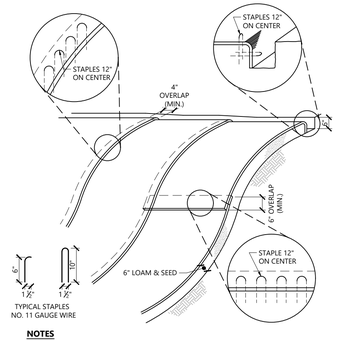
NOTES

1. INSTALL SILTSACK IN ALL CATCH BASINS WHERE INDICATED ON THE PLAN BEFORE COMMENCING WORK OR IN PAVED AREAS AFTER BINDER COURSE IS PLACED AND HAY BALES HAVE BEEN REMOVED.
2. GRATE TO BE PLACED OVER SILTSACK.
3. SILTSACK SHALL BE INSPECTED PERIODICALLY AND AFTER ALL STORM EVENTS AND CLEANING OR REPLACEMENT SHALL BE PERFORMED PROMPTLY AS NEEDED. MAINTAIN UNTIL UPSTREAM AREAS HAVE BEEN PERMANENTLY STABILIZED

Siltsack Sediment Trap

1/16

N.T.S. | Source: VHB | LD_674



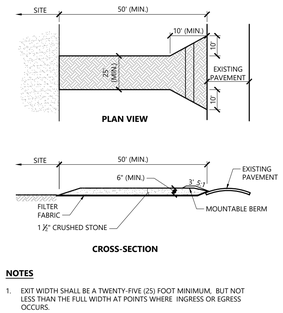
NOTES

1. BEGIN AT THE TOP OF BLANKET INSTALLATION AREA BY ANCHORING BLANKET IN A 6" DEEP TRENCH BACKFILL AND COMPACT TRENCH AFTER STAPLING.
2. ROLL THE BLANKET DOWN THE SWALE IN THE DIRECTION OF THE WATER FLOW.
3. THE EDGES OF BLANKETS MUST BE STAPLED WITH APPROX. 4 INCH OVERLAP WHERE 2 OR MORE STRIP WIDTHS ARE REQUIRED.
4. WHEN BLANKETS MUST BE SPLICED DOWN THE SWALE, PLACE UPPER BLANKET END OVER LOWER END WITH 6 INCH (MIN.) OVERLAP AND STAPLE BOTH TOGETHER.
5. METHOD OF INSTALLATION SHALL BE AS PER MANUFACTURER'S RECOMMENDATIONS.
6. EROSION CONTROL BLANKETS SHALL BE USED IN ALL AREAS WHERE SLOPES EXCEED 3:1.

Erosion Control Blanket Slope Installation

1/16

N.T.S. | Source: VHB | LD_680



CROSS-SECTION

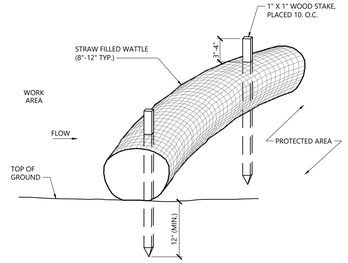
NOTES

1. EXIT WIDTH SHALL BE A TWENTY-FIVE (25) FOOT MINIMUM, BUT NOT LESS THAN THE FULL WIDTH AT POINTS WHERE INGRESS OR EGRESS OCCURS.
2. THE EXIT SHALL BE MAINTAINED IN A CONDITION WHICH SHALL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHTS-OF-WAY MUST BE REMOVED IMMEDIATELY. BERM SHALL BE PERMITTED. PERIODIC INSPECTION AND MAINTENANCE SHALL BE PROVIDED AS NEEDED.
3. STABILIZED CONSTRUCTION EXIT SHALL BE REMOVED PRIOR TO FINAL FINISH MATERIALS BEING INSTALLED.

Stabilized Construction Exit

1/16

N.T.S. | Source: VHB | LD_682



NOTES

1. STRAW WATTLE SHALL BE AS MANUFACTURED BY EARTHSAVER OR APPROVED EQUAL.
2. STRAW WATTLES SHALL OVERLAP A MINIMUM OF 12 INCHES.
3. STRAW WATTLE SHALL BE INSPECTED PERIODICALLY AND AFTER ALL STORM EVENTS, AND REPAIR OR REPLACEMENT SHALL BE PERFORMED PROMPTLY AS NEEDED.
4. TEMPORARY STRAW WATTLES TO BE REMOVED BY CONTRACTOR. ALL OTHERS TO REMAIN IN PLACE UNLESS DIRECTED OTHERWISE BY ENGINEER.
5. IF NON BIODEGRADABLE NETTING IS USED THE NETTING SHALL BE COLLECTED AND DISPOSED OF OFFSITE.

Straw Wattle - Erosion Control Barrier

1/20

N.T.S. | Source: VHB | LD_659

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Siland Recreation Facility

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Dutchess County, New York

No.	Revision	Date	Appvd.
1	EDITS PER TOWN ENGINEER COMMENTS	12/11/2025	

Designed by: AMK | Checked by: PV/MRG

Issued for: **Site Plan Modificatoin Approval**
Not Approved for Construction

Date: July 25, 2025

Drawing Title: **Site Details 5**

Drawing Number: **C-6.4**

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Project Number: **43550.01**

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Legend

- DRAIN MANHOLE
- CATCH BASIN
- SEWER MANHOLE
- ELECTRIC MANHOLE
- TELEPHONE MANHOLE
- MANHOLE
- HH HAND HOLE
- WATER GATE
- FIRE HYDRANT
- GAS GATE
- BOLLARD w/LIGHT
- STREET SIGN
- LIGHT POLE
- UTILITY POLE
- GUY POLE
- GUY WIRE
- MONITORING WELL
- FLOOD LIGHT
- W WELL
- ROOF LEADER
- CNO COULD NOT OPEN
- NPV NO PIPES VISIBLE
- DYL DOUBLE YELLOW LINE
- DWL DASHED WHITE LINE
- SYL SINGLE YELLOW LINE
- LSA LANDSCAPED AREA
- EOP EDGE OF PAVEMENT
- CC CONCRETE CURB
- CHAIN LINK FENCE
- STONE WALL
- TREE LINE

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General Notes

1) THE PROPERTY LINES SHOWN ON THIS PLAN ARE BASED UPON INFORMATION TAKEN FROM MAP REFERENCE. VHB DID NOT PERFORM THE ORIGINAL SURVEY.
2) THE EXISTING CONDITIONS SHOWN ON THIS PLAN WERE DEVELOPED FROM A COMBINED EFFORT OF UAV BASED LIDAR AND ORTHO-RECTIFIED IMAGERY SEPTEMBER 2024 AND AUGMENTED BY AN ON-THE-GROUND SURVEY PERFORMED BY VHB MARCH 2025.
3) THE LOCATIONS OF UNDERGROUND UTILITIES SHOWN ON THIS PLAN WERE MAPPED PER AMERICAN SOCIETY OF CIVIL ENGINEERS (ASCE) STANDARD 38-22, QUALITY LEVEL(S) 'C' & 'D'. PLEASE NOTE THAT WHILE BEST PRACTICES WERE FOLLOWED, NOT ALL UTILITIES MAY BE SHOWN AND THE ACCURACY OF UTILITY LOCATIONS CANNOT BE GUARANTEED.
4) HORIZONTAL DATUM IS BASED ON NEW YORK STATE PLANE - NEW YORK EAST, NAD 1983. ELEVATIONS SHOWN ON THIS PLAN REFER TO NAVD OF 1988.
5) THE TREE SYMBOL OUTLINE SHOWN ON THIS PLAN DOES NOT REPRESENT THE ACTUAL TREE CANOPY.

Map Reference

SURVEY MAP, PREPARED FOR SILAND COMMERCIAL, LLC, TOWN OF AMENIA, DUTCHESS COUNTY, NEW YORK, SCALE 1"=100', JULY 6, 2006, REVISED OCTOBER 17, 2017, KIRK NORTON, LAND SURVEYOR.

Siland Recreation Facility

4391 Route 22, Town of Amenia
Dutchess County, New York

No.	Revision	Date	Appvd.

Designed by: SEP
Checked by: CCD
Issued for: CLIENT
Date: FEBRUARY 25, 2025

Not Approved for Construction

Drawing Title
Topographic Survey

Drawing Number
Sv-1

Sheet 1 of 4

Project Number
43550.01

Christopher C. Danforth L.S.
NY Lic Surveyor #050848

Saved Wednesday, July 23, 2025 1:34:03 PM SPECK Plotted Wednesday, July 23, 2025 4:07:00 PM Stephen Peck

N

New York State Plane
NAD 83 - New York East

iron rod in stones

N 17°24'22" W
350.70'

iron rod in stones

N 61°49'02" E
396.40'

PROPERTY LINE - (SEE NOTE 1 AND MAP REFERENCE)

Match Line

See Sheet Sv-1

Match Line

See Sheet Sv-3

30 0 30 60
SCALE IN FEET

Legend

- DRAIN MANHOLE
- CATCH BASIN
- SEWER MANHOLE
- ELECTRIC MANHOLE
- TELEPHONE MANHOLE
- MANHOLE
- HH HAND HOLE
- WATER GATE
- FIRE HYDRANT
- GAS GATE
- BOLLARD w/LIGHT
- STREET SIGN
- LIGHT POLE
- UTILITY POLE
- GUY POLE
- GUY WIRE
- MONITORING WELL
- FLOOD LIGHT
- W WELL
- ROOF LEADER
- CNO COULD NOT OPEN
- NPV NO PIPES VISIBLE
- DYL DOUBLE YELLOW LINE
- DWL DASHED WHITE LINE
- SYL SINGLE YELLOW LINE
- LSA LANDSCAPED AREA
- EOP EDGE OF PAVEMENT
- CC CONCRETE CURB
- CHAIN LINK FENCE
- STONE WALL
- TREE LINE

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Siland Recreation Facility

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Designed by: SEP
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Issued for: CLIENT
Date: FEBRUARY 25, 2025

Not Approved for Construction

Drawing Title: Topographic Survey

Drawing Number: Sv-2

Sheet 2 of 4

Project Number: 43550.01

Christopher C. Danforth L.S.
NY Lic Surveyor #050848

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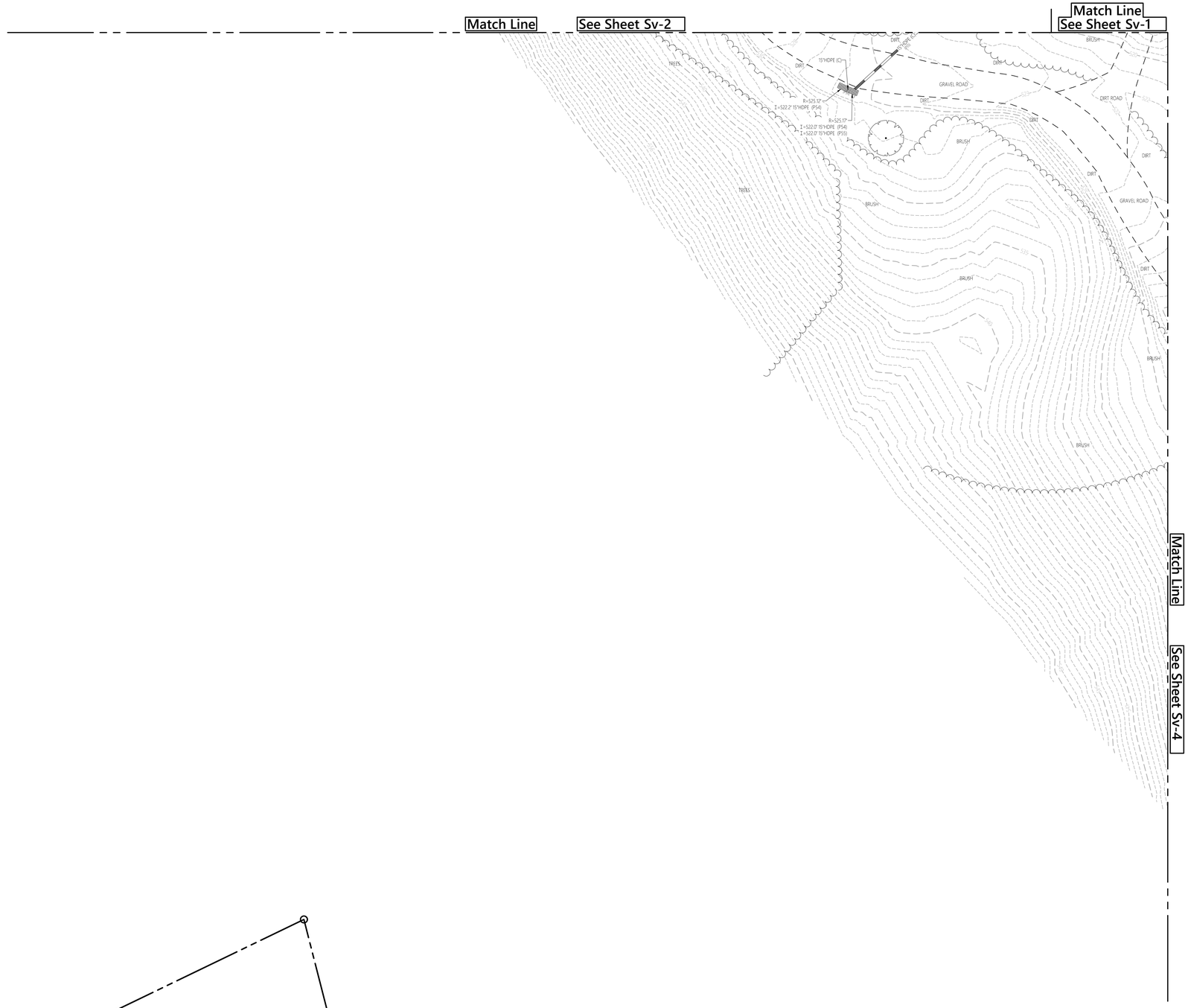

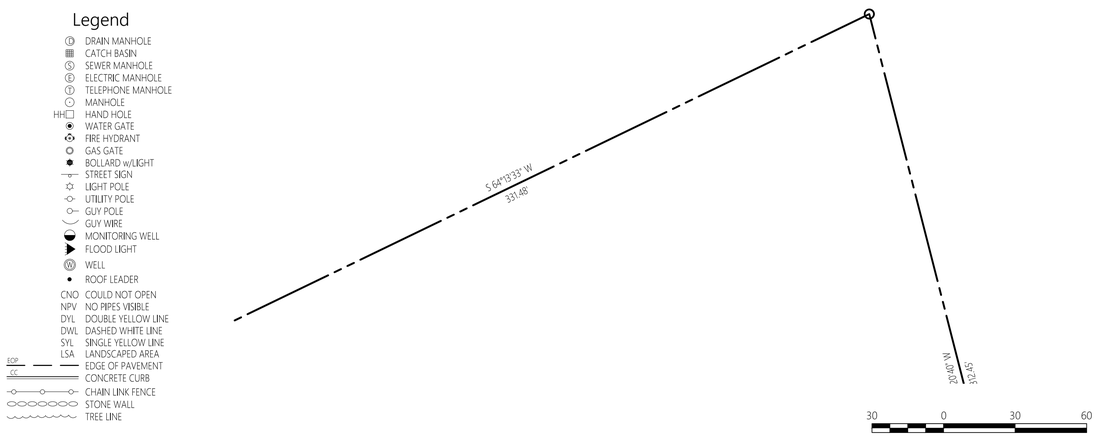

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Drawing Title
Topographic Survey

Drawing Number
Sv-3

Sheet 3 of 4

Project Number
43550.01

Christopher C. Danforth L.S.
NY Lic Surveyor #050848

N

New York State Plane
NAD 83 - New York East

Match Line

See Sheet Sv-1

Match Line

See Sheet Sv-3

Legend

- DRAIN MANHOLE
- CATCH BASIN
- SEWER MANHOLE
- ELECTRIC MANHOLE
- TELEPHONE MANHOLE
- MANHOLE
- HH HAND HOLE
- WATER GATE
- FIRE HYDRANT
- GAS GATE
- BOLLARD w/LIGHT
- STREET SIGN
- LIGHT POLE
- UTILITY POLE
- GUY POLE
- GUY WIRE
- MONITORING WELL
- FLOOD LIGHT
- W WELL
- ROOF LEADER
- CNO COULD NOT OPEN
- NPV NO PIPES VISIBLE
- DYL DOUBLE YELLOW LINE
- DWL DASHED WHITE LINE
- SYL SINGLE YELLOW LINE
- LSA LANDSCAPED AREA
- EOP EDGE OF PAVEMENT
- CC CONCRETE CURB
- CHAIN LINK FENCE
- STONE WALL
- TREE LINE

30 0 30 60
SCALE IN FEET

vhb.com

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Hauppauge, NY 11788
631.787.3400

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Siland Recreation Facility

4391 Route 22, Town of Amenia
Dutchess County, New York

No.	Revision	Date	Appvd.

Designed by: SEP
Checked by: CCD
Issued for: CLIENT
Date: FEBRUARY 25, 2025

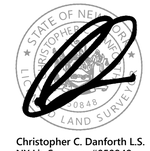
Not Approved for Construction

Drawing Title
Topographic Survey

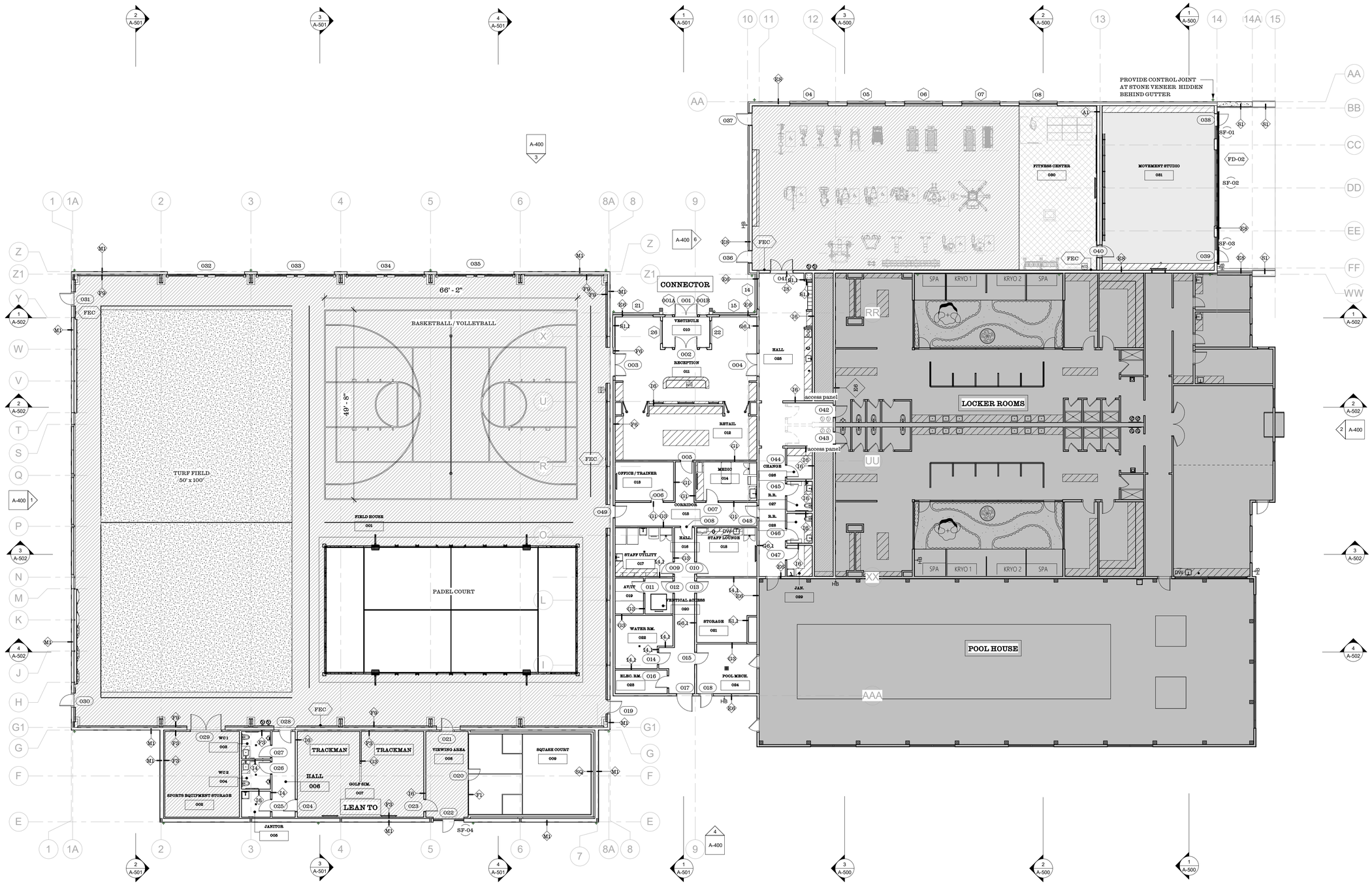
Drawing Number
Sv-4

Sheet 4 of 4

Project Number
43550.01



Christopher C. Danforth L.S.
NY Lic Surveyor #050848



1 FLOOR PLAN - OVERALL
1" = 10'-0"

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212.366.4106

PLAN - FLOOR PLAN - OVERALL

A-103

Scale 1" = 10'-0"

SEAL

NOT FOR CONSTRUCTION

PLAN - FLOOR PLAN - OVERALL

Project	SILO RIDGE BACKYARD
Date	12 / 02 / 2025
Drawn By	AF
Checked By	AF

A-103

Scale 1" = 10'-0"

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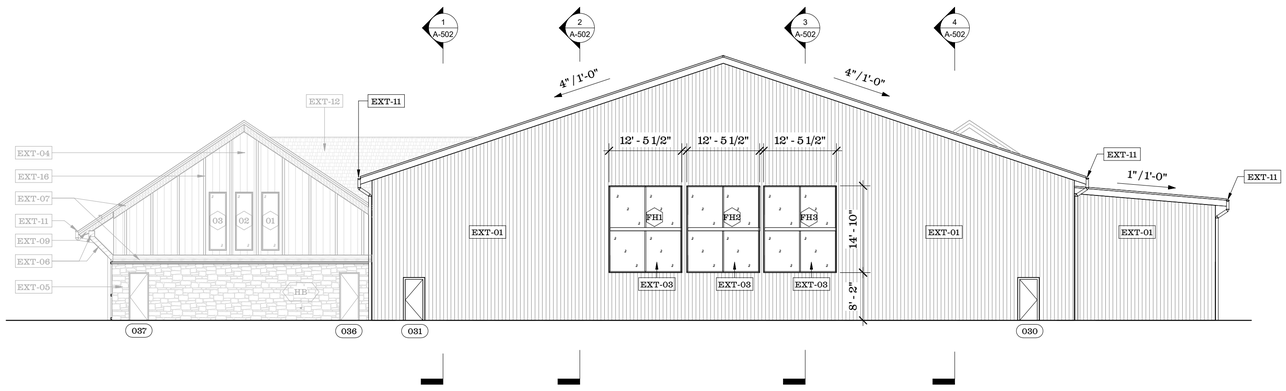
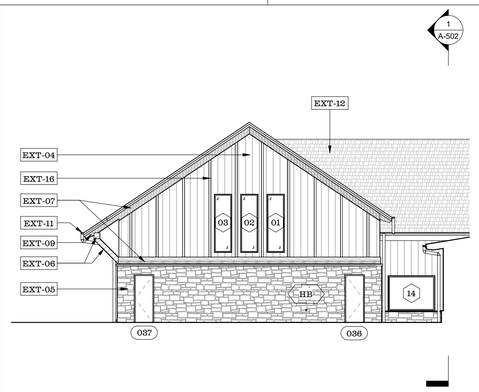
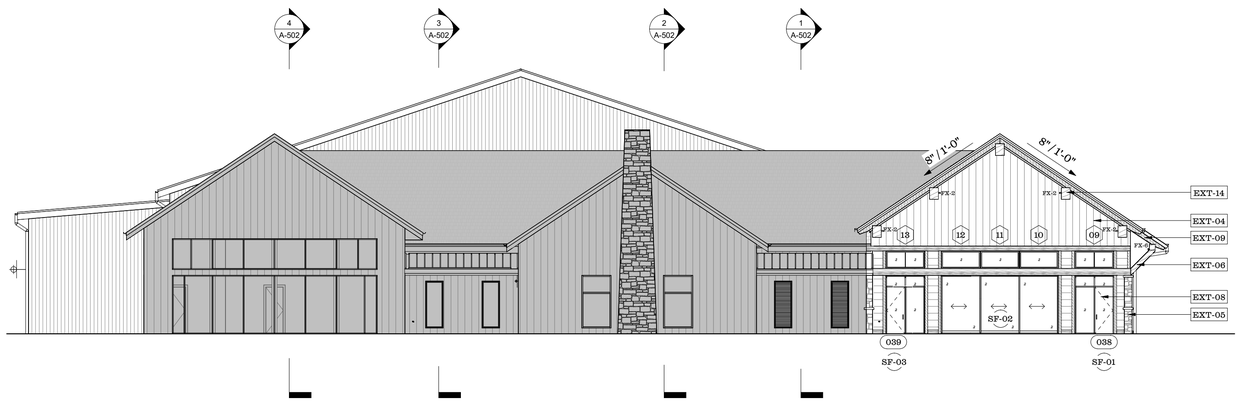


1 EXTERIOR - NORTH ELEVATION
1" = 10'-0"

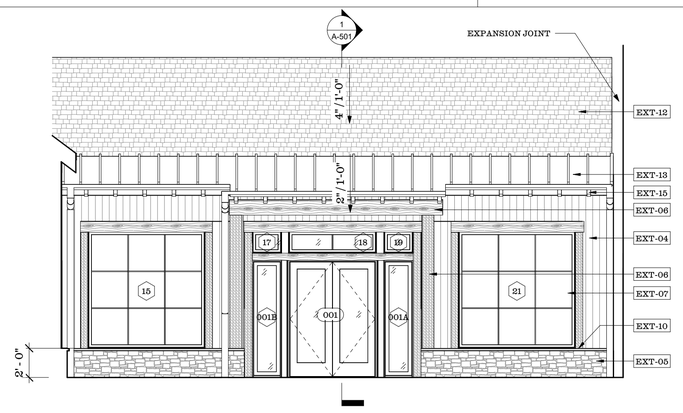


6 EXTERIOR - NORTH ELEVATION AT ENTRANCE
1" = 10'-0"

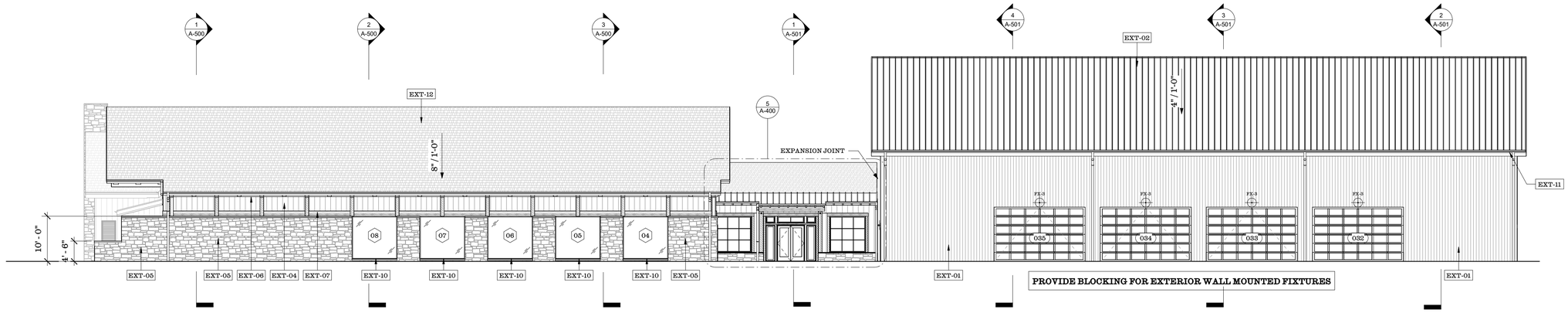
EXTERIOR MATERIALS	
TAG	MATERIAL
EXT-01	METAL SIDING BY METAL BUILDING MANUF. - CHARCOAL BLACK
EXT-02	METAL ROOF BY METAL BUILDING MANUF. - CHARCOAL BLACK
EXT-03	KAWNEER CURTAIN WALL - 1600UT
EXT-04	WESTERN RED CEDAR - CLEAR
EXT-05	4" NOMINAL STONE VENEER
EXT-06	SOLID HEAVY TIMBER
EXT-07	WOOD TRIM
EXT-08	INSULATED STOREFRONT GLAZING SYSTEM
EXT-09	10x HEAVY TIMBER RAFTER TAIL
EXT-10	SLOPED STONE CAP WITH DRIP EDGE
EXT-11	5" HALF ROUND "STYLE" GUTTER SYSTEM W/ LEADERS
EXT-12	CEDAR SHINGLE ROOFING
EXT-13	STANDING SEAM METAL ROOF
EXT-14	STRUCTURAL STEEL BEAM WRAPPED WITH WOOD TRIM.
EXT-15	3X WOOD RAFTER TAILS
EXT-16	3X VERTICAL WOOD BATTEN



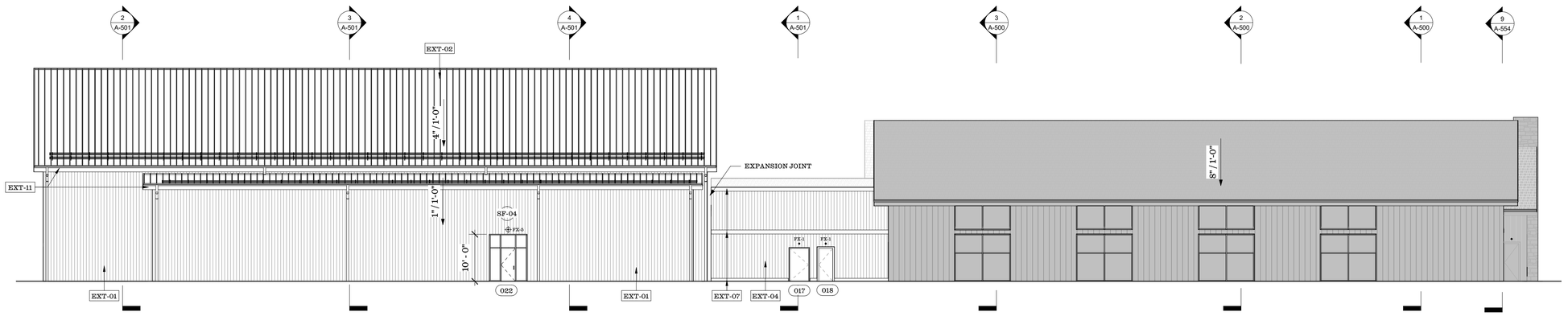
2 EXTERIOR - SOUTH ELEVATION
1" = 10'-0"



5 EXTERIOR - ENLARGED ELEVATION AT CONNECTOR ENTRANCE
1/4" = 1'-0"



3 EXTERIOR - EAST ELEVATION
1" = 10'-0"



4 EXTERIOR - WEST ELEVATION
1" = 10'-0"

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EXTERIOR ELEVATIONS - OVERALL

A-400

Scale As indicated

SEAL

NOT FOR CONSTRUCTION

EXTERIOR ELEVATIONS - OVERALL

Project	SILO RIDGE BACKYARD
Date	12 / 02 / 2025
Drawn By	AF
Checked By	AF

A-400

Scale As indicated

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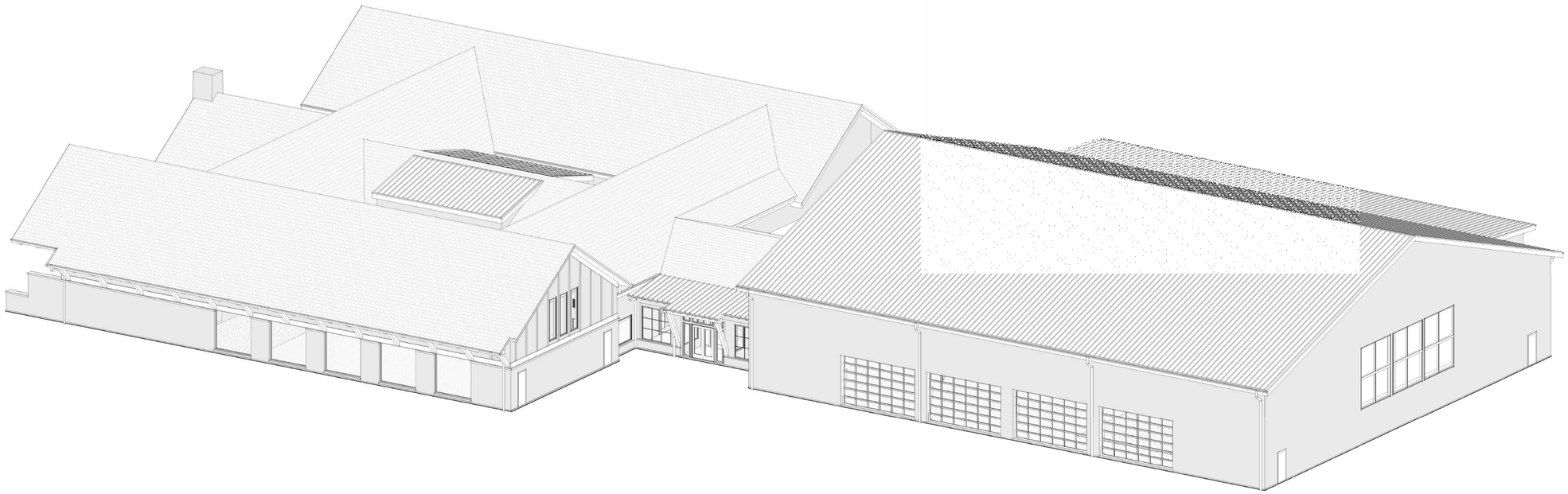

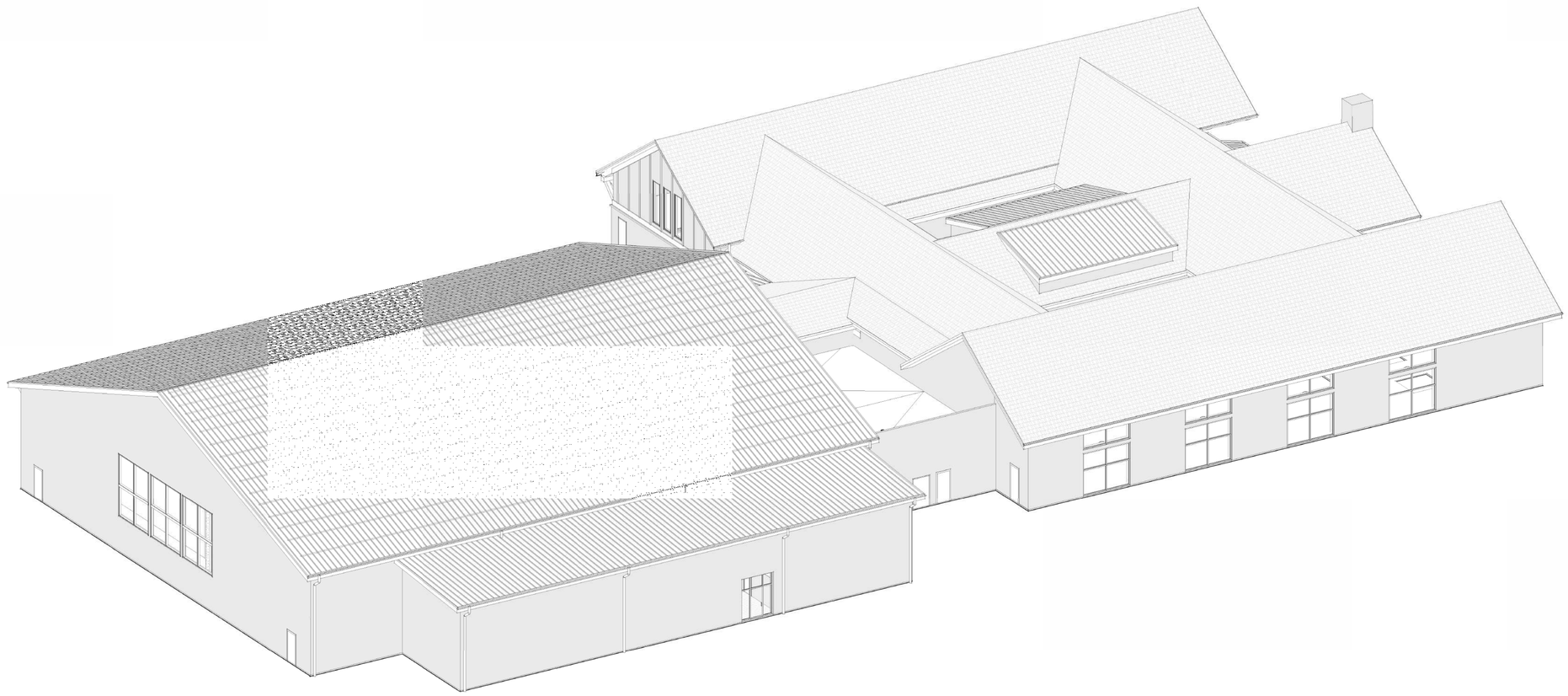

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3D VIEWS

NORTH

A-900

Scale

SEAL

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3D VIEWS

Project	SILO RIDGE BACKYARD
Date	12 / 02 / 2025
Drawn By	AF
Checked By	AF

A-900

Scale

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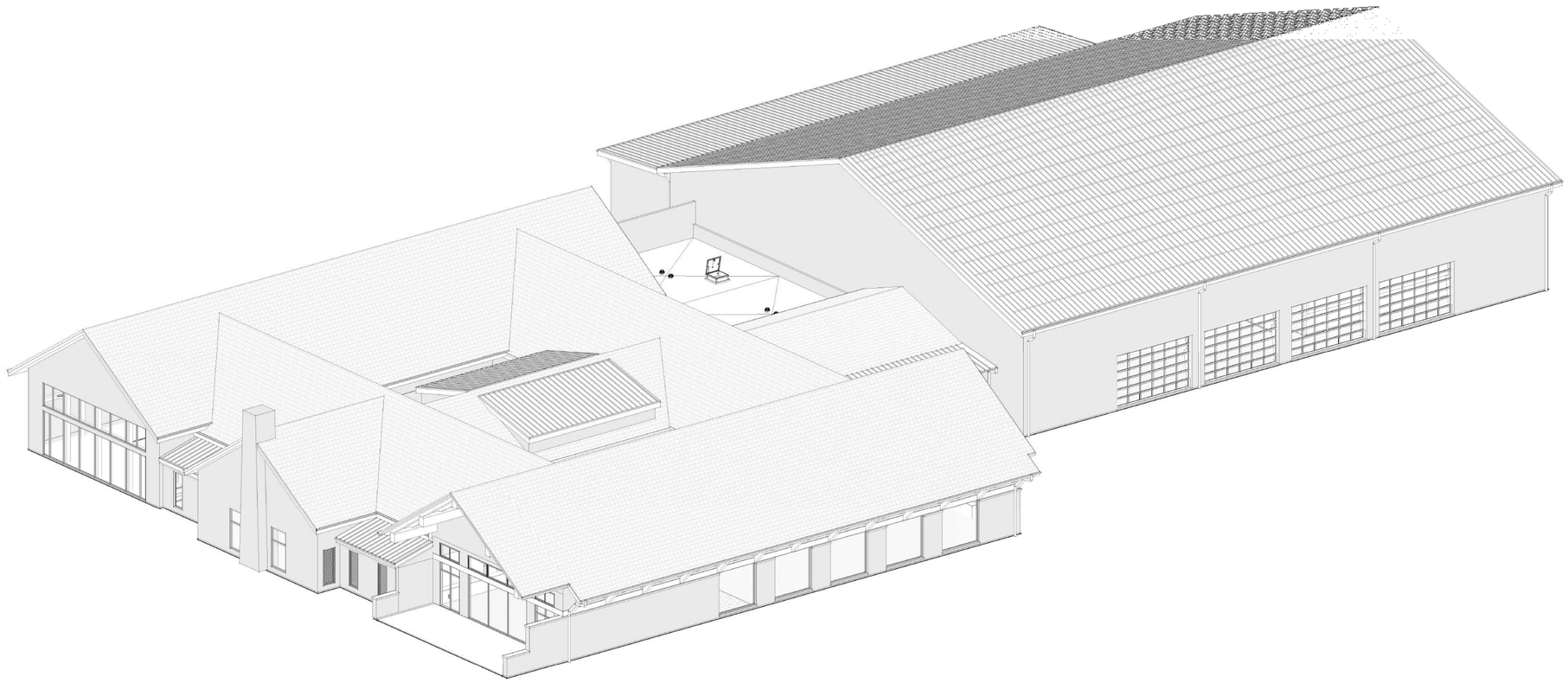

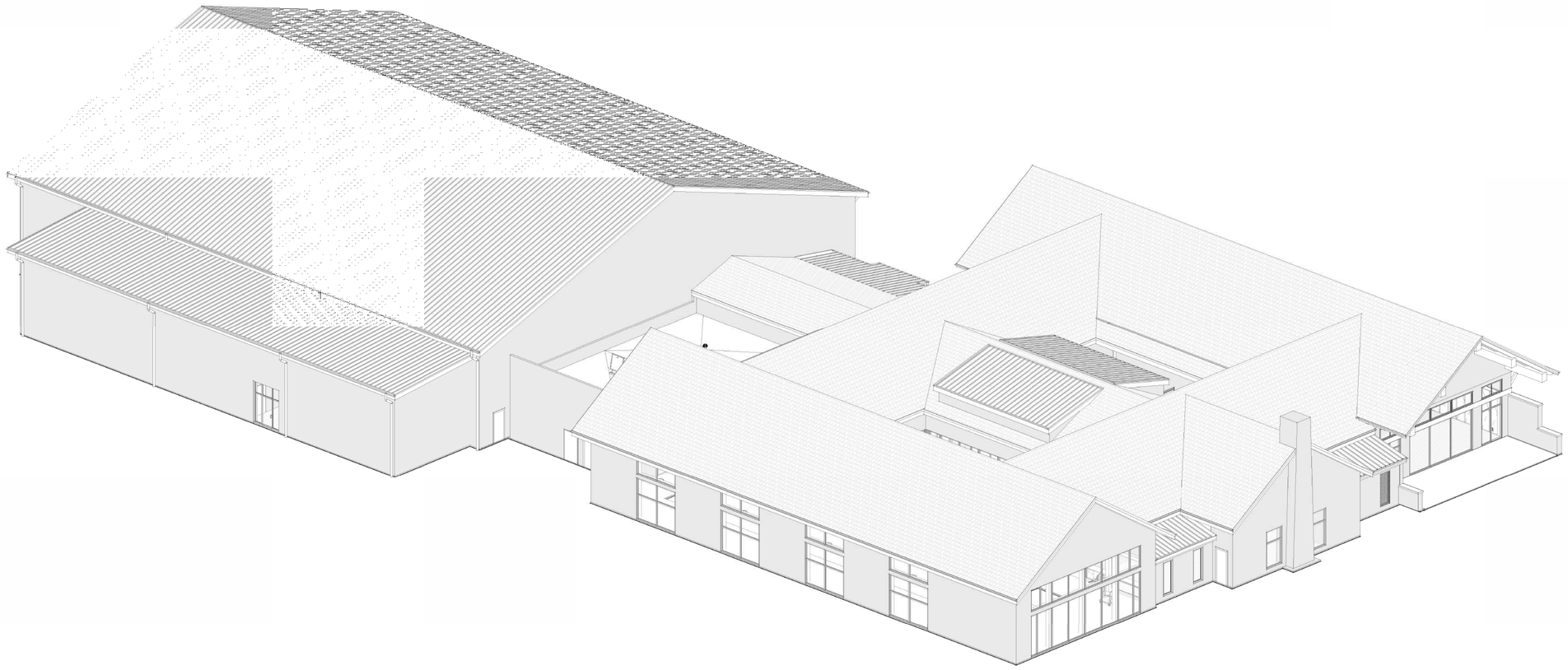

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3D VIEWS

NORTH

A-901

Scale

SEAL

NOT FOR CONSTRUCTION

3D VIEWS

Project	SILO RIDGE BACKYARD
Date	12 / 02 / 2025
Drawn By	AF
Checked By	AF

A-901

Scale

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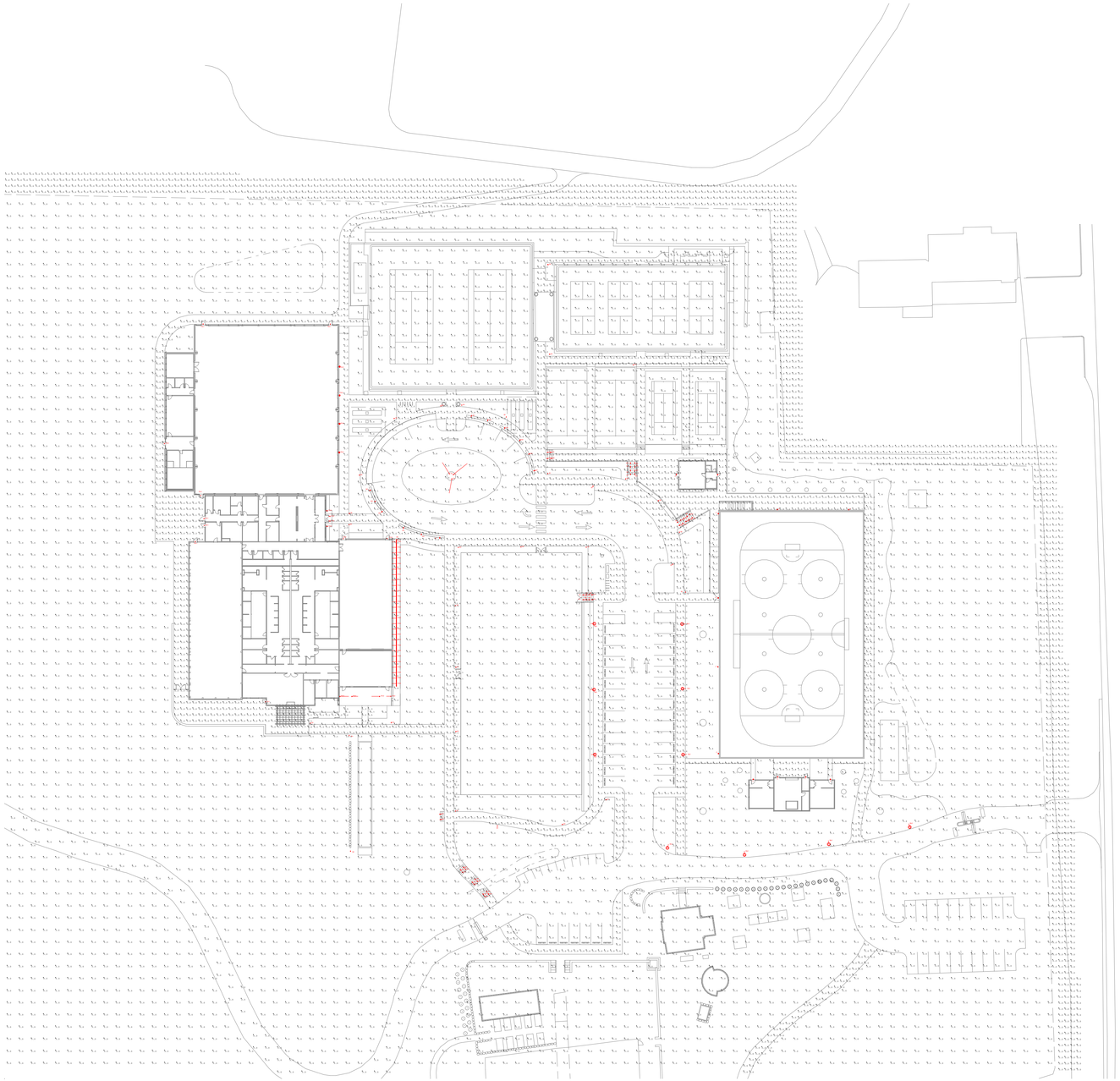


Scale: 1 inch= 50 Ft.

COURT LIGHTING NOT INCLUDED

Luminaire Schedule				
Tag	Symbol	Label	LLF	Description
FX-6		PT-1D20-930-A2-XX-04-WH-U-DIM	1.000	PT-1D20-930-A2-XX-04-WH-U-DIM
FX-5		WHS14-1250LM - FLAT	1.000	
D1		DE-LED-TR-X98-FL	1.000	DE-LED-TR-X98-FL-9-2700K
FX-2		DE-LED-TR-X98-FL-1	1.000	DE-LED-TR-X98-FL-9-2700K
B1		L13682A_Flindt_Bollard_3000K_Black_CLO_EU_B0096_louis_poulsen	1.000	
W1		L152-A1W30SWF-MA	1.000	L152-A1W30SWF-MA
FX-3		LED-L12-SD12-11609588_18_1	1.000	BWM-LED-L12-SD12
SL2		LED-X45-BW-27-12025619_01A	1.000	LBS-LED-X45-BW-27
FX-1		DE-LED-TR-X100-FL-12439915-12	1.000	DE-LED-TR-X100-FL-9-4000K
FX-4		DE-LED-TR-X100-SP-12439915-12439915_03	1.000	DE-LED-TR-X100-SP-9-4000K
G		ENC-SA1C-740-U-T4FT-HSS	1.000	ENC-SA1C-740-U-T4FT-HSS
F		ENC-SA1C-740-U-T2-HSS	1.000	ENC-SA1C-740-U-T2-HSS
C		AXCS1A-C	1.000	AXCS1A-C

Calculation Summary							
Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min
32 Space Parking	Illuminance	Fc	0.65	2.4	0.1	6.50	24.00
7 Space Parking Lot	Illuminance	Fc	0.00	0.0	0.0	N.A.	N.A.
Drop Off	Illuminance	Fc	0.07	0.9	0.0	N.A.	N.A.
Ex Road	Illuminance	Fc	0.22	2.5	0.0	N.A.	N.A.
Golf Cart Parking	Illuminance	Fc	0.00	0.0	0.0	N.A.	N.A.
Gravel Parking Lot	Illuminance	Fc	0.00	0.0	0.0	N.A.	N.A.
Landscape in Circle Drive	Illuminance	Fc	0.84	3.5	0.0	N.A.	N.A.
Overall Landscape	Illuminance	Fc	0.16	24.2	0.0	N.A.	N.A.
Padel Courts	Illuminance	Fc	0.00	0.0	0.0	N.A.	N.A.
Pickleball Courts	Illuminance	Fc	0.00	0.0	0.0	N.A.	N.A.
Platform Tennis Courts	Illuminance	Fc	0.01	0.1	0.0	N.A.	N.A.
Property Line	Illuminance	Fc	0.00	0.2	0.0	N.A.	N.A.
Tennis Courts	Illuminance	Fc	0.00	0.0	0.0	N.A.	N.A.
Walkways	Illuminance	Fc	0.89	32.5	0.0	N.A.	N.A.

KEY:

C

F
G

H NOT USED

K NOT USED

FX-1

FX-3

FX-5

SL2

B1

W1

D1

FX-2

FX-4

FX-6

KGM

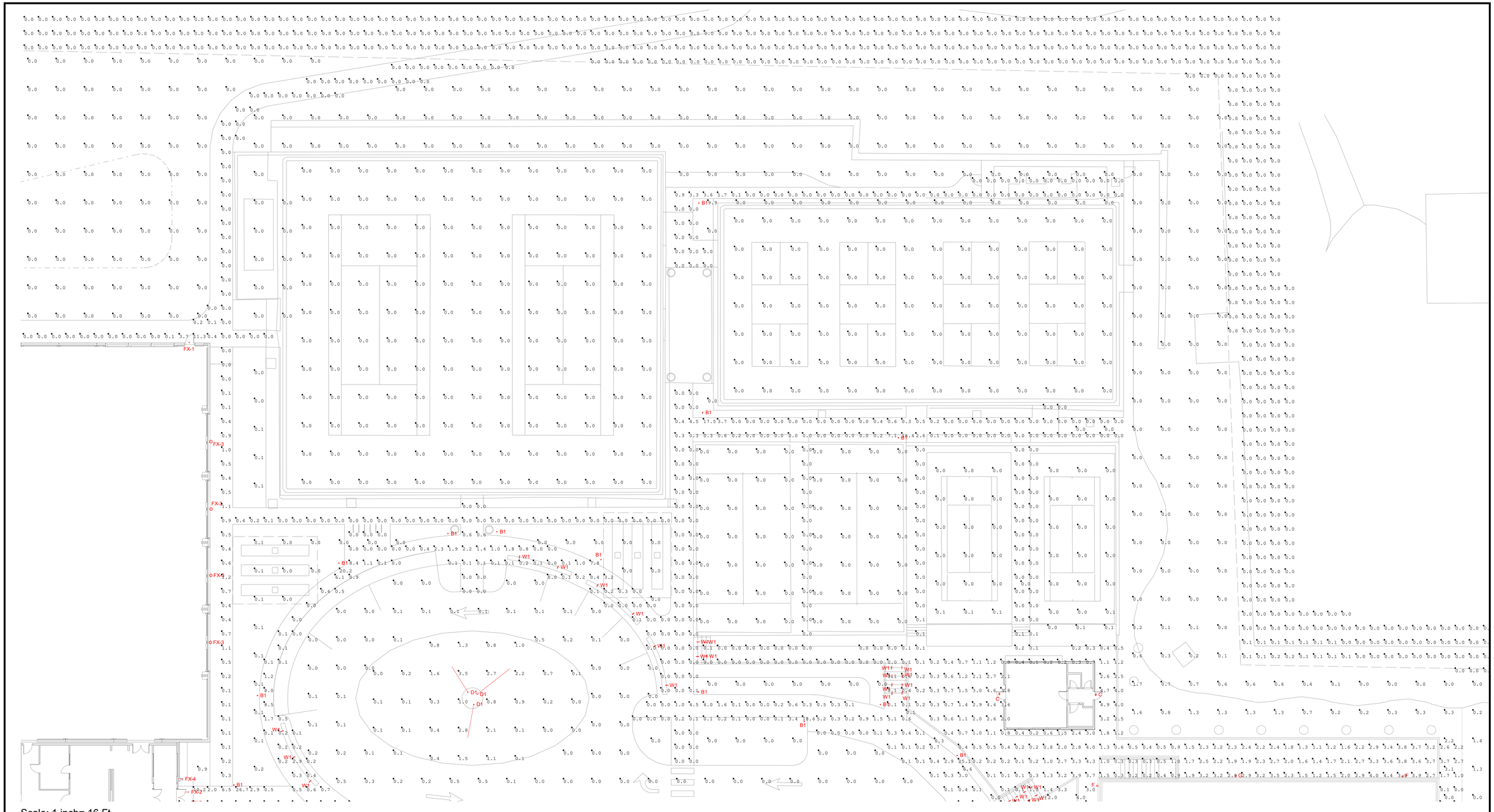
#	Date	Comments
1	10/29/25	LIGHTING REVISION
2	12/08/25	LIGHTING REVISION

Revisions

Drawn By: OCB
Checked By: DLU
Date:12/8/2025
Issue: PERMIT
Scale:

SILO RIDGE

LANDSCAPE CALC



Scale: 1 inch= 16 Ft.

Luminaire Schedule				
Tag	Symbol	Label	LLF	Description
FX-6		PT-1D20-930-A2-XX-04-WH-U-DIM	1.000	PT-1D20-930-A2-XX-04-WH-U-DIM
FX-5		WHS14-1250LM - FLAT	1.000	
D1		DE-LED-TR-X98-FL	1.000	DE-LED-TR-X98-FL-9-2700K
FX-2		DE-LED-TR-X98-FL-1	1.000	DE-LED-TR-X98-FL-9-2700K
B1		L13682A_Flindt_Bollard_3000K_ Black_CLO_EU_B0096_louis_poulsen	1.000	
W1		L152-A1W30SWF-MA	1.000	L152-A1W30SWF-MA
FX-3		LED-L12-SD12-11609588_18_1	1.000	BWM-LED-L12-SD12
SL2		LED-X45-BW-27-12025619_01A	1.000	LBS-LED-X45-BW-27
FX-1		DE-LED-TR-X100-FL-12439915-12	1.000	DE-LED-TR-X100-FL-9-4000K
FX-4		DE-LED-TR-X100-SP-12439915-12439915_03	1.000	DE-LED-TR-X100-SP-9-4000K
G		ENC-SA1C-740-U-T4FT-HSS	1.000	ENC-SA1C-740-U-T4FT-HSS
F		ENC-SA1C-740-U-T2-HSS	1.000	ENC-SA1C-740-U-T2-HSS
C		AXCS1A-C	1.000	AXCS1A-C

Calculation Summary							
Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min
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7 Space Parking Lot	Illuminance	Fc	0.00	0.0	0.0	N.A.	N.A.
Drop Off	Illuminance	Fc	0.07	0.9	0.0	N.A.	N.A.
Ex Road	Illuminance	Fc	0.22	2.5	0.0	N.A.	N.A.
Golf Cart Parking	Illuminance	Fc	0.00	0.0	0.0	N.A.	N.A.
Gravel Parking Lot	Illuminance	Fc	0.00	0.0	0.0	N.A.	N.A.
Landscape in Circle Drive	Illuminance	Fc	0.84	3.5	0.0	N.A.	N.A.
Overall Landscape	Illuminance	Fc	0.16	24.2	0.0	N.A.	N.A.
Padel Courts	Illuminance	Fc	0.00	0.0	0.0	N.A.	N.A.
Pickleball Courts	Illuminance	Fc	0.00	0.0	0.0	N.A.	N.A.
Platform Tennis Courts	Illuminance	Fc	0.01	0.1	0.0	N.A.	N.A.
Property Line	Illuminance	Fc	0.00	0.2	0.0	N.A.	N.A.
Tennis Courts	Illuminance	Fc	0.00	0.0	0.0	N.A.	N.A.
Walkways	Illuminance	Fc	0.89	32.5	0.0	N.A.	N.A.

COURT LIGHTING NOT INCLUDED

KGM

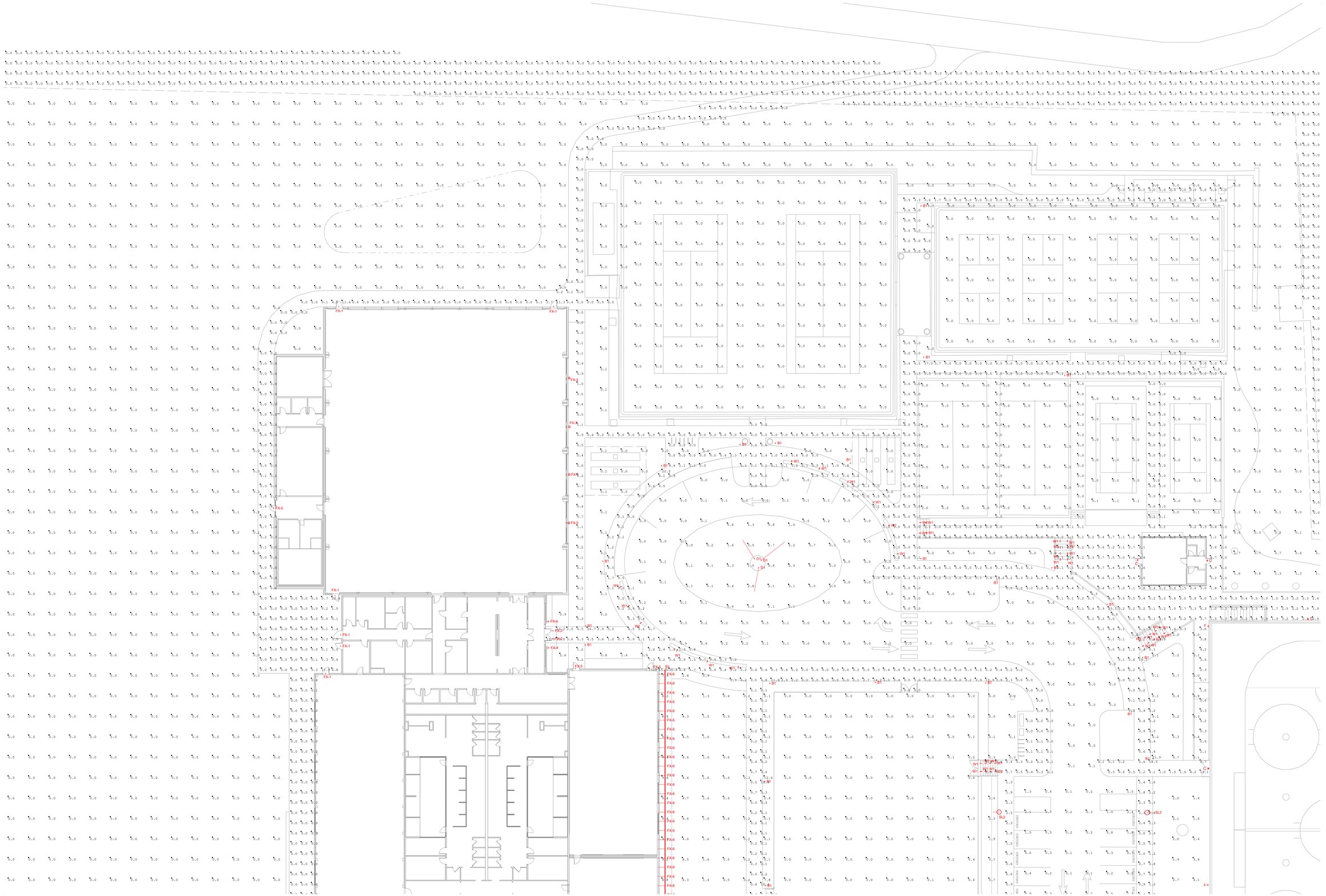
#	Date	Comments
1	10/28/25	LIGHTING REVISION
2	12/08/25	LIGHTING REVISION

Revisions

Drawn By: OCB
Checked By: DLU
Date:12/8/2025
Issue: PERMIT
Scale:

SILO RIDGE

SPORTS COURTS CALC



Scale: 1 inch= 20 Ft.

COURT LIGHTING NOT INCLUDED

KGM

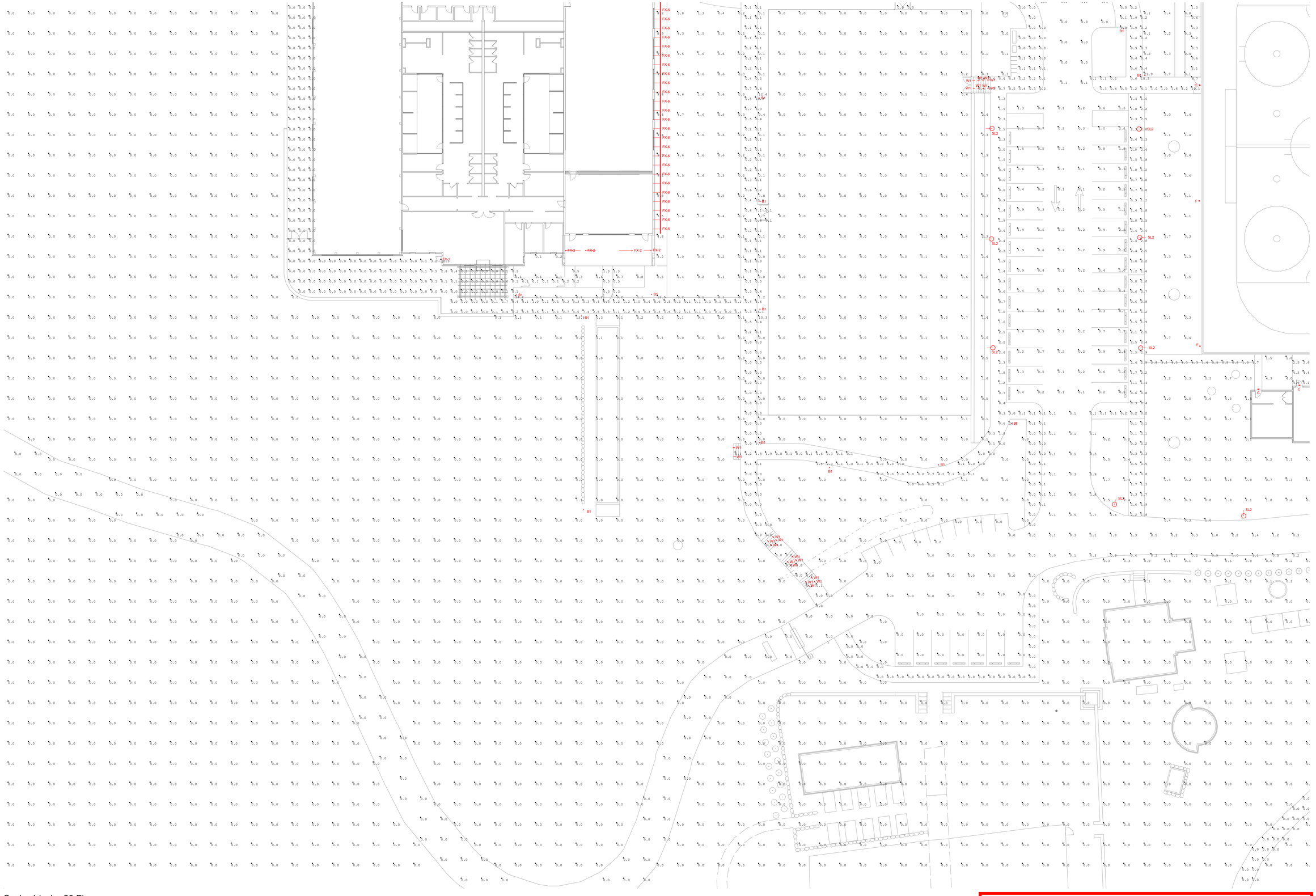
#	Date	Comments
1	10/28/25	LIGHTING REVISION
2	12/08/25	LIGHTING REVISION

Revisions

Drawn By: OCB
Checked By: DLU
Date:12/8/2025
Issue: PERMIT
Scale:

SILO RIDGE

ENLARGED CALC A



Scale: 1 inch= 20 Ft.

COURT LIGHTING NOT INCLUDED

KGM

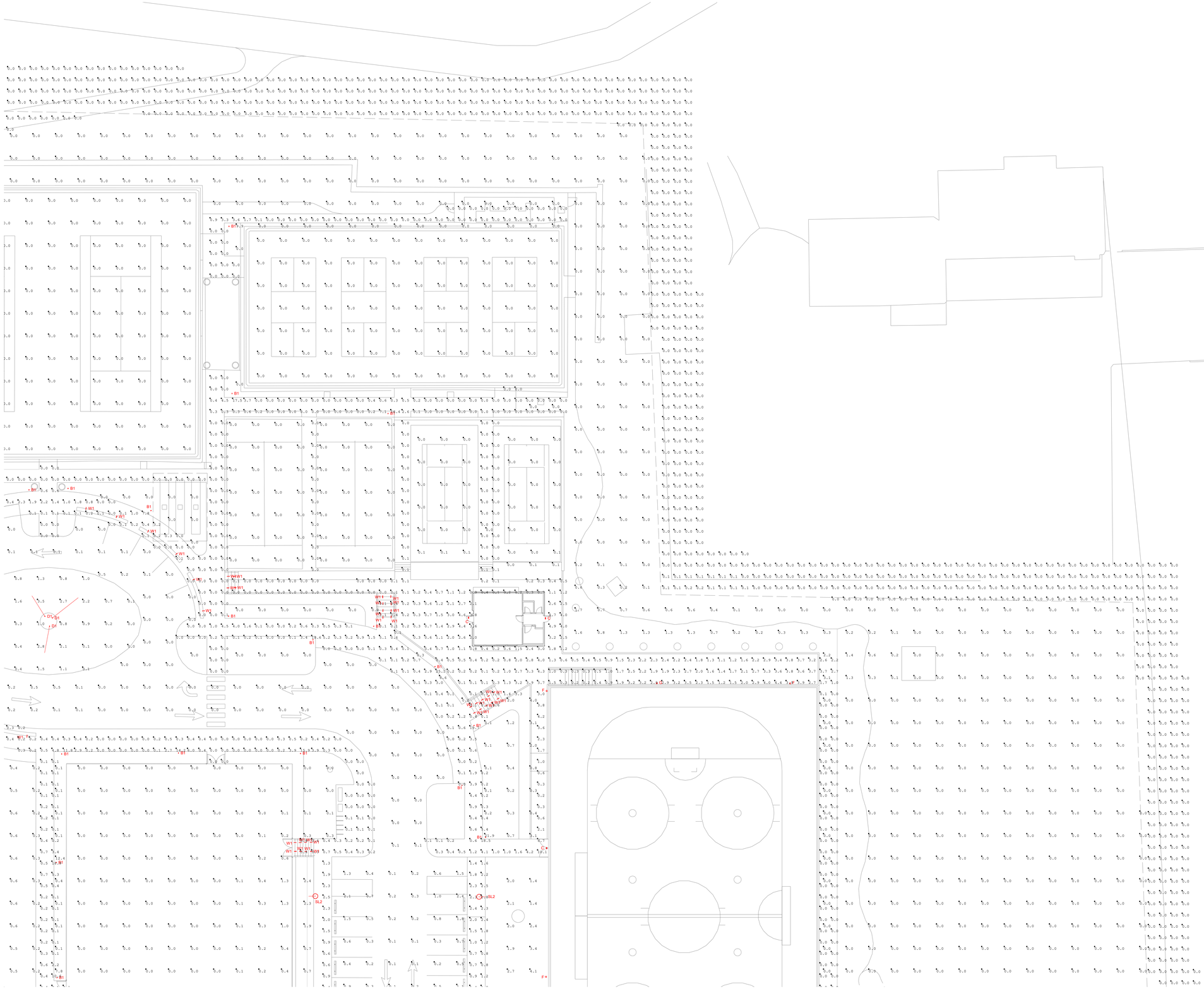
#	Date	Comments
1	10/28/25	LIGHTING REVISION
2	12/08/25	LIGHTING REVISION

Revisions

Drawn By: OCB
Checked By: DLU
Date:12/8/2025
Issue: PERMIT
Scale:

SILO RIDGE

ENLARGED CALC B



Scale: 1 inch= 20 Ft.

COURT LIGHTING NOT INCLUDED

KGM

#	Date	Comments
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Revisions

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Checked By: DLU
Date:12/8/2025
Issue: PERMIT
Scale:

SILO RIDGE

ENLARGED CALC C

Scale: 1 inch= 20 Ft.

COURT LIGHTING NOT INCLUDED

KGM

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2	12/08/25	LIGHTING REVISION

Revisions

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Scale:

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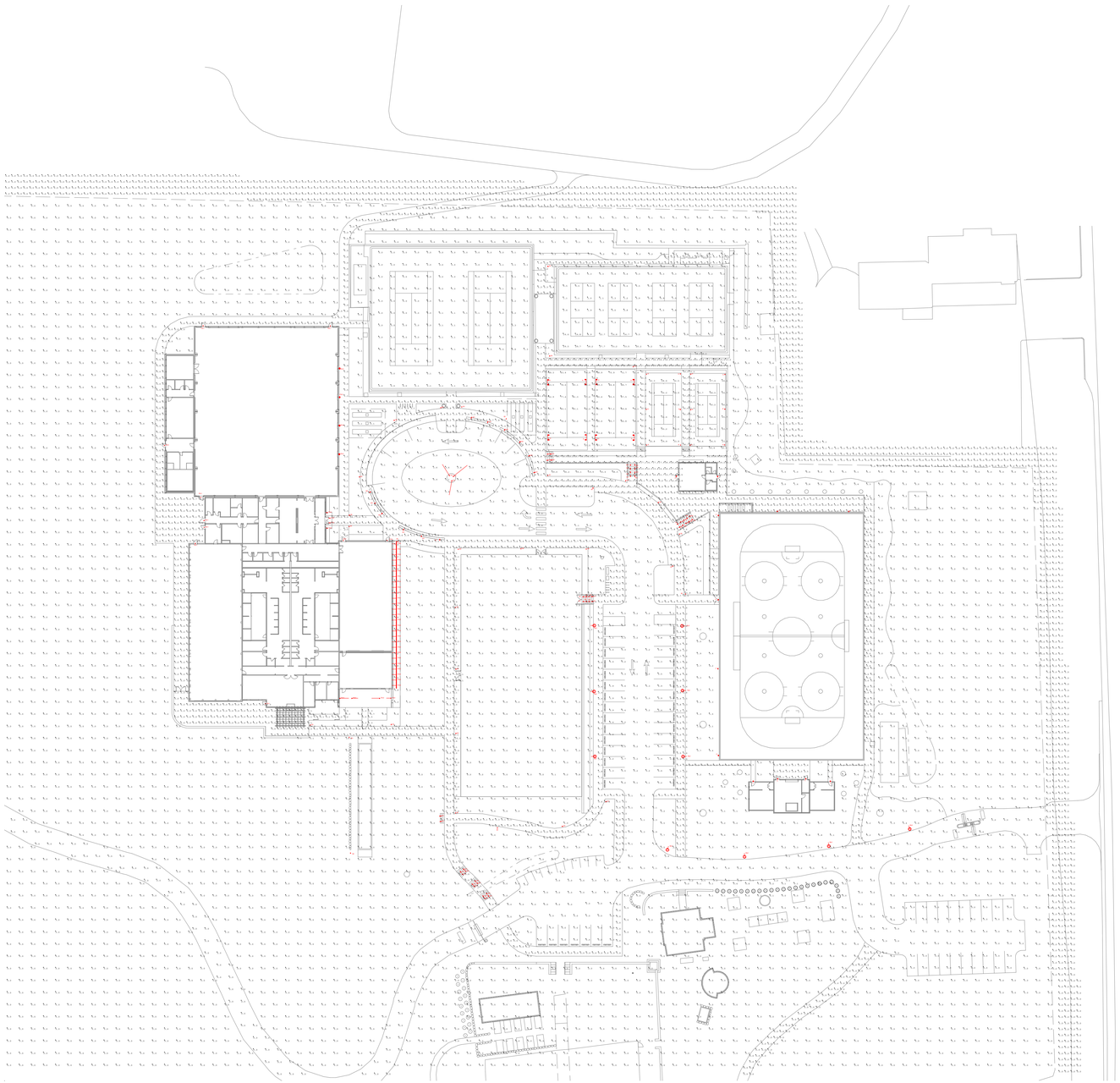


Scale: 1 inch= 50 Ft.

COURT LIGHTING INCLUDED

Luminaire Schedule				
Tag	Symbol	Label	LLF	Description
FX-6		PT-1D20-930-A2-XX-04-WH-U-DIM	1.000	PT-1D20-930-A2-XX-04-WH-U-DIM
FX-5		WHS14-1250LM - FLAT	1.000	
D1		DE-LED-TR-X98-FL	1.000	DE-LED-TR-X98-FL-9-2700K
FX-2		DE-LED-TR-X98-FL-1	1.000	DE-LED-TR-X98-FL-9-2700K
K		AREAFLD2A200UNVD740T5mmffnnss_1	1.000	AREAFLD2A_200UNVD740_T5mm_ffnnss_t
B1		L13682A_Flindt_Bollard_3000K_Black_CLO_EU_B0096_louis_poulsen	1.000	
W1		L152-A1W30SWF-MA	1.000	L152-A1W30SWF-MA
FX-3		LED-L12-SD12-11609588_18_1	1.000	BWM-LED-L12-SD12
SL2		LED-X45-BW-27-12025619_01A	1.000	LBS-LED-X45-BW-27
FX-1		DE-LED-TR-X100-FL-12439915-12	1.000	DE-LED-TR-X100-FL-9-4000K
FX-4		DE-LED-TR-X100-SP-12439915-12439915_03	1.000	DE-LED-TR-X100-SP-9-4000K
G		ENC-SA1C-740-U-T4FT-HSS	1.000	ENC-SA1C-740-U-T4FT-HSS
F		ENC-SA1C-740-U-T2-HSS	1.000	ENC-SA1C-740-U-T2-HSS
H		EPH-VN-04-E-750-U-T2_35730lu_1	1.000	EPH-VN-04-E-750-U-T2
C		AXCS1A-C	1.000	AXCS1A-C

Calculation Summary							
Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min
32 Space Parking	Illuminance	Fc	0.66	2.5	0.1	6.60	25.00
7 Space Parking Lot	Illuminance	Fc	0.00	0.0	0.0	N.A.	N.A.
Drop Off	Illuminance	Fc	0.72	6.6	0.1	7.20	66.00
Ex Road	Illuminance	Fc	0.22	2.5	0.0	N.A.	N.A.
Golf Cart Parking	Illuminance	Fc	0.00	0.0	0.0	N.A.	N.A.
Gravel Parking Lot	Illuminance	Fc	0.00	0.0	0.0	N.A.	N.A.
Landscape in Circle Drive	Illuminance	Fc	0.97	3.6	0.1	9.70	36.00
Overall Landscape	Illuminance	Fc	0.39	38.5	0.0	N.A.	N.A.
Padel Courts	Illuminance	Fc	71.78	89.8	47.9	1.50	1.87
Pickleball Courts	Illuminance	Fc	5.20	33.5	0.2	26.00	167.50
Platform Tennis Courts	Illuminance	Fc	30.95	38.3	23.2	1.33	1.65
Property Line	Illuminance	Fc	0.07	1.7	0.0	N.A.	N.A.
Tennis Courts	Illuminance	Fc	0.21	4.3	0.0	N.A.	N.A.
Walkways	Illuminance	Fc	5.25	68.8	0.0	N.A.	N.A.

KEY:

C

SL2

F
G

B1

H

W1

K

D1

FX-1

FX-2

FX-3

FX-4

FX-5

FX-6

KGM

#	Date	Comments
1	10/29/25	LIGHTING REVISION
2	12/08/25	LIGHTING REVISION

Revisions

Drawn By: OCB
Checked By: DLU
Date:12/8/2025
Issue: PERMIT
Scale:

SILO RIDGE

LANDSCAPE CALC **2**

Scale: 1 inch= 16 Ft.

COURT LIGHTING INCLUDED

Luminaire Schedule				
Tag	Symbol	Label	LLF	Description
FX-6		PT-1D20-930-A2-XX-04-WH-U-DIM	1.000	PT-1D20-930-A2-XX-04-WH-U-DIM
FX-5		WHS14-1250LM - FLAT	1.000	
D1		DE-LED-TR-X98-FL	1.000	DE-LED-TR-X98-FL-9-2700K
FX-2		DE-LED-TR-X98-FL-1	1.000	DE-LED-TR-X98-FL-9-2700K
K		AREAFLD2A200UNVD740T5mmffnnss_1	1.000	AREAFLD2A_200UNVD740_T5mm_ffnnss_t
B1		L13682A_Flindt_Bollard_3000K_ Black_CLO_EU_B0096_louis_poulsen	1.000	
W1		L152-A1W30SWF-MA	1.000	L152-A1W30SWF-MA
FX-3		LED-L12-SD12-11609588_18_1	1.000	BWM-LED-L12-SD12
SL2		LED-X45-BW-27-12025619_01A	1.000	LBS-LED-X45-BW-27
FX-1		DE-LED-TR-X100-FL-12439915-12	1.000	DE-LED-TR-X100-FL-9-4000K
FX-4		DE-LED-TR-X100-SP-12439915-12439915_03	1.000	DE-LED-TR-X100-SP-9-4000K
G		ENC-SA1C-740-U-T4FT-HSS	1.000	ENC-SA1C-740-U-T4FT-HSS
F		ENC-SA1C-740-U-T2-HSS	1.000	ENC-SA1C-740-U-T2-HSS
H		EPH-VN-04-E-750-U-T2_35730 lu_1	1.000	EPH-VN-04-E-750-U-T2
C		AXCS1A-C	1.000	AXCS1A-C

Calculation Summary							
Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min
32 Space Parking	Illuminance	Fc	0.66	2.5	0.1	6.60	25.00
7 Space Parking Lot	Illuminance	Fc	0.00	0.0	0.0	N.A.	N.A.
Drop Off	Illuminance	Fc	0.72	6.6	0.1	7.20	66.00
Ex Road	Illuminance	Fc	0.22	2.5	0.0	N.A.	N.A.
Golf Cart Parking	Illuminance	Fc	0.00	0.0	0.0	N.A.	N.A.
Gravel Parking Lot	Illuminance	Fc	0.00	0.0	0.0	N.A.	N.A.
Landscape in Circle Drive	Illuminance	Fc	0.97	3.6	0.1	9.70	36.00
Overall Landscape	Illuminance	Fc	0.39	38.5	0.0	N.A.	N.A.
Padel Courts	Illuminance	Fc	71.78	89.8	47.9	1.50	1.87
Pickleball Courts	Illuminance	Fc	5.20	33.5	0.2	26.00	167.50
Platform Tennis Courts	Illuminance	Fc	30.95	38.3	23.2	1.33	1.65
Property Line	Illuminance	Fc	0.07	1.7	0.0	N.A.	N.A.
Tennis Courts	Illuminance	Fc	0.21	4.3	0.0	N.A.	N.A.
Walkways	Illuminance	Fc	5.25	68.8	0.0	N.A.	N.A.

KGM

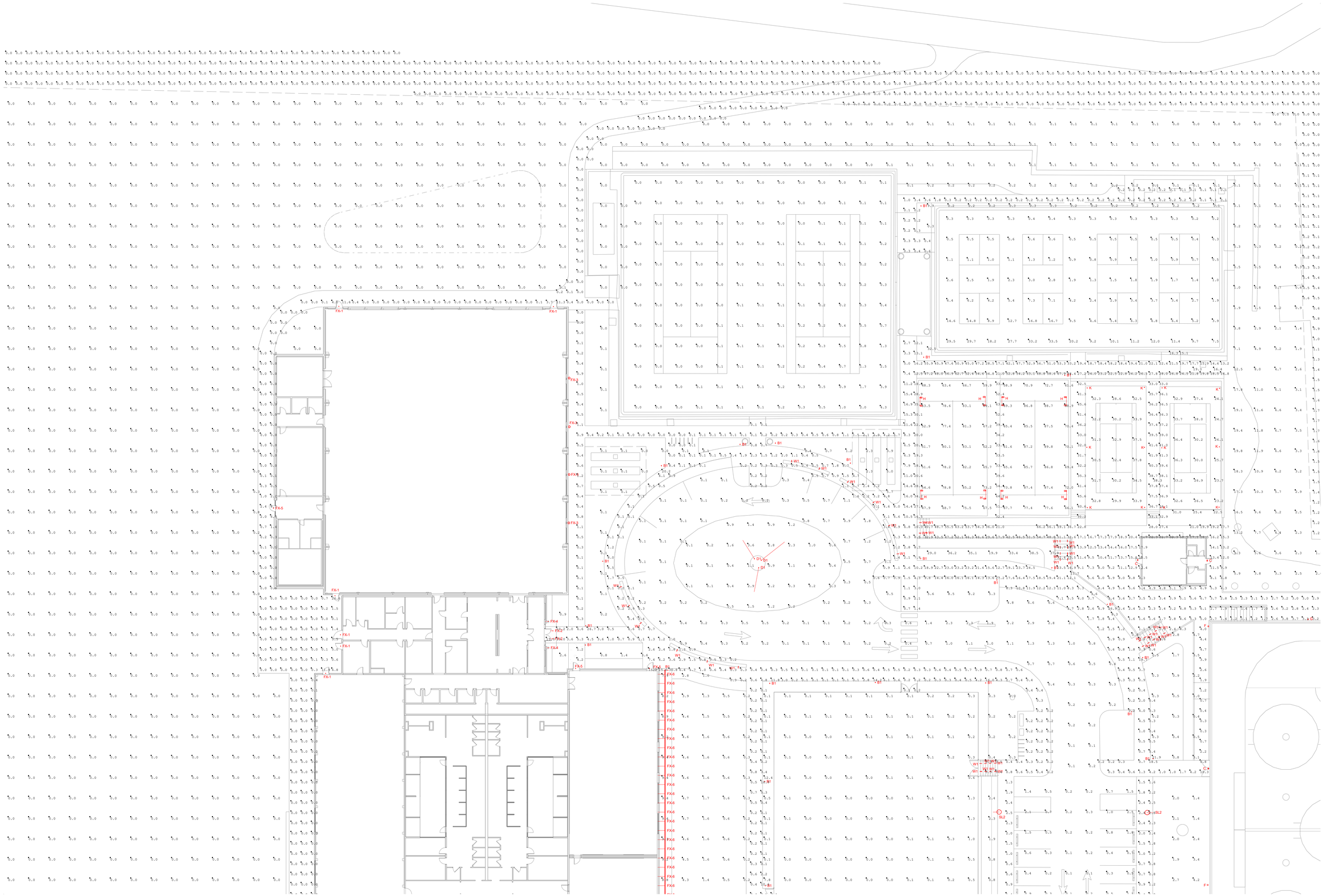
#	Date	Comments
1	10/28/25	LIGHTING REVISION
2	12/08/25	LIGHTING REVISION

Revisions

Drawn By: OCB
Checked By: DLU
Date:12/8/2025
Issue: PERMIT
Scale:

SILO RIDGE

SPORTS COURTS CALC 2



Scale: 1 inch= 20 Ft.

COURT LIGHTING INCLUDED

KGM

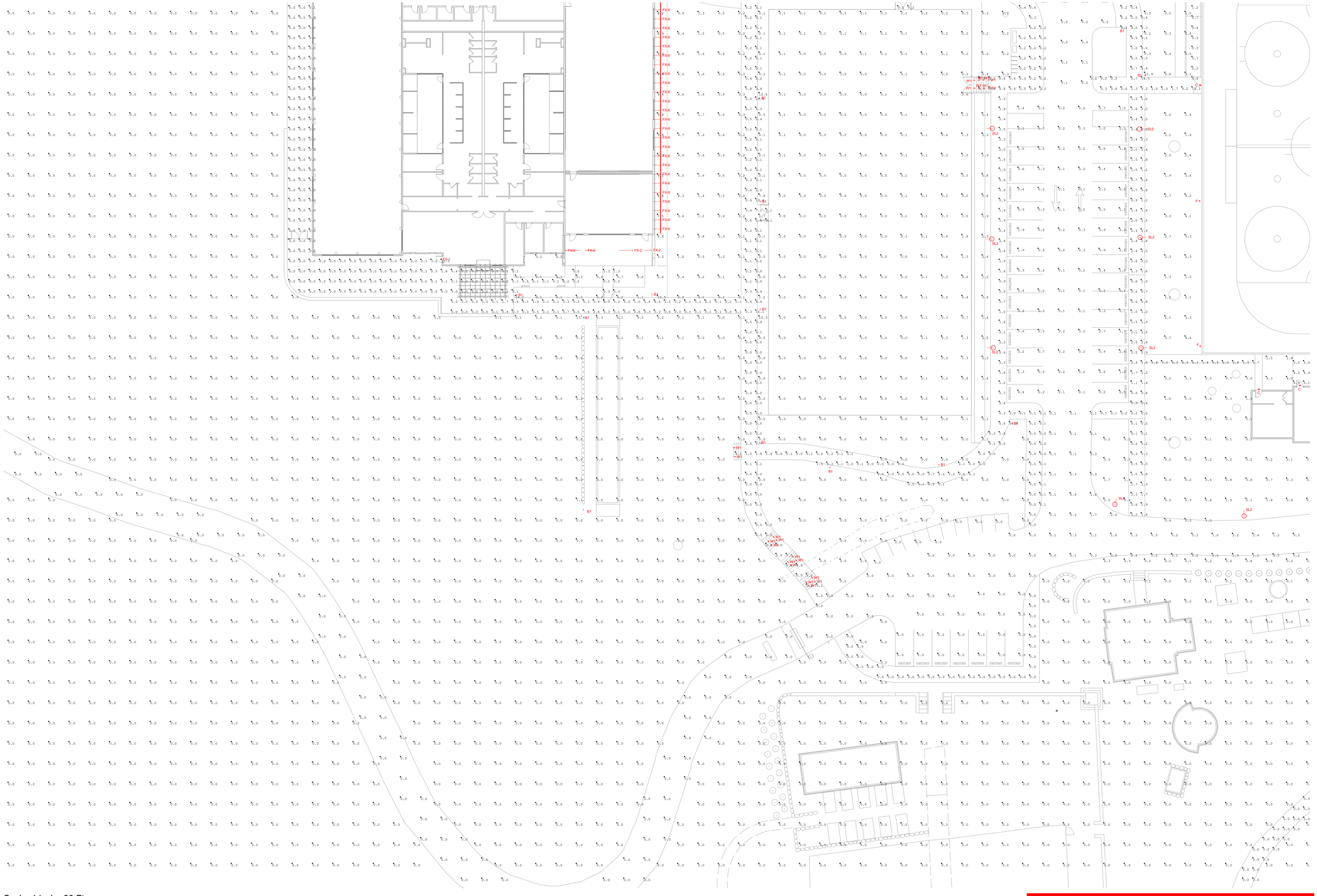
#	Date	Comments
1	10/28/25	LIGHTING REVISION
2	12/08/25	LIGHTING REVISION

Revisions

Drawn By: OCB
Checked By: DLU
Date:12/8/2025
Issue: PERMIT
Scale:

SILO RIDGE

ENLARGED CALC A **2**



Scale: 1 inch= 20 Ft.

COURT LIGHTING INCLUDED

KGM

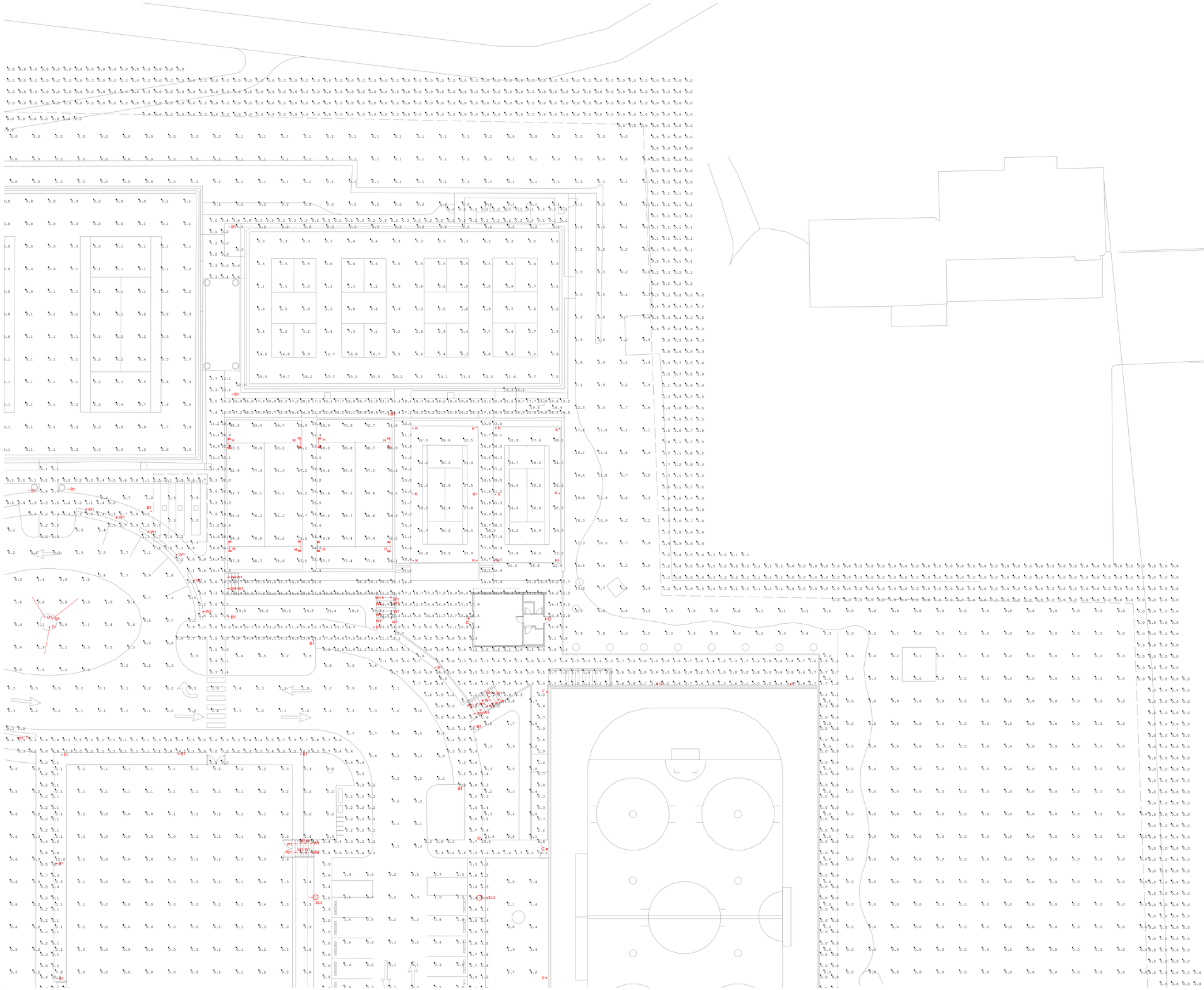
#	Date	Comments
1	10/28/25	LIGHTING REVISION
2	12/08/25	LIGHTING REVISION

Revisions

Drawn By: OCB
Checked By: DLU
Date:12/8/2025
Issue: PERMIT
Scale:

SILO RIDGE

ENLARGED CALC B 2



Scale: 1 inch= 20 Ft.

COURT LIGHTING INCLUDED

KGM

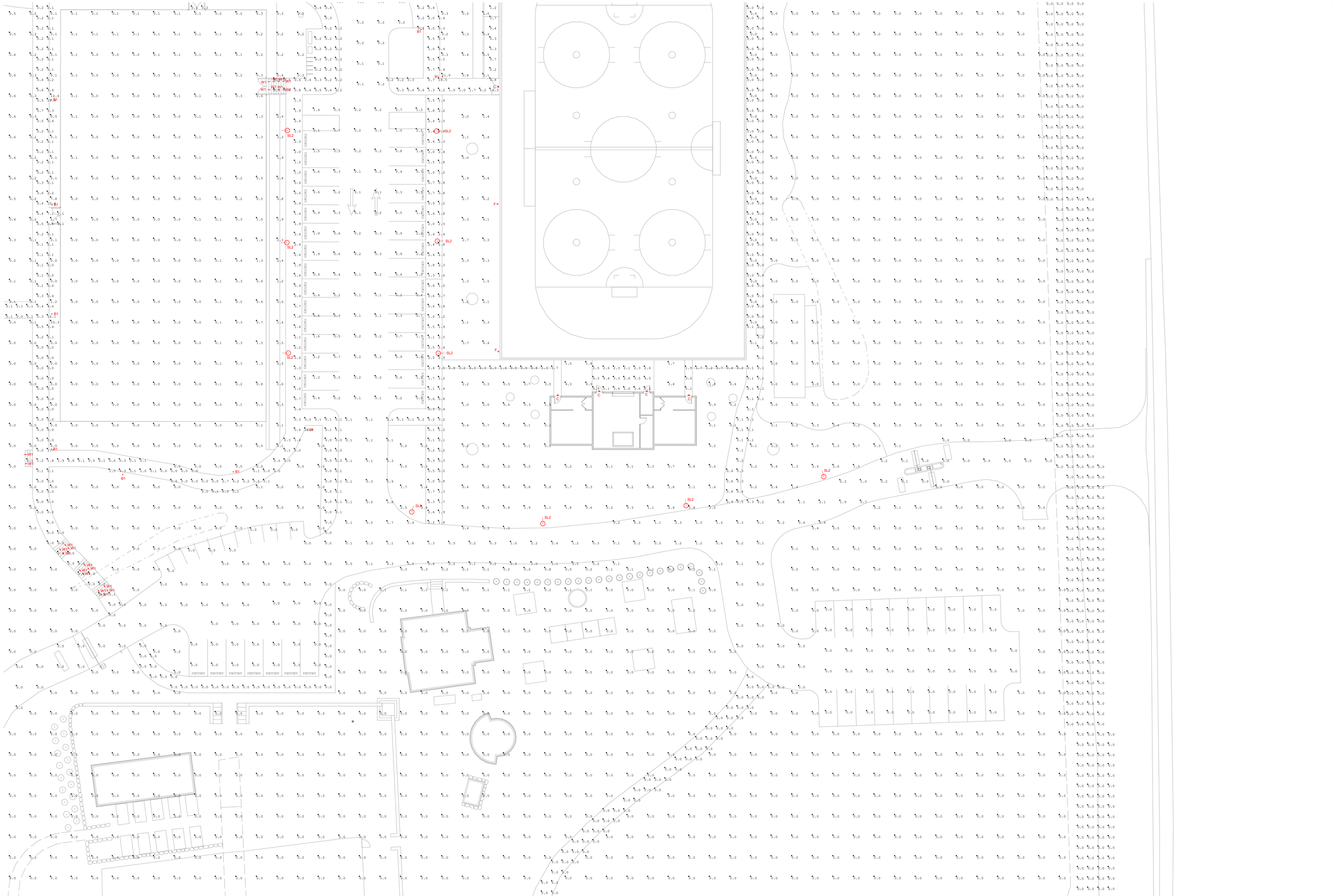
#	Date	Comments
1	10/28/25	LIGHTING REVISION
2	12/08/25	LIGHTING REVISION

Revisions

Drawn By: OCB
Checked By: DLU
Date:12/8/2025
Issue: PERMIT
Scale:

SILO RIDGE

ENLARGED CALC C 2



Scale: 1 inch= 20 Ft.

COURT LIGHTING INCLUDED

KGM

#	Date	Comments
1	10/28/25	LIGHTING REVISION
2	12/08/25	LIGHTING REVISION

Revisions

Drawn By: OCB
Checked By: DLU
Date:12/8/2025
Issue: PERMIT
Scale:

SILO RIDGE

ENLARGED CALC D**2**

Landscape Development Set

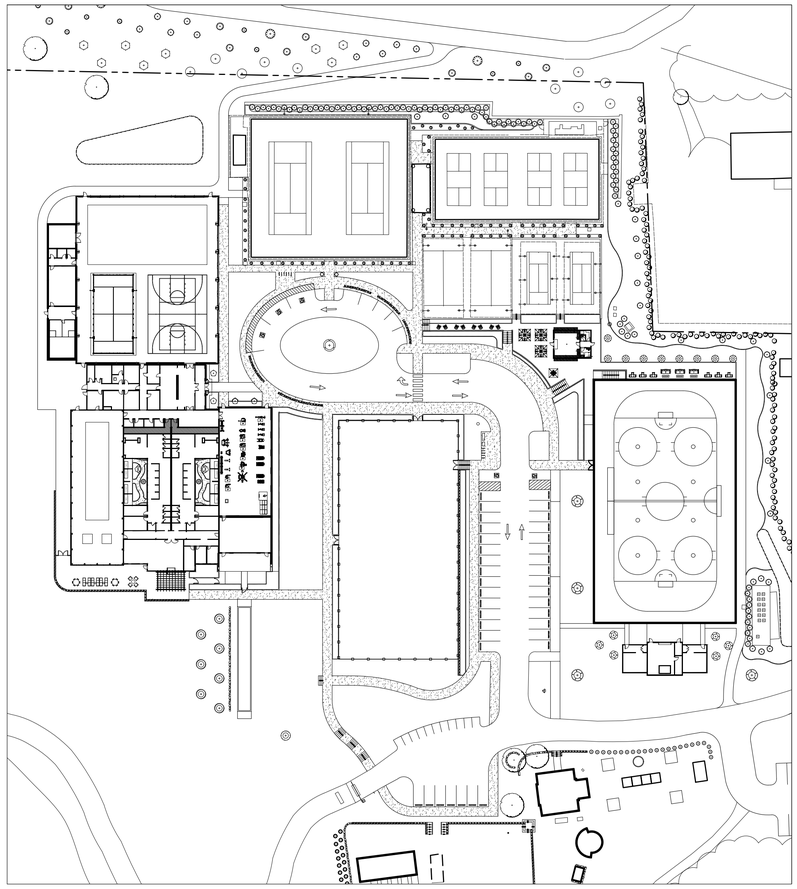
for the

Silo Ridge Field Club

Legend:

- ▲ Issued For Bid
- ◭ Bid Addendum
- ● Issued For Construction
- ⦿ Construction Revision
- ◆ Issued For Permitting
- ◘ Permit Revision
- P Pending
- ▭ Sheet Omitted

	Issued For Permitting 07/01/25	Issued For Permitting 10/15/25	Permit Revision 10/28/25	Permit Revision 10/30/25	Permit Revision 11/25/25	Permit Revision 12/09/25
LSK-Landscape Sketch - Not associated with sheet						
LN-01 Project Specifications	◆			◘		◘
LN-02 Planting Specifications	◆			◘		◘
L 1.0 Demolition and Removals Plan - See VHB Set						
L 2.0 Soil Requirement Plan	P			◆		◘
L 3.0 Grading Plan - See VHB Set						
L 3.1 Grading Enlargement Plan - See VHB Set						
L 4.0 Overall Materials Plan	◆			◘		◘
L 4.1 Materials Enlargement Plan	◆			◘		◘
L 4.2 Materials Enlargement Plan	◆			◘		◘
L 5.0 Overall Planting Plan	◆			◘		◘
L 5.1 Planting Enlargement Plan	◆			◘		◘
L 5.2 Planting Enlargement Plan	◆			◘		◘
L 5.3 Plant Schedule	◆			◘		◘
L 5.4 Planting Enlargement Plan	◆			◘		◘
L 5.5 Seeding Plan	◆			◘		◘
L 5.6 Planting Details	◆			◘		◘
L 6.0 Lighting Plan	◆		◘	◘	◆	◘
L 7.0 Irrigation Plan	P	◆		◘		◘
L 8.0 Fence Plan	P			P		P
LD 1.1 Project Details	◆			◘		◘
LD 1.2 Project Details	◆			◘		◘
LD 1.3 Project Details	◆			◘		◘



General Legend:

- Property Line/Limit Of Work
- Setback
- 500 — Existing Contour
- x 501.23 — Existing Spot Elevation
- Existing Wetland Boundary
- Site Protection Fence
- 585 — Proposed Contour
- 585.70 + 585.70 — Proposed Spot Elevation
- Existing Tree
- T — Existing Tree To Be Transplanted
- ✕ — Existing Tree To Be Removed
- Proposed Deciduous Tree
- Proposed Evergreen Tree
- Proposed Edge Of Pavement
- Proposed Resin Bound Aggregate
- Proposed Self Wall Cap
- Proposed Boulder Wall
- HB — Existing Hose Bib
- HB — Proposed Hose Bib
- Existing Fence
- Proposed Fence
- Proposed Gate
- Step Indicator

General Notes:

1. The term 'Contractor' within these notes shall mean the Site Contractor(s) including subcontractors performing the site work.
2. SURVEY REFERENCE: Survey, topographic, and utility data from plan entitled "Siland - Ex. Conditions" by VHB Engineering dated 07/08/2021.
3. Every effort has been made to locate all site elements, however actual site elements and conditions may vary from those shown. Brook Clark Landscape Architects, BCLA, LLC) assumes no responsibility for errors or inconsistencies. The Contractor shall make a full review of all existing conditions of the site and shall report discrepancies to the Landscape Architect prior to beginning work. The Contractor shall assume responsibility for actual existing conditions as they exist on the site.
4. MEANS AND METHODS: It is the Contractor's responsibility to define the means, methods and materials of construction. BCLA, LLC shall not control or be responsible for construction means, methods, materials (unless directly specified), techniques, schedules, sequences or procedures. Plan drawings are for layout purposes only. Any questions regarding the means, methods and materials of construction shall be directed to the Contractor. BCLA, LLC does not control or take responsibility for construction safety or any other related programs; for another parties' errors and omissions or for another parties' failure to complete work or services in accordance with BCLA, LLC documents.
5. BID SUBMITTAL: It is the Contractor's responsibility to review all Drawings and Specifications to determine the total scope of work and all required coordination prior to submitting a bid.
6. BID SITE VISIT: The contractor will be held to have visited the site prior to submitting any bid information, there will be absolutely no consideration given based upon lack of knowledge of existing site conditions. Site visit to be scheduled with Landscape Architect.
7. AWARD OF CONTRACT: A signed contract (by property owner) is required for the award of contract.
8. START OF WORK: Prior to any demolition, contractor shall notify Landscape Architect at least 48 hours before work is scheduled to begin.
9. SCHEDULE: Prepare and submit a Contractor's Construction Schedule to Landscape Architect within 10 (ten) days of date established for commencement of work, or upon receipt of signed contract. Update schedule periodically to reflect actual construction progress and activities. Landscape Architect to be notified 48 hours prior to all site visits, weekly team construction meetings are to be held as required.
10. UTILITY NOTES: The Contractor is hereby notified that existing underground utilities may exist at the site. Verification and field marking of location of existing utilities is required prior to the commencement of work. It is the responsibility of the Contractor to verify the accuracy of all existing utility information. The Contractor shall take sole responsibility for the cost incurred due to damage and/or replacement of all utilities damaged on the site.
    a. The contractor is to visit the site and verify all existing conditions (including underground utilities, pipes, etc.) and limitations affecting the proposed work.
    b. All contractors must notify "Call Before You Dig (CBYD)" at least three days, but not more than ten days before the proposed commencement date of any excavation or demolition.
    c. The Contractor shall verify existing conditions in the field prior to commencement of work and shall notify the L.A. in writing of all discrepancies. The Contractor shall accept actual field conditions upon which to complete the work of the base bid. No change orders will be accepted based upon variations from the conditions shown. All work requiring modification of the plans shall be approved by the Landscape Architect.
11. TEMPORARY UTILITY PROVISIONS: The owner shall provide the following temporary provisions:
    a. Temporary power and light (the contractor shall supply and maintain his own wiring, lamps and connections required for job completion).
    b. Temporary water supply (the contractor shall supply all lines, valves, hoses, similar equipment needed for job completion).
12. DRAWINGS:
    a. Contract Documents: The contract documents consist of the drawings, the specifications, all addenda issued prior to the execution of the contract and all modifications thereto, including any site specific permits or special conditions / limitations provided. All contractors are to review and keep on site all current contract drawings and specifications.
    b. Drawing and Specifications Conflicts: The contractor shall notify the Landscape Architect should a conflict or discrepancy be found within or between the drawings, specifications, field conditions and / or construction layout. In the case of a discrepancy between the specifications and drawings, the more stringent requirement shall apply.
    c. Dimensions: Written dimensions on these drawings shall take precedence over scaled dimensions.
    d. Drawing Use: These drawings and specifications, including the ideas, design and arrangements represented thereby are the property of BCLA, LLC. No part thereof shall be copied, disclosed to others or used in connection with any work or project other than the specified project for which they have been prepared without the express written consent of BCLA, LLC.
13. PROPERTY BOUNDARY: All work is to be installed in the area bound by the property lines and setbacks. Work in proximity to the property boundary shall not commence before the property line is flagged by a Licensed Surveyor. Contractors are responsible for working within the property line boundary and to maintain the boundary information and monuments. The contractor will be held responsible for any damage sustained to the site monuments / flagging and shall replace or repair or have re-sited any disturbed site markings at his own cost. All work must conform to the setbacks, permits, restrictions or conditions as indicated in the drawings or in attachments provided.
14. GRADES. LEVELS, LINES AND SURVEYS: Contractor shall mark finished elevations that shall correspond to those indicated on the drawings or as directed in the field by the Landscape Architect.
15. PROTECTION: Each contractor shall at all times provide protection for his scope of the work against weather conditions, including frost or heat, as to maintain all work and materials, apparatus and fixtures free from injury or damage, as well as protection for those individuals working or visiting at the site. All new work likely to be damaged shall be covered and protected. Any work damaged by failure to provide protection as required shall be removed and replaced with new work at the contractor's own expense.
16. DAMAGES: The Contractor shall repair at his expense all utilities, vegetation and facilities disturbed by construction and noted on the drawings to remain undisturbed to their original condition and to the satisfaction of the Landscape Architect and appropriate regulatory agency, if any.
17. UNSUITABLE MATERIAL: All unsuitable, excess, and unusable materials including but not limited to unacceptable soil, fill, rocks, stumps, roots and construction debris shall be removed from the site and disposed of in a legal manner by the Contractor and at the Contractor's expense. The Contractor shall conduct a thorough investigation of surface and subsurface conditions to determine the extent of work required to complete the project and shall include all such costs in the Base Bid.
18. TREE PROTECTION: Trees to be preserved on the site shall be protected against damage during construction operations according to the contract documents. No material shall be stored or construction operation shall be carried on within the tree protection fencing. Tree protection shall remain until designated to be removed by the Landscape Architect and then shall be removed from the site. Minimum limits of tree protection shall be the drip line of the tree.
19. ARBORIST: The Landscape Architect must be notified prior to any branch pruning, root pruning and fertilization work. Work to be performed by a certified licensed Arborist and reputable tree care company. All pruning work to be completed in accordance with standards set forth by the National Arborist Association. Project arborist must be immediately notified of any damage to existing tree crown or root systems.
20. EROSION CONTROL: Erosion controls to be installed in accordance with the contract documents. Dewatering and maintenance of surface runoff during the course of work shall be the Contractor's responsibility and shall be performed in accordance Local, State, and Federal regulations.
21. MEASUREMENTS AND DIMENSIONS: Bidder shall verify all necessary site dimensions and shall be responsible for the correctness of the same, prior to ordering, manufacturing or commencing work which is dependent upon the proper size and installation of building conditions. Any discrepancies between the drawings, specifications and / or existing site conditions shall be brought to the attention of BCLA, LLC immediately upon discovery.
22. QUALITY OF WORK: Compliance with the drawings and the specifications with regard to the materials and methods of assembly will not alone assure acceptance of the construction.
23. SCOPE OF WORK: Contractor shall furnish and install all material and equipment shown, listed or described on the drawings or in the specifications, subject to qualifications, conditions or exceptions as noted. Contractor also shall furnish all labor, scaffolding and tools necessary to complete the work. Work shall be continuous, weather permitting; contractors shall have the job fully staffed at all times.
24. LAYING OUT WORK: All work of every character and description shall be laid out on premises, by contractor, for his scope. The contractor shall be held responsible for any errors or omissions and for the correctness of the information, per site conditions. Contractor must notify BCLA, LLC a minimum of 48 hours prior to any concrete placement, including walls, pavement, footings, etc. for review of layout.
25. FOREMAN: Contractor shall have a responsible foreman at the building site daily, from start to finish of the construction. In addition, contractor shall provide his personal supervision to the work. Foreman shall be on duty during all working hours. Any instructions given to the foreman shall have the same importance as if given to the contractor in-person.
26. CONTRACTOR COORDINATION: Contractors shall coordinate their work with that of other trades working at the site for maximum efficiency of the construction sequence.
27. CONTRACTOR'S INSURANCE: The contractor shall maintain such insurance as will protect him from claims under Workman's Compensation Acts and other employee benefits from claims for damages because of bodily injury, including death, and for claims for damages to property which may arise out of and during operations under this contract, whether such operations are executed by himself or by any subcontractor, or anyone directly or indirectly employed by either. The contractor shall file with the Owner a certificate for property damage insurance in the limits of $1,000,000.00 for each accident and $3,000,000.00 for the aggregate of operations. The contractor shall also obtain any additional insurance required by the State and/or town. The Contractor shall indemnify and hold harmless the Owner and L.A.all claims arising from work done at the site.
28. SAFETY: The Contractor is responsible for conducting his work in a safe and responsible manner. All activities at the site shall be conducted in accordance with the latest OSHA requirements and regulations.
29. PERMITS: Each contractor shall secure all permits that may be required prior to commencing his scope of work, post all bonds and pay all fees necessary to complete the work.
30. CODES: All work shall be performed in accordance with the building code requirements of the project Town and State.
31. STRUCTURAL ENGINEERING: All structural and footing information to be provided by Project Structural Engineer and meet all codes as listed above. Any Structural information shown on the Landscape Architects drawings is for reference only.
32. STORMWATER ENGINEERING: All drainage information to be provided by Project Civil Engineer and meet all codes as listed above. Any Stormwater information shown on the Landscape Architects drawings is for reference only.
33. PAYMENT APPLICATION FORMS: Use AIA Document G702 and AIA Document G703 Continuation Sheets as forms for Applications for Payment. Entries shall match data on the Schedule of Values and Contractor's Construction Schedule. Use updated schedules if revisions are made. Include amounts of Change Orders and Construction Change Directives issued before the last day of construction period covered by application.
34. SUBSTANTIAL COMPLETION PRELIMINARY PROCEDURES:
    a. Before requesting inspection for determining date of Substantial Completion, complete the following:
    b. Inspection: Submit a written request for inspection for Substantial Completion. On receipt of request, Landscape Architect will either proceed with inspection or notify Contractor of unfulfilled requirements. Landscape Architect will prepare the Certificate of Substantial Completion after inspection or will notify Contractor of items either on Contractor's list or additional items identified by Landscape Architect that must be completed or corrected before certificate will be issued. Request re-inspection when the work identified in the previous inspections as incomplete is completed or corrected. Results of completed inspection will form the basis of requirements for Final Completion.
35. FINAL CLEANING:
    a. Use cleaning materials and agents recommended by manufacturer or fabricator of the surface to be cleaned.
    b. Do not use cleaning agents that are potentially hazardous to health or property or that might damage finished surfaces or the environment.
    c. Comply with manufacturer's written instructions. Comply with safety standards for cleaning. Conduct cleaning and waste operations to comply with local laws and ordinances and Federal and local environmental and anti-pollution regulations.
    d. Do not burn waste materials. Do not bury debris or excess materials on Owner's property. Do not discharge volatile, harmful or dangerous materials into drainage systems.
    e. Remove waste materials from Project site and dispose of lawfully.
    f. Complete the following cleaning operations before requesting inspection for certification of final acceptance.
34. ACCEPTANCE: For entire Project or for a portion of Project:
    a. Clean project site, yard and grounds in areas disturbed by construction activities, including landscape development areas of, waste material, litter and other foreign substances.
    b. Sweep paved areas broom clean. Remove petrochemical spills, stains and other foreign deposits.
    c. Rake grounds that are neither planted nor paved to a smooth, even-textured surface.
    d. Remove tools, construction equipment, machinery and surplus material from project site.
    e. Remove snow and ice to provide safe access to building.
    f. Clean exposed hard surfaced finishes to a dirt-free condition, free of stains, films and similar foreign substances. Avoid disturbing natural weathering of exterior surfaces. Restore reflective surfaces to their original condition.
    g. Remove labels that are not permanent.
    h. Touch-up and otherwise repair and restore marred, exposed finishes and surfaces. Replace finishes and surfaces that cannot be satisfactorily repaired or restored or that already show evidence of repair or restoration.
36. MATERIALS AND METHODS: of construction shall comply with the following standards:
    a. Standard Specification: Comply with the State Department of Transportation, Standard Specifications, Latest Edition.
    b. ASTM: American Society for Testing and Materials
    c. AASHTO: American Association of State Highway and Transportation Officials
    d. FS: Federal Specifications.
    e. ACI American Concrete Institute.
    f. AI The Asphalt Institute
    g. ANSI: American National Standards Institute.
    h. PCA: Portland Cement Association.
    i. NAAMM: National Association of Architectural Metal Manufacturers.
    j. AISC: American Institute of Steel Construction.
    k. AWS: American Welding Society.
    l. BSI: Building Stone Institute.
    m. BIA: Brick Institute of America.

Landscape Development Set

Silo Ridge Field Club
4651 Route 22
Amenia, NY

PERMIT SET

July 1, 2025

BC|LA

BROOK CLARK LANDSCAPE ARCHITECTS
75 GLEN ROAD, SUITE 312
SANDY HOOK, CT 06482

203.275.9255
hello@brookclark.com

Project Team:

Architect:
Frisenda Architects
52 Hooker Avenue
Poughkeepsie, NY 12601
845.242.0382

Engineer/Surveyor:
VHB Engineering
100 Motor Parkway, Suite 350
Hauppauge, NY 11788
631.787.3400

REGISTERED LANDSCAPE ARCHITECT · BROOK CLARK · 3284 · STATE OF NEW YORK

NOT FOR CONSTRUCTION

Project Reference Notes:

1. SURVEY, TOPOGRAPHIC, AND UTILITY DATA FROM PLAN ENTITTLED "SILAND - EX CONDITIONS" BY VHB ENGINEERING DATED 07/08/2021.

Revisions:

Date:	Issue:
10/15/25	1. Irrigation main line revision
10/28/25	2. Lighting revision
10/30/25	3. Overall plan revision
11/25/25	4. Lighting revision
12/09/25	5. Overall plan revision

NORTH

SCALE: 1"=60'

0 30 60 120

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Section 02600
Stone Masonry

PART 1 GENERAL

1.01 GENERAL PROVISIONS

A. Examine all Drawings and all other Sections of the Specifications for requirements therein affecting the work of this trade.

B. The contractor is to meet with the Landscape Architect prior to the ordering of materials and the commencement of construction in order to review the requirements of all materials and designs as shown in the contract documents.

1.02 DESCRIPTION

A. The work of this Section includes but is not limited to the following:

1. Stone flatwork, walls, steps and similar set on concrete

B. Related Work

1. Section 3200 Site Concrete

1.03 SUBMITTALS

A. Submit specifications and other data for each type of stonework required, including certification that each type complies with specified requirements. Include instruction for handling, storage, installation and protection of each type.

B. Submit sets of samples not less than 12"x 12" in size of each different color, grade and finish of paving material required. Include in each set a full range of exposed color and texture to be expected in completed work.

C. Submit samples of colored mortar and grout selected for the work.

D. Construct on site, where directed by the Landscape Architect a sample of stonework. No further work on any individual type of stonework shall be begun until the Landscape Architect has approved the sample. Samples shall be re-worked as necessary until such approval is given and finish stonework shall match samples.

Stone Work Type	Sample
Bluestone/Granite/Fieldstone	25 sq. ft.

1.04 QUALITY ASSURANCE

A. Installer Qualifications: Engage an Installer who is thoroughly trained and experienced in the skills required for the bluestone, fieldstone, granite paving, walls and steps and who will be present at all times during the installation.

B. Bluestone/Granite/Fieldstone Pavers shall be uniform in color and free from rust stains.

C. Examine drawings covering work of this Section and all drawings, which may affect the work of the Section or required coordination.

1.05 JOB CONDITIONS

A. Installer must review installation procedures and coordination of other work with Contractor, and other contractors and sub contractors whose work will be affected by stonework.

B. No stone work shall be laid when the outside air temperature is below 40 degrees Fahrenheit unless means approved by the Landscape Architect are provided to heat and maintain the temperature of the stone and setting materials and protect the completed work from freezing. Protection shall consist of heating and maintaining the stonework materials to at least 40 degrees Fahrenheit but not more than 160 degrees Fahrenheit and maintaining an air temperature above 40 degrees Fahrenheit on both sides of the stonework for a period of at least 48 hours.

C. Perform the following construction procedures while work is progressing:

1. When air temperature is from 40 degrees F. to 32 degrees F., heat sand and mixing water to produce mortar temperatures between 40 degrees F. and 120 degrees F.

2. When air temperature is from 32 degrees F. to 25 degrees F. heat sand and water to produce mortar temperatures between 40 degrees F. and 120 degrees F. Maintain temperature of mortar on boards above freezing.

3. When air temperature is from 25 degrees F. to 20 degrees F., heat sand and mixing water to produce mortar temperature between 40 degrees F. and 120 degrees F., maintain temperature of mortar on boards above freezing, use other heat sources on both sides of wall under construction, use wind breaks when wind is in excess of 15 mph.

4. When air temperature is 20 degrees F. and below, heat sand and mixing water to produce mortar temperatures between 40 degrees F. and 120 degrees F., provide enclosures and auxiliary heat to maintain air temperature above 32 degrees F., do not lay units which have a surface temperature of 20 degrees F.

D. Do not use frozen materials or materials mixed or coated with ice or frost. Do not use salt to thaw ice in anchor holes or sleeves. Do not lower the freezing point of mortar by use of admixtures or anti-freeze agents and do not use calcium chloride in mortar or grout.

E. Do not build on frozen work; remove and replace stonework damaged by frost or freezing.

F. During all seasons, protect partially completed stonework against weather when work is not in progress. Cover top of walls with strong waterproof, non-staining membrane extending at least 2' down both sides of walls and anchor securely in place.

1.06 DELIVERY, STORAGE & HANDLING

A. All stone is to be carefully hauled and protected from damage during transit. Protect during storage and construction against moisture, soiling, staining and physical damage.

B. Carefully handle all pavers during the unloading process. Never use wire or rope. Only use nylon slings. Bring to the attention of the Landscape Architect any damaged, broken, cracked or chipped sections caused prior to unloading or during transit to the project.

C. Store all stone off of the ground on wood planking, skids, or pallets and provide adequate covers.

D. Deliver mortar and grout in manufacturer's unopened and undamaged containers with labels intact and legible. Store off the ground and protect from weather damage and deterioration.

PART 2 - PRODUCTS

2.01 STONE (Bluestone, granite, fieldstone, as applicable)

A. Pavers shall be of uniform thickness and of size shown on drawings. Finish as noted on plans.

B. Cut stone from one block or contiguous, matched blocks in which natural markings occur.

2.02 FIELDSTONE (if applicable)

A. NY/CT Native fieldstone or approved equal to match reference photo (if applicable).

2.03 MORTAR MATERIALS AND SOLID GROUT FILLED WALLS

A. Portland Cement shall conform to ASTM C150, except complying with the staining requirements of ASTM C91 for not more than 0.03% water-soluble alkali. Furnish Type I, except Type III may be used for setting stonework in cold weather.

B. Use pigmented cement mortar for joints on stone pavement, walls and steps. Sample to be provided, color to be approved by Landscape Architect.

C. Hydrated Lime shall conform to ASTM C207, Type S.

D. Sand shall conform to ASTM C144, except graded with 100 percent passing to No. 16 sieve for 1/4 inch and narrower joints.

E. Water shall be clean and potable.

F. Acryl 60, or approved equal, shall be used in all mortar and grout. Follow manufacturer's recommendations, including mix ratios and application procedures.

2.04 SUBBASE MATERIAL

A. As specified in Section 02200 - Earthwork.

2.05 GRANULAR BACKFILL

A. As specified in Section 02200 - Earthwork.

2.06 MIXES

A. Mortar shall be non-staining, cement/lime mortar, complying with ASTM C270, Proportion Specification for Type S Mortar.

2.07 WALL TIES-N/A

A. Galvanized steel masonry wall ties as manufactured by Hohmann & Barnard: # 303 16 ga. dovetail stone tie, #305 16 ga. dovetail slot and corrugated wall ties or approved equal.

PART 3 - EXECUTION

3.01 STONE PAVING ON CONCRETE

A. Place and screed mortar setting bed. Do not place sections of bed larger than can be laid up with stone prior to the mortar's setting up.

B. Cut stone by scoring and snapping or saw cutting. Cut edges true and curves to true arcs. Cut stone to fit irregular spaces.

C. Tamp stone firmly into setting bed until desired level and uniform plane are obtained. Remove any excess mortar.

D. Test surface with a straight edge not less than 10' long to assure that the surface is uniform and that the stones are at the proper grade. Adjust any stones that are not at the correct level. Assure that surface is pitched to drain.

E. Make joints consistent width, parallel and perpendicular to surrounding structures.

F. Using a mortar mix approved by stone supplier, point joints, striking a flush finish. Do pointing the same day that the stone is installed. Review color of mortar with Landscape Architect.

G. Sponge off mortar stains during installation and within 24 hours after installation.

3.02 DRY-LAID STONE

A. Install and compact sand / cement over a properly compacted sub grade where noted and as detailed on the drawings. Install base course to required line, grade and cross-section.

B. Set stones firmly in bed making joints of consistent width, parallel and perpendicular to surrounding structures, and in pattern indicated on drawings.

C. Fit irregular edge spaces with cut stones as required to meet pattern. Test surface with a straight edge not less than 10' long to assure that the surface is uniform and that the stones are at the proper grade. Adjust any stones that are not at the correct level. Assure that surface is pitched to drain.

D. Tamp each paver into place. Sweep all joints with sand/cement mix.

E. Spray fine mist of water uniformly over the surface of the paving completely saturating the joints and consolidating the stone dust. Treat in small sections one at a time to assure thorough coverage. Control spray to prevent flooding of joints and redistribution of stone dust.

F. Follow the same procedure the next day until the joints are filled flush with the tops of the stones.

3.03 ADJUST AND CLEAN

A. Remove and replace stone units that are broken, chipped, stained or otherwise damaged. Where directed, remove and replace units that do not match adjoining stonework. Provide new matching units; install as specified and point-up joints to eliminate evidence of replacement. Repoint defective and unsatisfactory joints as required to provide a neat, uniform appearance.

B. Examine the areas and conditions where pavements, steps, and all other work of this section are to be installed. Notify the Landscape Architect and the Owner, in writing, of conditions detrimental to the proper and timely completion of the work. Do not proceed with the work until unsatisfactory conditions have been corrected in an acceptable manner.

C. Advise installers of other work about specific requirements relating to placement of inserts that are to be used by stonemason for anchoring and supporting of stonework.

D. Clean stone before setting by thoroughly scrubbing with fiber brushes followed by a thorough drenching with clear water. Use only mild cleaning compounds that contain no caustic or harsh fillers or abrasives. If not thoroughly wet at time of setting, drench or sponge stone. Do not wet expansion or control joint surfaces.

3.04 PROTECTION

A. All work of this Section shall be adequately protected from damage. Damaged units shall be replaced to the satisfaction of the Landscape Architect.

B. Any stones remaining after construction work is completed shall be returned to stockpile unless other wise directed by the Landscape Architect.

END OF SECTION 02600

Section 03300
Site Concrete

PART 1 GENERAL

1.01 RELATED DOCUMENTS

A. General provisions of the Contract, Drawings and Specification sections, for the scope of work specified in this section.

1.02 DESCRIPTION OF WORK

A. Provide cast-in-place concrete and related items shown on the drawings, specified or required to produce a complete installation.

1. Form work
2. Reinforcing and accessories
3. Cast-in-place concrete footings, walls and slabs

1.03 REFERENCES

A. American Society for Testing and Materials Standards (ASTM), Sections as specified.

B. American Concrete Institute (ACI) "Specifications for Structural Concrete for Buildings".

C. Concrete Reinforcing Steel Institute (CRSI) Manual of Standard Practices.

1.04 QUALITY ASSURANCE

A. Examine drawings covering work of this Section and all drawings which may affect the work of this Section or require coordination.

B. The work shall be coordinated with work of the other trades to allow installation of all items under, over, or within the work specified herein.

C. Testing and inspection: If requested by Owner or Architect, testing will be performed by a qualified testing laboratory selected by the Owner or by a representative of the Owner.

D. Materials and methods of construction shall comply with the following standards:

1. All work under this section shall conform to the applicable requirements of all Federal, State and local governing authorities.

E. Do not change source of brands of cement and aggregate materials during the course of the work.

1.05 PROJECT CONDITIONS

A. Contractor shall inspect all subsurfaces and conditions affecting his work. Defects which would affect his work shall be corrected before progressing with any work. Starting of work by the Contractor will indicate his acceptance of the conditions as meeting the requirements to achieve the finish and quality of work called for on the Drawings and in the Specifications. Notify the Landscape Architect in writing of any persistent conditions detrimental to the proper and timely completion of the work.

B. Work notification: Notify Landscape Architect at least 24 hours prior to installation of concrete.

C. Establish and maintain required lines, surfaces, and elevations.

D. Do not install concrete work over wet, saturated, muddy, or frozen subgrade.

E. Do not install concrete when air temperature is below 40 degrees F. Use of calcium chloride, salt, or any other admixture to prevent concrete from freezing is prohibited.

F. Protect adjacent work.

1.06 QUALITY ASSURANCE

A. The work of this section shall be coordinated with the work of the other trades on the site to allow installation of all items under, over, or within the work specified herein.

1. Contractor will be responsible for verifying that all necessary sleeving for site electrical and irrigation is in place prior to pouring concrete.

PART 2 PRODUCTS

2.01 MATERIALS

A. Portland Cement: ASTM C150, Type I, white color. Concrete color to match the color and finish of existing site concrete

B. Aggregate: Provide ASTM C33 normal weight aggregates 3/4" maximum size, clean, uncoated crushed stone or gravel coarse aggregate free of materials which cause staining or rust spots;

1. Fine aggregate shall be clean natural sand, free from lumps of clay and all vegetable and harmful substances. Stone dust is not considered a suitable material for fine aggregate.
2. Coarse Aggregate: Stone shall be tough, durable rock, free from slate texture or cleavage planes and shall be free from coating of clay, silt or crusher dust.

C. Water: Clean, fresh and potable.

D. Air-entraining admixture: ASTM C260. Do not use calcium chloride in any form.

E. Water-reducing admixture: ASTM C494, Type A, and not containing any lignosulfonic acids or their salts nor more than 1% chloride ions.

F. Form Material: 5/8" thick B-B Plyform Class 1 Exterior. Forms for exposed concrete shall be Birch plywood. Install all forms to the profiles, lines and dimensions shown. All forms to be of substantial design and construction to maintain position and shape when concrete is place. Thinner wood may be used on curves too sharp for satisfactory construction with 5/8" ply however extra support is to be provided to avoid shifting when concrete is placed.

G. Welded Wire Mesh: Welded plain cold-drawn steel wire fabric, ASTM A-185 furnished in flat sheets, reinforcement furnished in rolls will not be accepted.

H. Reinforcing Bars: Deformed steel bars, ASTM A-615, Grade 60 including supplementary requirement S1.

I. Tie Wire: Blank annealed wire, 16gauge or heavier coated with nylon, epoxy or plastic as applicable to application.

J. Vertical dovetail anchor slots: Galvanized steel dovetail anchor #305 16 gal. dovetail slot or approved equal as manufactured by Hohmann & Banard.

K. Expansion Joint Materials:

1. Joint Filler: Provide resilient and non extruding type premolded, bituminous - impregnated fiberboard units conforming to ASTM D-1751; FS HH-341, Type 1; or AASHTO M 213.
2. Joint Sealant: Provide polyurethane-based, 1 part elastomeric sealant, color to be selected by Landscape Architect.

2.02 MIXES

A. Provide ASTM C94 ready-mixed concrete. Use ACI 301 to determine mix proportions.

1. Strength: 3,500 psi minimum at 28 days.
2. Slump range: 2" to 4" maximum for consolidation by vibration. Mixes exceeding specified slump range will be rejected as not complying with specification specification requirements.

B. Provide an approved water-reducing admixture in all concrete.

C. Provide an air-entraining admixture in all concrete. Air content 5% to 7%.

D. Indicate quantity of water added to mix at job site on each delivery each delivery ticket. Show quantity of water added. Where concrete will remain exposed to air, maximum water-cement ratio is to be 0.40.

2.03 ACCESSORIES

A. Forms: Specified plywood of sufficient strength to resist concrete placement pressure and to maintain horizontal and vertical alignment during concrete placement. Provide forms straight, free of defects, and distortion. Minimize joints by using largest practical sizes.

1. Provide form work accessories, and anchorages of size required and of sufficient strength to maintain form work in proper alignment and tolerances while placing concrete.

PART 3 EXECUTION

3.01 INSPECTION

A. Examine subgrades and installation conditions. Do not start concrete work until unsatisfactory conditions are corrected.

3.02 SURFACE PREPARATION

A. Remove loose material from compacted subbase surface immediately before placing concrete.

B. Proof-roll prepared subbase surface to check for unstable areas and need for additional compaction. Do not begin paving work until such conditions have been corrected and are ready to receive paving. Notify the Landscape Architect of unsatisfactory conditions.

3.03 PREPARATION

A. Verify lines, levels, and locations of formed concrete work. Verify that form dimensions comply with drawing dimensions.

B. Design, erect, support, brace, and maintain form work to support all applied vertical and lateral loads. Construct form work to provide correct size, alignment, elevation, and position of concrete work.

C. Design and erect form work to permit removal without damage to cast-in-place concrete surfaces and adjacent materials during stripping.

D. Earth cuts may be acceptable for foundation side forms with prior approval from Landscape Architect.

E. Install, align, and level forms. Support and brace forms in place. Maintain following maximum tolerances:

1. Horizontal and vertical lines: 1/8" in 10'-0".
2. Location dimensions indicated: 1/8".
3. Cross sectional dimensions: plus or minus 1/8".

F. Locate, place, and support reinforcement as indicated.

1. Provide reinforcing bars adequately supported and secured to prevent displacement.
2. Locate, place and support reinforcement as specified. Overlap wire mesh 6".

3.04 INSTALLATION

A. Concrete placement: Comply with ACI 304 "Recommended Practice for Measuring, Mixing, Transporting, and Placing Concrete", and as specified in chapter 5. ACI 318-95. sections 5.7 through 5.10.

B. Protect concrete from physical damage or reduced strength due to weather extremes during mixing, placing, and curing. In cold weather comply with ACI 306, "Recommended Practice for Cold Weather Concreting". In hot weather comply with ACI 305, "Recommended Practice for Hot Weather Concreting".

C. Place all footings full thickness in one operation, without changing in proportions; screeded to proper elevation; and floated.

D. Consolidate installed concrete using mechanical vibrating equipment supplemented with hand rodding and tamping. Work concrete thoroughly around reinforcement and other embedded items and into all parts of form work. Take care to avoid over-vibration that can lead to aggregate segregation.

E. Concrete surfaces that will be concealed in complete structure shall be formed to have a rough form finish as directed by ACI 301.

F. Unless otherwise specified, exposed concrete surfaces, painted or unpainted shall be formed to 'smooth- form' finish as defined by ACI 301.

G. Joints:

1. General: Construct expansion, weakened-plane (contraction), and construction joints true-to-line with face perpendicular to surface of concrete. Construct transverse joints at right angles to the centerline, unless otherwise indicated.
2. Weakened-Plane (Contraction) Joints: Provide weakened-plane joints, sectioning concrete into areas as shown on drawings. Construct weakened-planed joints for a depth equal to at least 1/4 concrete thickness.
3. Construction Joints: Place construction joints at ends of placements and at locations where placement operations are stopped for a period of more than 1/2 hour, except where such placements terminate at expansion joints.
4. Expansion Joints: Provide premolded joint filler for expansion joints.
   a. Locate expansion joints 20' center to center unless otherwise indicated.
   b. Extend joint fillers full-width and depth of joint, and not less than 1/2" or more than 1" below finished surface where joint sealer is indicated. If joint is not sealed, place top of joint filler flush with finished concrete surface.
5. Fillers and Sealants: Comply with the requirements for preparation of joints, materials, installation and performance.

H. Curing & Protection: Conform to the requirements of Chapter 5 ACI 318-95 sections 5.11.

1. If forms are removed prior to 7 days, supply liquid membrane-forming curing curing compound complying with ASTM C309.C309.
2. Protect concrete against surface temperatures below 50 degrees F. for at least 5 days or at 60 degrees least 4 days.
3. Protect concrete against loss of moisture for at least 5 days by wetting at least twice daily, and such least twice daily, and such other times as required.

3.05 FIELD QUALITY CONTROL

A. All concrete work shall be inspected by L.A. or an approved representative of the Owner.

B. Contractor shall provide adequate notice, cooperate with, provide access to the work, obtain samples, and assist test agency and their representatives in execution of their function.

C. Testing:

1. Provide slump test on each truck load of concrete and whenever requested due to change in consistency or appearance of concrete.
2. Strength testing by Owner or Landscape Architect if requested:
   a. Provide minimum of 1 set of 3 test specimens for each 50 cu. yards placed in any one day. Secure samples in accordance with ASTM C172 and mold specimens in accordance with ASTM C31.
   b. Test 1 specimen at 7 days and 2 specimens at 28 days in accordance with ASTM C39.
   c. Furnish copies of field records and test reports as follows;
      1 copy to Owner
      2 copies to Landscape Architect
      1 copy to Ready Mix Supplies
3. Record the exact location of the concrete in the work represented by each set of cylinders and show on test reports.
4. Provide an insulated moist box for protection of the test cylinders until shipped to the laboratory.
5. At its sole expense, Contractor will make repairs to concrete which does not meet specified strength requirements. All retesting of concrete will be at Contractor's Contractor's expense and certified by a Connecticut State licensed Professional Engineer.

3.06 PROTECTION

A. Protect concrete work from damage until final acceptance.

3.07 CLEANING

A. Perform cleaning during installation of the work and upon completion of the work. Remove from site all excess materials, debris, and equipment. Repair damage resulting from concrete operations.

END OF SECTION 03300

Section 02200
Earthwork

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

A. General provisions of the Contract, Drawings and Specification sections, for the scope of work specified in this section.

1.02 DESCRIPTION OF WORK

A. The work under this section includes furnishing all labor, materials, equipment and services required to complete earthwork operations as indicated on the drawings and as specified herein. It includes, but is not limited to the following:

1. Stripping of topsoil.
2. Preparation of sub-grade for walls and pavements.
3. Excavation.
4. Provision and compaction of fill and sub-base materials.
5. Rough grading of sub-grade.
6. Removal of rock if any.

1.03 QUALITY ASSURANCE

A. Codes and Standards: Perform excavation work in compliance with applicable requirements of governing authorities having jurisdiction.

B. Testing and Inspection Service: Employ, at Contractor's expense, testing laboratory to perform soil testing and inspection service for quality control testing during earthwork operations.

1.04 SUBMITTALS

A. Test Reports - Excavating: When required submit the following reports directly to the Architect/Engineer from the testing services, with copy to Contractor:

1. Test reports on borrow material
2. Field density test reports
3. Sample of soil separation fabric with manufacturer's installation recommendations.

1.05 JOB CONDITIONS

A. Site Information: Data on indicated subsurface conditions is not intended as representations or warranties of accuracy or continuity between soil bearings. It is expressly understood that Owner will not be responsible for interpretations or conclusions drawn there from by Contractor. Data is made available for convenience of Contractor.

1. Additional test borings and other exploratory operations may be made by the Contractor; ***the additional cost for the tests may be paid by the owner only if the Contractor receives approval from the Owner for such tests prior to conducting testing.***

B. Existing Utilities: Locate existing underground utilities in areas of work. If utilities are to remain in place, provide adequate means of support and protection during earthwork operations.

1. Should uncharted, or incorrectly charted, piping or other utilities be encountered during excavations, consult utility owner immediately for directions. Cooperate with Owner and utility companies in keeping respective services and facilities in operation.
2. Repair damaged utilities to satisfaction of utility owner.
3. Do not interrupt existing utilities serving facilities occupied and used by Owner or others, during occupied hours, except when permitted in writing by Landscape Architect and then only after acceptable temporary utility services have been provided.
4. Provide minimum of 48-hour notice to landscape architect and owner, and receive written notice to proceed before interrupting any utility.

C. Protection of Persons and Property: Barricade open excavations occurring as part of this work and post with warning lights.

1. Protect structures, utilities, sidewalks, pavements and other facilities from damage caused by settlement, lateral movement, undermining, washout, and other hazards created by earthwork operations.

D. Existing Site Conditions: The Contractor shall have carefully examined the site and all conditions affecting the work under this Contract. No claim for additional costs will be allowed because of lack of full knowledge of existing conditions.

E. Provide dust control palliative by spreading liquid calcium chloride. Consult with Landscape Architect prior to spreading. Control dust during excavation, filling, and grading operations when requested by Landscape Architect or Owner.

1.06 DEFINITIONS

A. Earth Excavation: is defined as the removal and disposal of material of any kind including rock excavation.

B. Degree of Compaction: The degree of compaction is expressed as a percentage of maximum density obtained by Method D of the test procedures presented in ASTM D 1557.

C. Rough Grade: means establishing subgrade at the depth required below the finished grade for all lawn areas, planting areas, and pavement areas. Top finish of subgrade for all lawn areas shall be six (6) inches below finish grade as noted on the drawings. Tolerance for subgrade for lawn areas: plus or minus 1 inch. Top of finish subgrade for pavements or other construction to be as detailed on drawings. Subgrade tolerance for pavement: areas: plus zero (0) or minus one-half (1/2) inch.

D. Subgrade: the area upon which a base course or subbase material is placed which is a plane coincident with the bottom of the base course for the pavement, structure, curb, or edging of the surface of a lawn or planting area upon which topsoil or plant backfill mixture is placed.

E. Finish Grade: the final true surface grade for all pavements, curbing, and lawn and plant bed areas.

PART 2 - PRODUCTS

2.01 SOIL MATERIALS

A. Definitions:

1. Satisfactory soil materials are defined as those complying with ASTM D2487 soil classification groups GW, GP, GM, GC, SM, SW, SC, and SP.
2. Unsatisfactory soil materials are defined as those complying with ASTM D2487 soil classification groups, SC, ML, MH, CL, CH, OL, OH and PT.
3. Subbase Material: Naturally or artificially graded crushed stone, crushed slag, natural or crushed sand.
4. Granular Backfill Fill: Washed, evenly graded mixture of crushed stone, or crushed or uncrushed gravel, with 100% passing a 1-1/2" sieve and not more than 5% passing a No. 4 sieve.
5. Backfill and Fill Materials: Satisfactory soil materials free of rock or gravel larger than 2" in any dimension, debris, waste, frozen materials, vegetable and other deleterious matter. Backfill shall be a sand-gravel. On-site excavated material may be used for this if tests on such material are acceptable to the Landscape Architect. If on-site material is unacceptable, the Contractor shall provide off-site material as required at no additional cost to the Owner.

PART 3 - EXECUTION

3.01 STRIPPING AND STOCKPILING TOPSOIL

A. Strip all topsoil to its full depth from all site areas to be graded or excavated. Do not strip topsoil from within the drip line (outer spread of branches) of trees to remain. Exercise caution when stripping topsoil so as not to mix topsoil with the sub soil.

B. Do not strip topsoil when wet or frozen.

C. Stockpile topsoil on-site in the area designated and approved by the Landscape Architect. Grade and slope stockpile(s) in such a manner as to minimize loss from erosion and mixing with other excavated materials. Maximum height of any topsoil stockpile not to exceed eight (8) feet in height.

D. Stockpile topsoil for use by the landscape contractor(s) for use in finish grading, preparation of lawn areas and plant material backfill.

E. Stockpiled topsoil is to be relatively free of subsoil, trash, brush, stones over three (3) inches in any dimension and any other deleterious extraneous matter.

F. All topsoil stockpiles are to be seeded with an annual rye grass at a rate of five (5) pounds per one thousand (1,000) square feet of stockpile area, if stockpiles remain in place for a period of one (1) month or longer. Continually reapply seed at first sign of erosion or deterioration of the surfacing of stockpile(s).

G. Any and all excess topsoil not required for the project topsoiling shall remain the property of the Owner and is to be spread on site or removed as determined and approved by the Owner and Landscape Architect.

3.02 EXCAVATION

A. Excavation is unclassified, and includes excavation to subgrade elevations indicated, regardless of character of materials and obstructions encountered.

B. Unauthorized excavation consists of removal of materials beyond indicated subgrade elevations or dimensions without specific direction of the Architect. Unauthorized excavation, as well as remedial work directed by the Architect shall be at the Contractor's expense.

1. Under footings, foundation bases, or retaining walls, fill unauthorized excavation by extending indicated bottom elevation of footing or base to excavation bottom, without altering required top elevation. Lean concrete fill may be used to bring elevations to proper position, when acceptable to Landscape Architect.
2. Elsewhere, backfill and compact unauthorized excavations as specified for authorized excavations of same classification, unless otherwise directed by Landscape Architect.

C. Additional Excavation: When excavation has reached required subgrade elevations, notify the Landscape Architect who will make an inspection of conditions.

1. If unsuitable bearing materials are encountered at required subgrade elevations, carry excavations deeper and replace excavated materials as directed by Landscape Architect or Structural Engineer.
2. Removal of unsuitable material and its replacement as directed will be paid on basis of contract conditions relative to changes in work.

D. Stability of Excavations: Slope sides of excavations to comply with local codes and ordinances having jurisdiction. Shore and brace where sloping is not possible because of site restrictions or stability of material excavated.

1. Maintain sides and slopes of excavations in safe condition until completion of backfilling.
2. Provide vertical curves or roundings at abrupt changes in slope.

E. Shoring and Bracing: Provide materials for shoring and bracing where required, such as sheet piling, uprights, stringers, and cross-braces, in good, serviceable condition.

1. Establish requirements for trench shoring and bracing to comply with local codes and authorities having jurisdiction.
2. Maintain shoring and bracing in excavations regardless of time period excavations will be open. Carry down shoring and bracing as excavation progresses.

F. Do not allow water to accumulate in excavations. Remove water to prevent softening of foundation bottoms, undercutting footings, and soil changes detrimental to stability of sub grades and foundations. Provide and maintain pumps, well points, sumps, suction and discharge lines, and other dewatering system components necessary to convey water away from excavations at all times, including nights, weekends and holidays.

1. Establish and maintain temporary drainage ditches and other diversions outside excavation limits. Convey rain water and water removed from excavations to collecting or run-off areas. Do not use trench excavations as temporary drainage ditches. Dispose of all water in a manner that will cause no inconvenience to the Owner or others engaged in work about the site.

END OF SECTION 02200

Section 02070
Selective Demolition

PART 1 - GENERAL

1.01 SUMMARY

A. Provide selective demolition as required.

B. Demolish portions of structures, and components designated to be removed.

C. Protect portions of building adjacent to or affected by selective demolition.

D. Remove and legally dispose of demolished materials off-site.

E. Notify Owner prior to shut-off of existing utilities. Cap off utilities to be discontinued in use.

1.02 SUBMITTALS

A. Submit for approval selective demolition schedule, including schedule and methods for capping and continuing utility service.

1.03 QUALITY ASSURANCE

A. Comply with governing codes and regulations. Use experienced workmen.

1.04 PROJECT CONDITIONS

A. Areas of work will not be occupied by Owner's personnel during remodeling.

PART 2 - PRODUCTS - Not Applicable To This Section.

PART 3 - EXECUTION

3.01 DEMOLITION

A. Do not damage building elements and improvements indicated to remain. Items of salvage value and not included on schedule of salvage items to be returned to Owner may be removed from structure. Storage or sale of items at project site is prohibited.

B. Do not close or obstruct streets, walks, drives or other occupied or used spaces or facilities without the written permission of the owner and the authorities having jurisdiction. Do not interrupt utilities serving occupied or used facilities without the written permission of the owner and authorities having jurisdiction. If necessary, provide temporary utilities.

C. Cease operations if public safety or remaining structures are endangered. Perform temporary corrective measures until operations can be continued properly.

3.02 SCHEDULE

A. Items to be removed:

1. Items to be stored and reinstalled. Any cobbles, bluestone, or fieldstone recovered on-site in good condition shall be re-used in new site elements.
2. Items to be salvaged and stored for Owner - to be discussed.
3. Items to be removed from site by Contractor.
   a. Any remaining soil from the soil stockpiles not used in the process of re-grading site shall be removed and disposed of off-site.

B. Items to remain: (if clarification required).
   a. As per plan.

C. Utilities requiring interruption, capping, or removal: (if any).
   a. Septic lines and clean-out lids to be reviewed, assessed and set to new elevations as per grading plan.

END OF SECTION 02070

LN-01
Project Specifications

Silo Ridge Field Club
4651 Route 22
Amenia, NY

PERMIT SET

July 1, 2025

BC|LA
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BROOK CLARK
3284
STATE OF NEW YORK

NOT FOR CONSTRUCTION

Project Reference Notes:

1. SURVEY, TOPOGRAPHIC, AND UTILITY DATA FROM PLAN ENTITTLED "SILAND - EX CONDITIONS" BY VHB ENGINEERING DATED 07/08/2021.

Revisions:

Date:	Issue:
10/30/25	3. Overall plan revision
12/09/25	5. Overall plan revision

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SECTION 02490
PLANTING SPECIFICATIONS (ORGANIC)

PART 1 - GENERAL

1.01 GENERAL PROVISIONS

A. DIVISION 1 is hereby made a part of this SECTION as fully as if repeated herein.

B. Examine all Drawings and all other Sections of the Specifications for requirements therein affecting the work of this trade.

1.02 DESCRIPTION

A. Work of this Section includes all labor, materials, equipment and services necessary to complete the topsoil mixtures and planting work as shown on the drawings and specified here in, including but not limited to the following:

1. Preparation and protection of all disturbed ground, beds and pits to receive planting or restoration.
2. Preparation of, placing, incorporating and fine grading topsoil mixtures in beds and pits.
3. Testing of topsoil and each backfill mixture.
4. Testing of existing soil conditions.
5. Furnishing and incorporating fertilizers, organic compost, amendments to soil (per results of soil tests) and mulches.
6. Furnishing and installing plant materials including planting, pruning, guying, and mulching.
7. Clean-up of work areas.
8. Maintenance of planting until provisional acceptance.
9. Replanting under one-year guarantee after final acceptance and completion of job.

B. Related Work

1.03 QUALITY ASSURANCE

A. Qualifications

1. The work of this section shall be performed by a qualified and experienced nurseryman approved by the Owner's Representative. The term 'Nurseryman', as used herein, shall mean a firm of established reputation which is regularly engaged in and which maintains a regular force of workmen skilled in the installation of the type of work specified in this Section.
2. Before approval, the Contractor shall submit to the Owner's Representative or Landscape Architect three copies of a list of several comparable projects of similar work that the nurseryman has completed within the past five years, giving job locations, names of the owners, their telephone numbers, and the dates on which the work on each project was start and completed.

B. Tests: The Owner's Representative or Landscape Architect reserves the right to test and reject for cause at any time any material appearing not to meet material specifications by tests in accordance with the methods adopted by the Association of Official Agricultural Chemists. Costs for these tests shall be paid for by the Contractor.

C. Plant Materials

1. Plant names shall conform to the latest edition of "Standardized Plant Names" as adopted by the American Joint Committee on Horticultural Nomenclature. Provide stock true to botanical name and legibly tagged.
2. Size and grading standards shall conform to those of the latest edition of "American Standard for Nursery Stock" unless otherwise noted in the plant list. A plant shall be dimensioned as it stands in its natural position. Trees shall be dimensioned as calipered at a point 6 inches above the ground level up to and including 4-inch caliper size, and 12 inches above the ground level for larger sizes. The stock furnished shall be a fair average of the maximum and minimum sizes specified.
3. All plants shall be subject to inspection and tagging by the Owner's representative at the place of growth for compliance with specification requirements for quality, size, and variety before being dug. Such tagging shall not affect the right of inspection and rejection upon delivery at the site or during the progress of the work. The Contractor or his authorized representative shall be present during inspections.
4. All plant material to be nursery grown in accordance with good horticultural practice under climatic conditions similar to those in the projects geographic area. All material to have a habit of growth typical of the species or variety, be freshly dug, exceptionally heavy, symmetrical, and tightly knit; in sound healthy, vigorous condition with well developed tops and root systems, well-branched, well proportioned and densely foliated when in leaf; free of defects and showing active green cambium when cut. All trees to have their main leaders intact and unless otherwise specified, to have single straight trunks.
5. Investigate sources of supply and be certain to be able to provide all plant material specified in the quality and quantity required before bidding. Refer to Article 1.0, this section.

1.04 SUBMITTALS

A. Conduct soil tests for each type of planting area; trees, shrubs, perennials, and native wildflower /fern plantings. Test soil for organic content, micro-organism content, pH, soluble salts, nitrates, phosphorous, potassium and % of sand, silt, and clay by volume.

B. Certification: Submit certificates of inspection as required by governmental authorities. Submit manufacturers or vendors certified analysis for organic soil amendments and organic fertilizer materials. Submit other data substantiating that materials comply with specified requirements.

C. Provide one (1) test per twenty-five (25) cubic yards of topsoil to be furnished or utilized for plant backfill.

1. Test topsoil for microorganism content, pH, organic content, soluble salts, nitrates (NO_3), phosphorus (P), potassium (K), and percentages of sand, silt and clay by volume. Topsoil to conform to optimum ranges noted under Article 2.01 (B), this section.

D. Provide one (1) test per twenty-five (25) cubic yards of organic compost to be furnished .

E. Samples: Submit samples of the following materials and obtain approval prior to purchase:

1. Organic compost - 5 lb. bag with source and analysis.
2. Mulch - 5 lb. bag with source.

1.05 DELIVERY/STORAGE/HANDLING

A. Soil Amendments, Organic Fertilizers and other bagged materials:

1. Deliver all materials to the site in original unopened packages showing weight, manufacturer's name and guaranteed analysis.
2. Store materials in such a manner that their effectiveness will not be impaired.
3. Any caked or damaged material shall be rejected.

B. Nursery Stock:

1. Preparation of Plants:
   a. Care shall be exercised in digging and preparing plants for shipment and planting. Workmanship that fails to meet the highest horticultural standards shall be rejected and the Contractor shall replace rejected stock with acceptable material at no additional cost.
   b. Balled and burlaped (B&B) Materials shall have unbroken soil balls of sufficient size to encompass all the fibrous feeding roots necessary to insure successful recovery and development of the plants. Balls shall be firmly wrapped in burlap and tied securely with jute twine. No manufactured balls, plastic burlap or plastic twine is acceptable for this work.
   c. Treat plants in foliage with 'BioPlex' 72 hours before digging to prevent dehydration.
   d. Dig bare root (BR) plants when fully dormant. Dig out with all of the root system substantially intact, carefully removing earth from the roots. Cover roots of these plants with a thick coating of mud by puddling immediately after plants are dug.
2. Transport:
   a. Cover plants transported on open vehicles with a protective covering to prevent windburn.
   b. Protect bare root stock in transit with wet straw or other suitable material.
   c. In loading and unloading or handling plants, exercise the utmost care to prevent injuries to the branches or roots of the plants. The solidity of the ball shall be carefully preserved. Broken root balls shall be rejected.
   d. Plant nursery stock immediately upon arrival at the site unless another time is authorized. If delayed, all B&B plants shall be heeled-in and protected with mulch or other accepted material. All BR materials shall be removed from bundles, heeled-in in trenches, and thoroughly watered.

1.06 JOB CONDITIONS

A. General: Coordinate the work of this Section with the work of other Sections, to allow installation of all items over, under or within the items of work specified herein.

B. Schedule of Work: All planting shall be done during one of the periods specified below.

	Spring	Fall
1. Evergreen Trees & Shrubs	When soil becomes workable	Sept.1 - Oct.1*
2. Deciduous Trees & Shrubs	When soil becomes workable	Oct. 15th - Dec. 1
3. Groundcovers and Vines	April 15 - June 15	Aug. 15 - Sept. 15

*Evergreen trees & shrubs planted after this date are at greater risk of failure, this should be discussed with the client.

Part 2 - PRODUCTS

2.01 GENERAL

A. Substitutions shall not be permitted, except as described elsewhere in these Specifications. The species or varieties, materials, or products specified herein and indicated on drawings by botanical or common name, trade name, manufacturer's name, producer's name or catalog number shall be provided as specified.

2.02 MATERIALS AND MANUFACTURERS

A. Topsoil

1. New topsoil shall come from approved sources.
2. Quality:
   a. One hundred percent by weight shall pass a 1" opening sieve and 97 to 100% shall pass a 1/4" sieve. In the material passing the 1/4" sieve there shall not be less than 20% or more than 65% passing a No. 200 mesh sieve as determined by a wash test made in accordance with the standard ASTM Designation D1140. All topsoil shall be of good rich, uniform grade, without admixture of subsoil material. It shall be free from hard clods, stiff clay, hardpan, sods, large stone, lime, cement bricks, coal ashes, cinders, slag concrete, or other objectionable material.
   b. Topsoil shall contain not less than 4% or more than 20% organic matter in that portion of the sample which passes a 1/4" sieve when determined by the wet combustion method on a sample dried at 1050C.
3. Topsoil pH:
   a. Topsoil to be used in the Type A, B, C, E mixture (General Planting) shall have a true pH of 5.5 - 6.5. Topsoil used in mixture D shall have a pH of 4.5-5.00.
   b. Amend topsoil to the proper pH, percent of organic content and nutrient level (nitrogen, phosphorus, potassium calcium and magnesium) as required by the addition of organic substances to bring levels into acceptable ranges indicated by soil tests. Reference the Northeastern Organic Farming Association for acceptable amendments.

B. Ground Limestone: Dolomitic, not less than 85% total carbonates and magnesium, ground so that 50% passes 100 mesh sieve and 90% passes 20 mesh sieve. Coarser material will be acceptable provided that specified rates of application are increased proportionately on the basis of quantities passing the 100 mesh sieve.

C. Natural Organic Fertiliser: Derived from natural organic sources. Fertilizers produced from sludge and human waste will not be acceptable. Materials such as "Sustain" or "Nature Safe" Organic Fertilizers will be acceptable.

D. Planting Amendments - Granular Roots.

E. Organic Compost: A product consisting of partially decomposed vegetable matter of natural occurrence from organic sources. It shall be brown in color, clean, low in content of mineral and woody material, mildly acid, and shall be shredded and free from all stones, roots and twigs. This material shall be tested for microorganism content and tests provided with sample.

F. Sand: Clean, coarse, ungraded, meeting ASTM C33 Requirements for mason's sand.

G. Bark Mulch: Shredded cedar bark with a fibrous texture and uniform dark brown color. Material shall be partially decomposed.

H. Tree Wrap: Duplex, waterproof craft paper crinkled to 33% stretch, 4" - 6" wide strips.

I. Anti-Desiccant: Vapor Guard for retardation of excessive water loss without harm to normal transpiration. Use a water emulsifiable organic concentrate.

J. Plant Materials:

1. All plants shall be in accordance with the plant list indicated on the drawings. In the event that quantity discrepancies or material omissions occur in the list, the planting drawings shall govern. No substitutes shall be permitted unless indicated in writing by the Owner's Representative or Landscape Architect.
2. All materials shall be freshly dug.
3. All trees shall have straight trunks with single leader intact unless otherwise noted on the plant list.
4. All plant materials shall be sound, healthy, vigorous, acclimated plants free from defects, disfiguring knots, sunscald injuries, insect eggs, bores and all other forms of infections. They shall have normal fibrous root systems and a well developed branch system.
5. All plants shall be nursery grown under climatic conditions similar to those in the locality of the project for a minimum of 2 years prior to digging.
6. Container grown stock shall have been grown in a container long enough for the root system to have developed sufficiently to hold its soil together, or as otherwise noted in the Plant List.

J. Leaf Mulch: Partially decomposed shredded leaf mulch from an approved source.

K. Layout Nails: 8" x 3/16" galvanized hammerless hubs.

PART 3 - EXECUTION

3.01 INSPECTION

A. Examine the areas and conditions where topsoil mixtures and plants are to be installed and notify the Owner's Representative or Landscape Architect of conditions detrimental to the proper and timely completion of the work. Do not proceed with the work until unsatisfactory conditions have been corrected. Planting areas - should have 24 inches or more of friable soils before reaching the 'hardpan substrate'. Present conditions shall be reported to the Landscape Architect so that necessary adjustments in planting elevations, additional soil preparation and or drainage installation adjustments can be executed prior to the installation.

3.02 TOPSOIL MIXTURES

A. All mixing shall be done on site by the following method unless otherwise approved by the Owner's Representative or Landscape Architect.

1. Spread topsoil and remove rocks and debris. Calculate amount of each required amendment for amount of topsoil spread.
2. Spread each amendment over top of topsoil uniformly. Amendments added in large quantities shall be spread and mixed one at a time. Small quantities of amendments shall be mixed together before spreading to assure even distribution.
   a. Use a "Rotovator" tractor attachment to chop in amendments. Mix materials thoroughly to a 12" depth.
   b. File materials in stockpile area and cover to protect from sunlight, weed seed infestation, and moisture control.

B. Mixture A - General Planting Mixture shall have the following proportions:

3 Parts topsoil (pH 5.5 - 6.5)

1 Part organic compost (pH of 5.5-6.5)

1 Part sand or shale

Other necessary amendments as indicated by soil test

C. Mixture B - Perennial Mixture

3 Parts topsoil (pH5.5 - 6.5)

1 Part organic compost (pH of 5.5-6.5)

1 Part shale

Other necessary amendments as indicated by soil test

3.03 PLANT BED AND PIT PREPARATION

A. Locations: Stake locations for plants and beds as indicated on plans or as directed in the field for approval before excavation. If obstructions are encountered that are not shown on the drawings, do not proceed with planting operations until alternate plant locations have been approved by the Landscape Architect.

B. Ascertain and verify the locations of all underground utility lines and structures prior to excavation of plant pits. Observe all other precautions so as not to disturb or damage any subsurface improvements. If any obstructions are uncovered, promptly notify the Landscape Architect to enable him/her to work out the relocation of the plant material(s) or a decision to remove obstruction(s).

C. Pit Size

1. Pits for plants with a ball of earth or root spread of less than 4' in diameter shall be 2 times as wide as the diameter of the ball of earth or root spread. In no case shall the distance from the ball to the side of the hole be less than 12".
2. Pits for plants with a ball of earth 4' or larger in diameter shall be 1.75 times as wide as the diameter of the ball.
3. In perennial beds the entire planting area shall be dug, cultivated and amended to a min. 18" depth.
4. In ground cover areas the entire planting area shall be dug, cultivated and amended to a min. 12" deep.
5. In wetlands, disturbance is to be kept to a minimum. All bed prep must be done by hand. Perennial planting areas shall be hand dug to a depth of 12".

C. Excavation

1. Excavate plant beds and pits to depths noted as shown on drawings. Remove excess or unsuitable excavated materials from the site.

D. Drainage

1. Open excavated tree pits will be filled 25% full with water 4 hours prior to scheduled examination of Landscape Architect to check for percolation.
2. Pits failing percolation test, shall be drained, or grade raised and vertical-monitoring pipes installed per the Landscape Architect's direction.

E. Placing of Topsoil Mixtures for A, B, C and D

1. All plants shall be planted in and backfilled with a 50% mixture of suitable existing excavated tree/shrub pit soil mixed with 50% Topsoil Mixture A.
2. No soil shall be spread in a frozen or muddy condition.
3. All plant beds shall be completely filled with required topsoil mixtures before planting. Overfill as required to produce a final settled grade as shown on drawings.
4. No mechanical compaction is permitted.
5. Vegetation control - No chemical herbicides will be permitted. In areas where existing vegetation is present, these areas should be grubbed out and vegetation and roots removed, prior to bed preparation.

3.04 INSTALLATION

A. Setting Plants

1. General
   a. Set plants upright and plumb within the planting pit or bed, 2"-3" above finish grade. Face plants to give the best appearance or relationship to surrounding area, or as directed by Owner's Representative or Landscape Architect.
   b. Backfill with topsoil mixture in 6"-8" lifts, firming and settling by foot tamping around entire perimeter of plant ball. Do not fill around trucks or stems, or over top of root ball.
   c. Remove wire baskets and all burlap from the sides of the ball; the remaining wire basket under the ball is acceptable.
2. Container-grown stock: Scarify the root ball of all container-grown stock all around prior to planting. Split and butterfly the root ball of surface rooted plants such as azaleas to allow for the roots to establish themselves at a level they are normally accustomed to.
3. Bare root trees and shrubs:
   a. Submerge plants totally in water 18-24 hours just prior to planting. Do not allow plants to dry out while planting.
   b. Spread roots out in 360 degree in their native elevation and work soil mixture carefully into roots. Firmly compact soil. Do not set roots lower that they would naturally occur.

B. Saucering: After topsoil mixture has been placed, form an earth saucer for the retention of water around each tree or shrub for unless otherwise noted on drawings. The saucer shall be of the same diameter as that of the hole dug. The lip shall be level all around and shall be at least 4" high for trees.

C. Watering: Thoroughly soak the soil around each plant with BioPlex immediately after planting. Water as many times later as seasonal conditions require until final acceptance of the work. Settling of earth by puddling during planting shall be repaired.

D. Mulching: Immediately after planting and watering, spread bark mulch as shown to uniform depths as shown on drawings.

E. Edging: Provide a clean-cut edge around all plant beds as indicated on the drawings.

F. Providing Water: Provide and distribute water for maintaining proper moisture in the soil. In the event that an irrigation system is operational and provides coverage, the system shall be managed by the contractor to deliver the proper amount of water.

G. Anti-Desiccant: Spray all trees and shrubs with one (1) application of anti-desiccant in accordance with manufacturer's directives. Apply protective film over all parts of branches, twigs and foliage. Spray only when the temperatures are forecasted to be above 40 degrees F. for at least 24 hours. The time of application shall be as follows, unless otherwise approved:

1. Evergreen: Apply within ten (10) days after planting, once in the fall and once during the winter.

3.05 PROTECTION

A. Provide protection against trespassing and damage for all planted areas. If any areas are damaged or injured, they shall be treated or replaced as required at the expense of the Contractor.

B. Protect all slopes and bare ground from damage due to erosion, sunlight, settlement of backfill, construction activity, or other causes. Use of cover crops such as annual rye grass, hatter boards, netting, straw, mulch etc. shall be left up to the Contractor's discretion, but shall be subject to approval of the Landscape Architect for appearance, durability and effectiveness. Repair any damage promptly.

3.06 CLEANING

A. Remove from the property all excavated subsoil and all other debris including but not limited to branches, rocks, paper, and rubbish in all contract areas as the work proceeds. All areas shall be kept clean, neat and in orderly condition at all times.

B. Prior to Provisional Acceptance, clean up the entire area to the satisfaction of the Owner's Representative or Landscape Architect.

3.07 MAINTENANCE

A. Prior to Provisional Acceptance, maintain all planting as follows.

1. Check for water requirements once each week and irrigate as necessary or as directed by the Owner's Representative or Landscape Architect. During drought periods irrigate as necessary. Sufficient water shall be added to thoroughly wet the roots.
2. Remove weeds within the mulched area around each tree and each shrub, groundcover, perennial or vine area every two weeks during the growing season. Under no circumstances shall weeds and grass be allowed to attain more than 6" of growth.
3. Insect and Disease infested plants are signals that the plants are not healthy. These plants should be removed and replaced with extra care that healthy plants are provided in their place and the proper drainage and soil preparation is performed.
4. Prune plants, adjust and repair stakes, anchors, and wire and replace mulch as required. The amount of pruning to be limited to the minimum necessary to remove dead wood or injured twigs or branches and to compensate for loss of roots as the result of transplanting operations. All cuts to be made flush outside the collar, leaving no stubs. Prune all new deciduous trees and shrubs as acceptable to the Landscape Architect. Prune all trees' lower canopies to the Landscape Architect's Specification. All pruning is to be done by a certified arborist.
5. Replace and Replant all dead, dying, unhealthy or unsightly plants.

B. During the Guarantee Period.

1. Following Provisional Acceptance, the Owner shall maintain all Plantings.
2. Maintenance Schedule: Submit to the Landscape Architect or Owner's Representative for approval a schedule of care for the planting to be executed by the Landscape Architect or Owner's Representative during the one-year guarantee period.
3. Maintenance Inspections: During the guarantee period, make plant maintenance inspections.

3.08 ACCEPTANCE/PAYMENT

A. Provisional Acceptance:

1. Upon completion of all remedial or additional work which may have been required by interim inspections by the Owner's Representative or Landscape Architect during the construction period, and on written request by the Contractor at least 2 weeks before the anticipated date of inspection, the Owner's Representative or Landscape Architect shall inspect all work for provisional acceptance.
2. The Owner's Representative or Landscape Architect shall certify in writing to the Owner whether the work is provisionally acceptable.
3. The Owner's Representative or Landscape Architect may at his/her discretion certify a Partial Provisional Acceptance under which the value of any work that has not been completed or is not otherwise provisionally accepted shall be deducted from the payment in addition to the replacement value.

B. Final Acceptance:

1. At the end of the guaranteed period following the satisfactory completion of all remedial work, remove and dispose of off-site all guys, wired, rubber hose sections, stakes and tree wrap.
2. Upon written request by the Contractor, the Owner's Representative or Landscape Architect shall inspect the planting for final acceptance.
3. The Owner's Representative or Landscape Architect shall certify in writing to the Owner whether the work is finally acceptable, and, if so, the Final Payment of the unpaid balance shall be made to the Contractor on submittal of Payment Requests.

3.09 GUARANTEE

A. For a period of one year after Provisional Acceptance of all planting and at no additional cost to the Owner, replace any plants that are dead or, in the opinion of the Owner's Representative or Landscape Architect, are in an unhealthy, diseased, insect infested or unsightly condition, or have lost natural shape due to dead branches, excessive pruning, or inadequate or improper maintenance.

B. All replacement planting shall be done as soon as possible after the plant has been certified by the Owner's Representative or Landscape Architect as unacceptable and weather and season permit.

C. Replace planting in accordance with the original specifications. All areas damaged or soiled by replacement operations are to be fully restored to their original condition.

END OF SECTION 02490

LN-02
Planting Specifications

Silo Ridge Field Club
4651 Route 22
Amenia, NY

PERMIT SET

July 1, 2025

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Project Reference Notes:

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Revisions:

Date:	Issue:
10/30/25	3. Overall plan revision
12/09/25	5. Overall plan revision

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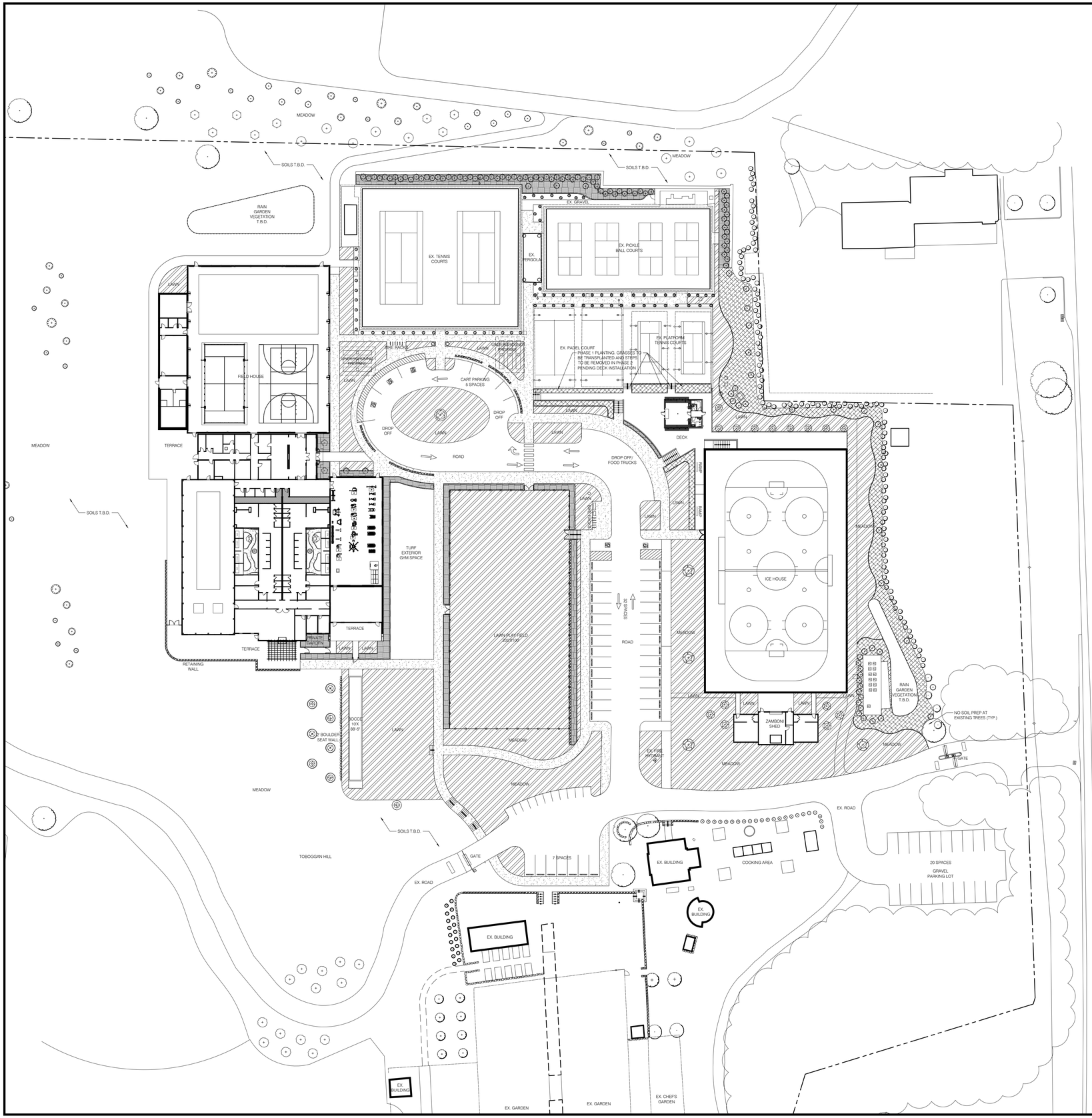

Soil Condition Notes:

1. It is the responsibility of the Contractor to be aware of all soil, surface and subsurface and drainage conditions, and to notify L.A. in writing, of any circumstances that would negatively impact the health of plantings. Do not proceed with work until unsatisfactory conditions have been corrected.

2. Should subsurface drainage or soil conditions be encountered which would be detrimental to growth or survival of plant material, the Contractor shall notify the L.A. in writing, stating the conditions and submit a proposal covering cost of corrections. If the Contractor fails to notify the L.A. of such conditions, they shall remain responsible for plant material under the warrantee clause of the specifications.

3. Drainage tests: Should the possibility of poor drainage become evident, a percolation test should be performed as follows:
   - 3.1. With a shovel or posthole digger, dig hole 18" to 24" deep. Hole diameter should be a minimum of 4 inches. The diameter of the hole should be uniform from top to bottom with the bottom being flat.
   - 3.2. Fill hole with water to the top and let stand for at least an hour to pre-wet the soil.
   - 3.3. Refill hole to within a couple inches of the top. Do not overflow the hole.
   - 3.4. To aid in measurement, place a stick across the top of the hole and use a ruler or measuring tape to mark periodic drops in water level.
   - 3.5. Allow the hole to drain for at least one hour. A longer period of time (2 to 3 hours will give a more accurate reading of average percolation rates.
   - 3.6. Determine average drop in water level per hour. Acceptable soil should drains at a rate of more than one inch per hour. If the percolation rate does not meet or exceed 1" per hour discuss remediation with L.A.

Soil Preparation Notes:

1. Strip existing topsoil and stockpile on site. Topsoil to be incorporated back into the soil at a later date. Contractor to conduct a soil evaluation to determine the soil's composition, compaction rate, nutrient qualities, organic content, PH levels, and water holding capabilities. The ideal particle soil mix is approximately 45% sand, 40% silt, 10% clay and 5% organic material with a PH level near 7.0.

2. Perform soil preparation in all disturbed areas and as specified, review area in field with L.A.

3. Preserve all site utilities and features to remain including major tree roots. No soil to be removed or added within dripline or roots of existing trees unless required by L.A.

4. Suitable existing soil may remain in place with appropriate scarifying, testing and amendments, if required.

5. Topsoil requirements: stockpiled topsoil and supplied topsoil must meet the following requirements:
   - 5.1. No stones or debris larger than 2" screening will be required.
   - 5.2. Provide samples of supplied topsoil
   - 5.3. Provide testing including amendment recommendations for supplied and stockpiled topsoil for approval by L.A. Supplied soil must be approved prior to delivery.
   - 5.4. Provide itemized proposal for all additional required topsoil and any required amendments.

6. At project completion: Remove all crushed stone, geotextile fabric and similar comprising construction access/staging surfaces and anti-track pad. Dispose of off-site in a legal manner.

Soil Decompaction Notes:

1. Preserve existing soil profile from disturbance or compaction wherever possible. The best method to avoid soil compaction is to KEEP OFF, this includes restricting all traffic both vehicular and pedestrian access. No material storage of any kind or parking below trees canopy and septic/ reserve septic areas. Protection fencing should be used as required.

2. Contractor to de-compact soils in planting areas by roto-tilling, disking or ripping to a depth of 6-8" and preferably 8-12". Beds enclosed by masonry or areas adjacent to the house may require decompaction to 18" or more and then installed loosely installed with required amendments. All construction debris and stones over 2" must be removed from soil to the full bed depth, to the extent of undisturbed subgrade. The use of crushed material in beds or lawn is not permitted without direct authorization from L.A.

3. When performing soil de-compaction, multiple passes across the area will be required and, when possible, should be at varying angles to ensure adequate coverage. When using disc or ripping equipment, it is required that the final passes over the area be made with a roto-tiller to break up any large clumps to facilitate final grading.

4. After initial soil de-compaction procedures are performed, soil amendments should be added. The addition of soil amendments is determined from soil tests conducted prior to work commencing. Soil amendments may include inorganic material such as sand, silt or clay, which help improve soil texture. Organic material such as compost, manure, and peat moss may also be used.

5. To improve soil structure, other amendments such as fertilizer will improve nutrient content and sulfur adjusts the soil PH level. Sulfur shall be incorporated at the rate of one pound of sulfur per 100 square feet.

6. All amendments should be mixed thoroughly with existing soil and an additional soil test will be taken to ensure proper soil conditions prior to planting.

7. During the remainder of the landscape installation, various areas of the site may be re-compacted. Due to the use of equipment and vehicles. This compaction is typically limited to the upper 4-6" of the soil. Prior to the installation of plant materials in these areas, the compaction shall be reduced to 80% or less using previously described methods. Prior to the installation of plant material in these areas, the compaction shall be reduced to 80% or less using previously described methods.

Soil Subgrade Notes:

1. Existing and supplemental subsoil must be free of debris and suitable for plant growth.

L 2.0
Soil Requirement Plan

Silo Ridge Field Club
4651 Route 22
Amenia, NY

PERMIT SET

July 1, 2025

BC|LA
BROOK CLARK LANDSCAPE ARCHITECTS
75 GLEN ROAD, SUITE 312
SANDY HOOK, CT 06482

203.275.9255
hello@brookclark.com

Legend

- Lawn And Meadow Areas: 4" minimum topsoil depth
- Plant Beds: 6" minimum topsoil depth
- Enclosed Plant Beds: 12" minimum topsoil depth

REGISTERED LANDSCAPE ARCHITECT
BROOK CLARK
3284
STATE OF NEW YORK

NOT FOR CONSTRUCTION

Project Reference Notes:

1. SURVEY, TOPOGRAPHIC, AND UTILITY DATA FROM PLAN ENTITTLED "SILAND - EX CONDITIONS" BY VHB ENGINEERING DATED 07/08/2021.

Revisions:

Date:	Issue:
10/30/25	3. Overall plan revision
12/09/25	5. Overall plan revision

NORTH

0 20 40 80
SCALE: 1"=40'

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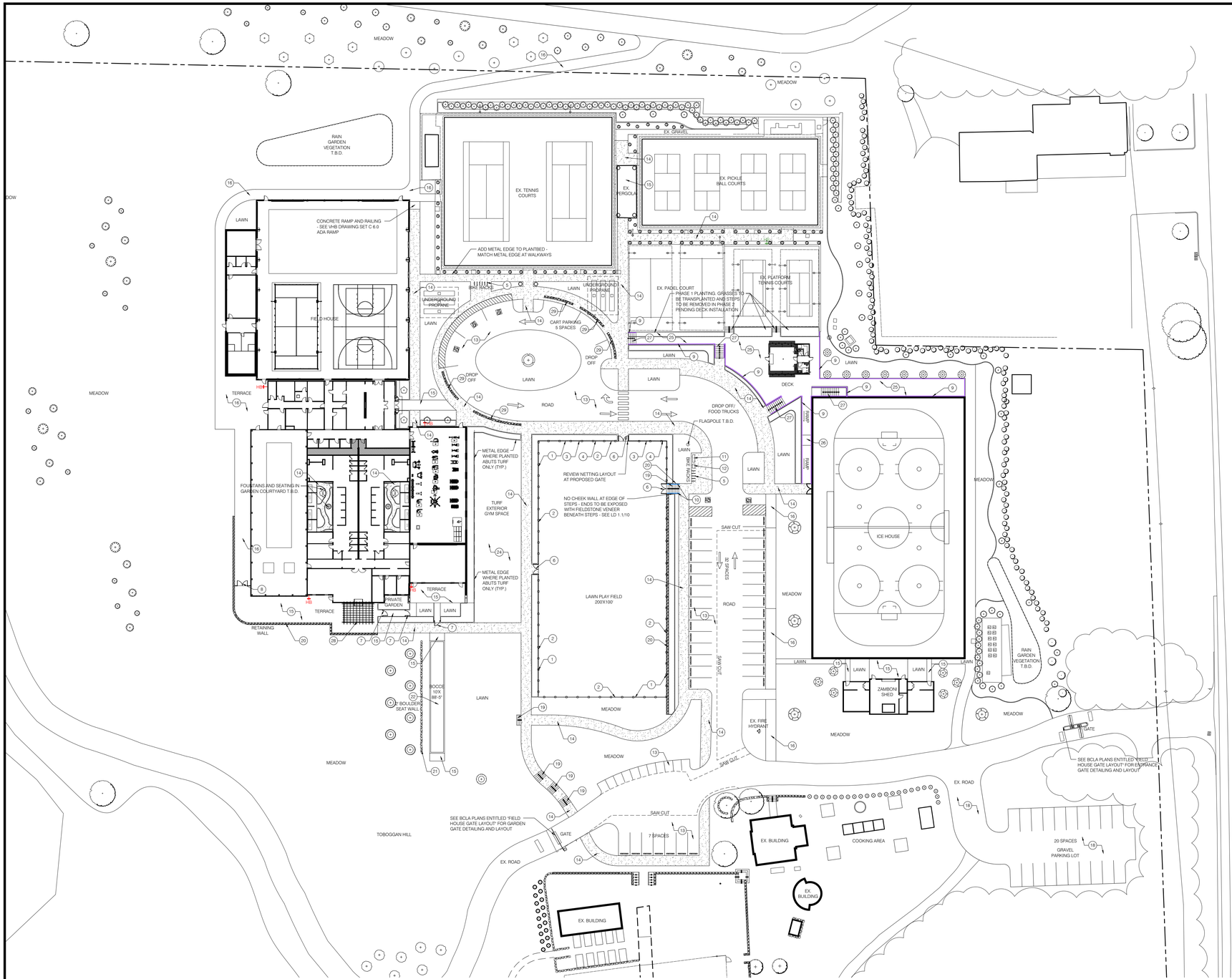

Material Notes:

1. All samples and mock ups must be submitted for L.A. and client approval. All samples and mock ups must be independent of project work and must remain in place for the entirety of construction.
2. Samples and mock ups must represent the full range and finish of the stone/material. Material and appearance that deviates from the approved sample must be replaced at the contractors expense.
3. Mortar color to be selected by L.A. and Owner. Provide in-place samples for approval for all masonry conditions.
4. Verify all paving conditions and joint alignments with L.A. prior to ordering material. Provide shop drawings for approval. No mitered corners. All staggered joints to have 6" minimum offset.
5. Stones to be equal lengths along each single banding/coping run unless noted otherwise. Each step tread to be single stone unless noted otherwise.

DETAIL REFERENCE LIST

LD-1.1

	MATERIALS LIST	REQUIRED SAMPLE/MOCKUP LIST
	LD-1.1	LD-1.1
1	CHAIN LINK FENCE 1/LD-1.1	BLACK, POWDER COATED, CHAIN LINK	SAMPLE
2	CHAIN LINK FENCE TOP RAIL AND POST PADDING 2/LD-1.1	SPORTSFIELD SPECIALTIES - BASEZONE PADDING, COLOR T.B.D.	SAMPLE
3	PULLEY AND VERTICAL SLIDE CABLE SYSTEM 3/LD-1.1	SPORTSFIELD SPECIALTIES - BREAK-AWAY BALL SAFETY NETTING SYSTEM	SAMPLE
4	NETTING MESH 4/LD-1.1	SPORTSFIELD SPECIALTIES - BSSNUC ULTRA CROSS KNOTTLESS NETTING	SAMPLE
5	BIKE RACK 5/LD-1.1	BELSON OUTDOORS - SQUARE TUBE CIRCULAR BIKE RACK. STAINLESS STEEL CBBR-2CS-SS	N/A
6	CHAIN LINK DOUBLE GATE 6/LD-1.1	BLACK, POWDER COATED, CHAIN LINK	INCLUDED ABOVE
7	SOLID WOOD SINGLE GATE 7/LD-1.1	STK WHITE CEDAR, SNUG COTTAGE HARDWARE - SEE DETAIL	SAMPLE, HARDWARE SAMPLE
8	SOLID WOOD DOUBLE GATE 8/LD-1.1	STK WHITE CEDAR, SNUG COTTAGE HARDWARE - SEE DETAIL	INCLUDED ABOVE
9	RAILING AT DECK 9/LD-1.1	IPE, ALT: TIMBERTECH 1/8" STAINLESS STEEL WIRE	DECK AND WIRE SAMPLE
10	RAILING AT STEPS 10/LD-1.1	STAINLESS STEEL	N/A
11	BENCH 11/LD-1.1	T.B.D.	N/A
12	GARBAGE CAN 12/LD-1.1	T.B.D.	N/A

DETAIL REFERENCE LIST

LD-1.2

	MATERIALS LIST	REQUIRED SAMPLE/MOCKUP LIST
	LD-1.2	LD-1.2
13	ASPHALT 13/LD-1.2	ASPHALT - SEE VHB DRAWING SET	N/A
14	RESIN BOUND AGGREGATE WITH METAL EDGE 14/LD-1.2	3/8" NATIVE PEASTONE, BY HENRI HILLMAN, HENRI@ROMEXHARDSCAPES.COM 3/8" BLACK STEEL ALT: CONCRETE SEE VHB DRAWING SET	SAMPLE
15	STONE ON CONCRETE 15/LD-1.2	1.25" BLUESTONE, NATURAL CLEFT, RANDOM RECTANGULAR PATTERN, ALT: CONCRETE	SAMPLE
16	CONCRETE PAVING 16/LD-1.2	CONCRETE - SEE VHB DRAWING SET	N/A
17	PLAYGROUND MULCH 17/LD-1.2	ENGINEERED WOOD FIBER PLAY MULCH, ALT: RUBBERIZED SURFACE T.B.D.	SAMPLE
18	GRAVEL DRIVE 18/LD-1.2	1/4" GRAVEL	SAMPLE
19	TREAD AND RISER STEPS 19/LD-1.2	2" THICK BLUESTONE TREAD - ROCKED FACE, THERMAL TOP, FIELDSTONE RISE, ALT: CONCRETE - SEE VHB DRAWING SET	INCLUDED ABOVE
20	RETAINING WALL 20/LD-1.2	FIELDSTONE, ALT: REUSE SITE BOULDERS, SUPPLEMENT AS NEEDED	3'X5' MOCK UP SHOWING FULL COLOR RANGE
21	BOULDER RETAINING WALL 21/LD-1.2	REUSE SITE BOULDERS, SUPPLEMENT AS NEEDED	N/A
22	BOCCE COURT 22/LD-1.2	PACIFIC PEARL SURFACE, 2" BLUESTONE CAP - ROCKED FACE, THERMAL TOP, 2"X6" STK WHITE CEDAR	SAMPLE
~~23~~	~~STONE BENCH 23/LD-1.2 - OMIT~~	~~CASCADE STONE WORKS - 1' 6"X1' 2"X6' MONOLITHIC GRANITE~~	~~N/A~~
24	ARTIFICIAL TURF 24/LD-1.2	BY LANDSCAPES BY FOREVER LAWN - FOREVER LAWN SYNTHETIC GRASS SYSTEM OR APPROVED EQUAL	SAMPLE
	LD-1.3	LD-1.3	LD-1.3
25	DECK 25/LD-1.3	IPE, ALT: TIMBERTECH	SAMPLE
26	DECK RAMP 26/LD-1.3	IPE, ALT: TIMBERTECH	INCLUDED ABOVE
27	DECK STEPS 27/LD-1.3	IPE, ALT: TIMBERTECH	INCLUDED ABOVE
28	PERGOLA 28/LD-1.3	MATCH EXISTING PERGOLA AT TENNIS COURTS - NO ROOF	N/A
29	FREESTANDING WALL 29/LD-1.3	FIELDSTONE, 4" SAGER STONE CAP	INCLUDED ABOVE

L 4.0
Overall Materials Plan

Silo Ridge Field Club
4651 Route 22
Amenia, NY

PERMIT SET

July 1, 2025

BC|LA
BROOK CLARK LANDSCAPE ARCHITECTS
75 GLEN ROAD, SUITE 312
SANDY HOOK, CT 06482

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hello@brookclark.com

Legend

- Proposed Stone Wall
- Resin Bound Aggregate Paving
- Step Indicator
- Existing Hose Bib (HB)
- Proposed Hose Bib (HB)
- Proposed Fence
- Proposed Gate
- Proposed Deck Railing
- Proposed Step Railing

REGISTERED LANDSCAPE ARCHITECT BROOK CLARK 3284 STATE OF NEW YORK

SEE PLAN SET BY VHB ENGINEERS ENTITLED "SILAND RECREATION FACILITY" FOR LAYOUT AND GRADING PLANS

SEE L 4.1 AND 4.2 ENLARGEMENT PLANS

NOT FOR CONSTRUCTION

Project Reference Notes:

1. SURVEY, TOPOGRAPHIC, AND UTILITY DATA FROM PLAN ENTITTLED "SILAND - EX CONDITIONS" BY VHB ENGINEERING DATED 07/08/2021.

Revisions:

Date:	Issue:
10/30/25	3. Overall plan revision
12/09/25	5. Overall plan revision

NORTH

SCALE: 1"=40'

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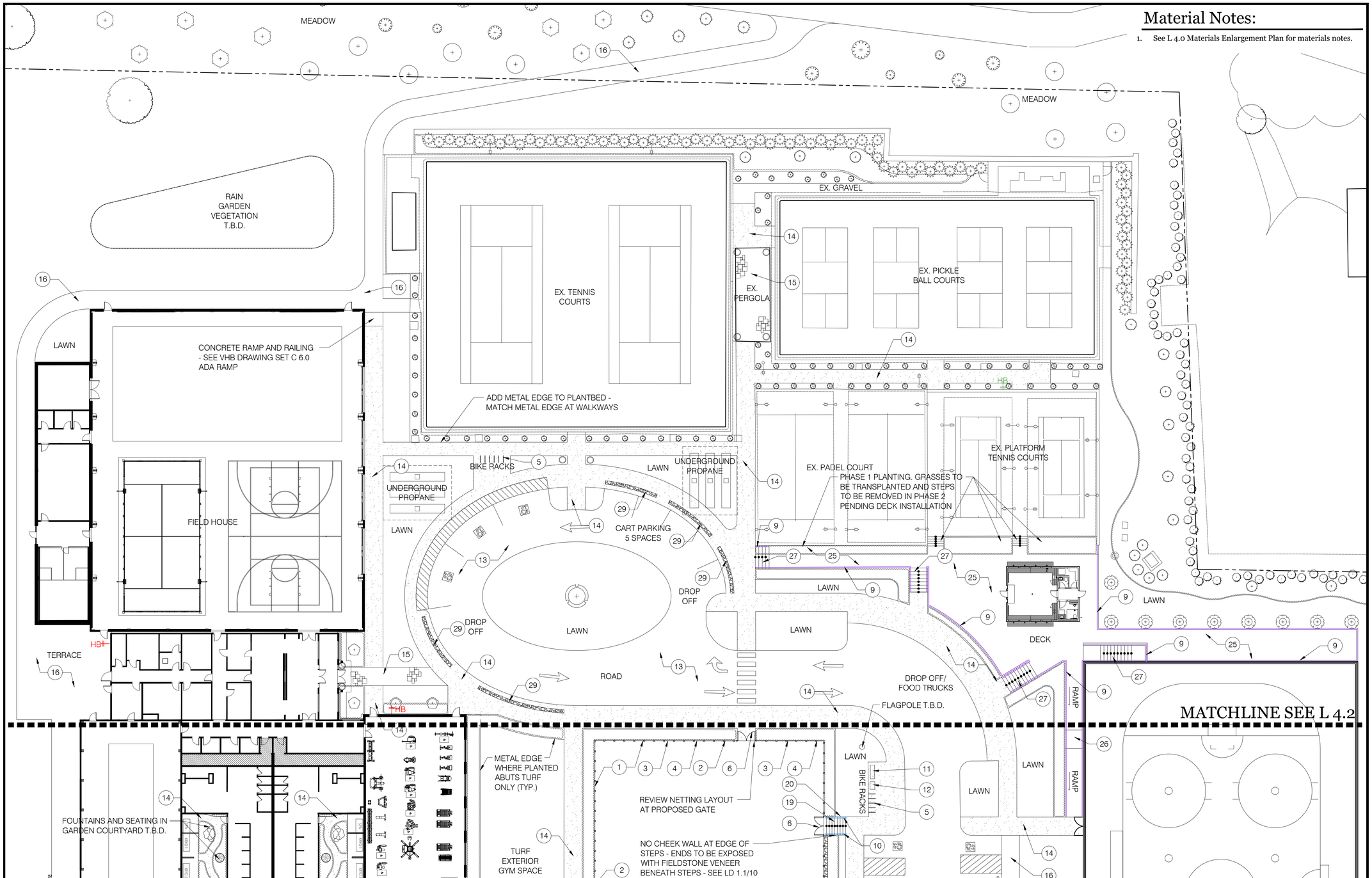

Material Notes:

1. See L 4.0 Materials Enlargement Plan for materials notes.

DETAIL REFERENCE LIST

LD-1.1

1	CHAIN LINK FENCE 1/LD-1.1	BLACK, POWDER COATED, CHAIN LINK
2	CHAIN LINK FENCE TOP RAIL AND POST PADDING 2/LD-1.1	SPORTSFIELD SPECIALTIES - BASEZONE PADDING, COLOR T.B.D.
3	PULLEY AND VERTICAL SLIDE CABLE SYSTEM 3/LD-1.1	SPORTSFIELD SPECIALTIES - BREAK-AWAY BALL SAFETY NETTING SYSTEM
4	NETTING MESH 4/LD-1.1	SPORTSFIELD SPECIALTIES - BSSNUC ULTRA CROSS KNOTTLESS NETTING
5	BIKE RACK 5/LD-1.1	BELSON OUTDOORS - SQUARE TUBE CIRCULAR BIKE RACK. STAINLESS STEEL CBBR-2CS-SS
6	CHAIN LINK DOUBLE GATE 6/LD-1.1	BLACK, POWDER COATED, CHAIN LINK
7	SOLID WOOD SINGLE GATE 7/LD-1.1	STK WHITE CEDAR, SNUG COTTAGE HARDWARE - SEE DETAIL
8	SOLID WOOD DOUBLE GATE 8/LD-1.1	STK WHITE CEDAR, SNUG COTTAGE HARDWARE - SEE DETAIL
9	RAILING AT DECK 9/LD-1.1	IPE, ALT: TIMBERTECH 1/8" STAINLESS STEEL WIRE
10	RAILING AT STEPS 10/LD-1.1	STAINLESS STEEL
11	BENCH 11/LD-1.1	T.B.D.
12	GARBAGE CAN 12/LD-1.1	T.B.D.

MATERIALS LIST

LD-1.1

BLACK, POWDER COATED, CHAIN LINK	SAMPLE
SPORTSFIELD SPECIALTIES - BASEZONE PADDING, COLOR T.B.D.	SAMPLE
SPORTSFIELD SPECIALTIES - BREAK-AWAY BALL SAFETY NETTING SYSTEM	SAMPLE
SPORTSFIELD SPECIALTIES - BSSNUC ULTRA CROSS KNOTTLESS NETTING	SAMPLE
BELSON OUTDOORS - SQUARE TUBE CIRCULAR BIKE RACK. STAINLESS STEEL CBBR-2CS-SS	N/A
BLACK, POWDER COATED, CHAIN LINK	INCLUDED ABOVE
STK WHITE CEDAR, SNUG COTTAGE HARDWARE - SEE DETAIL	SAMPLE, HARDWARE SAMPLE
STK WHITE CEDAR, SNUG COTTAGE HARDWARE - SEE DETAIL	INCLUDED ABOVE
IPE, ALT: TIMBERTECH 1/8" STAINLESS STEEL WIRE	DECK AND WIRE SAMPLE
STAINLESS STEEL	N/A
T.B.D.	N/A
T.B.D.	N/A

REQUIRED SAMPLE/MOCKUP LIST

LD-1.1

SAMPLE
SAMPLE
SAMPLE
SAMPLE
N/A
INCLUDED ABOVE
SAMPLE, HARDWARE SAMPLE
INCLUDED ABOVE
N/A
N/A
N/A
N/A

DETAIL REFERENCE LIST

LD-1.2

13	ASPHALT 13/LD-1.2
14	RESIN BOUND AGGREGATE WITH METAL EDGE 14/LD-1.2
15	STONE ON CONCRETE 15/LD-1.2
16	CONCRETE PAVING 16/LD-1.2
17	PLAYGROUND MULCH 17/LD-1.2
18	GRAVEL DRIVE 18/LD-1.2
19	TREAD AND RISER STEPS 19/LD-1.2
20	RETAINING WALL 20/LD-1.2
21	BOULDER RETAINING WALL 21/LD-1.2
22	BOCCE COURT 22/LD-1.2
~~23~~	~~STONE BENCH 23/LD-1.2 - OMIT~~
24	ARTIFICIAL TURF 24/LD-1.2

MATERIALS LIST

LD-1.2

ASPHALT - SEE VHB DRAWING SET
3/8" NATIVE PEASTONE, BY HENRI HILLMAN, HENRI@ROMEXHARDSCAPES.COM 3/8" BLACK STEEL ALT: CONCRETE SEE VHB DRAWING SET
1.25" BLUESTONE, NATURAL CLEFT, RANDOM RECTANGULAR PATTERN, ALT: CONCRETE
CONCRETE - SEE VHB DRAWING SET
ENGINEERED WOOD FIBER PLAY MULCH, ALT: RUBBERIZED SURFACE T.B.D.
1/4" GRAVEL
2" THICK BLUESTONE TREAD - ROCKED FACE, THERMAL TOP, FIELDSTONE RISE, ALT: CONCRETE - SEE VHB DRAWING SET
FIELDSTONE, ALT: REUSE SITE BOULDERS, SUPPLEMENT AS NEEDED
REUSE SITE BOULDERS, SUPPLEMENT AS NEEDED
PACIFIC PEARL SURFACE, 2" BLUESTONE CAP - ROCKED FACE, THERMAL TOP, 2"X6" STK WHITE CEDAR
~~CASCADE STONE WORKS - 4"-6"X4"-2"X6" MONOLITHIC GRANITE~~
BY LANDSCAPES BY FOREVER LAWN - FOREVER LAWN SYNTHETIC GRASS SYSTEM OR APPROVED EQUAL

REQUIRED SAMPLE/MOCKUP LIST

LD-1.2

N/A
SAMPLE
SAMPLE
N/A
SAMPLE
SAMPLE
INCLUDED ABOVE
3'X3' MOCK UP SHOWING FULL COLOR RANGE
N/A
SAMPLE
N/A
SAMPLE

LD-1.3

25	DECK 25/LD-1.3	IPE, ALT: TIMBERTECH	SAMPLE
26	DECK RAMP 26/LD-1.3	IPE, ALT: TIMBERTECH	INCLUDED ABOVE
27	DECK STEPS 27/LD-1.3	IPE, ALT: TIMBERTECH	INCLUDED ABOVE
28	PERGOLA 28/LD-1.3	MATCH EXISTING PERGOLA AT TENNIS COURTS - NO ROOF	N/A
29	FREESTANDING WALL 29/LD-1.3	FIELDSTONE, 4" SAGER STONE CAP	INCLUDED ABOVE

L 4.1
Materials Enlargement Plan

Silo Ridge Field Club
4651 Route 22
Amenia, NY

PERMIT SET

July 1, 2025

BC|LA

BROOK CLARK LANDSCAPE ARCHITECTS
75 GLEN ROAD, SUITE 312
SANDY HOOK, CT 06482

203.275.9255
hello@brookclark.com

Legend

- Proposed Stone Wall
- Resin Bound Aggregate Paving
- Step Indicator
- Existing Hose Bib (HB)
- Proposed Hose Bib (HB)
- Proposed Fence
- Proposed Gate
- Proposed Deck Railing
- Proposed Step Railing

REGISTERED LANDSCAPE ARCHITECT BROOK CLARK 3284 STATE OF NEW YORK

SEE PLAN SET BY VHB ENGINEERS ENTITLED "SILAND RECREATION FACILITY" FOR LAYOUT AND GRADING PLANS

NOT FOR CONSTRUCTION

Project Reference Notes:

1. SURVEY, TOPOGRAPHIC, AND UTILITY DATA FROM PLAN ENTITTLED "SILAND - EX CONDITIONS" BY VHB ENGINEERING DATED 07/08/2021.

Revisions:

Date:	Issue:
10/30/25	3. Overall plan revision
12/09/25	5. Overall plan revision

NORTH

SCALE: 1"=20'

0 10 20 40

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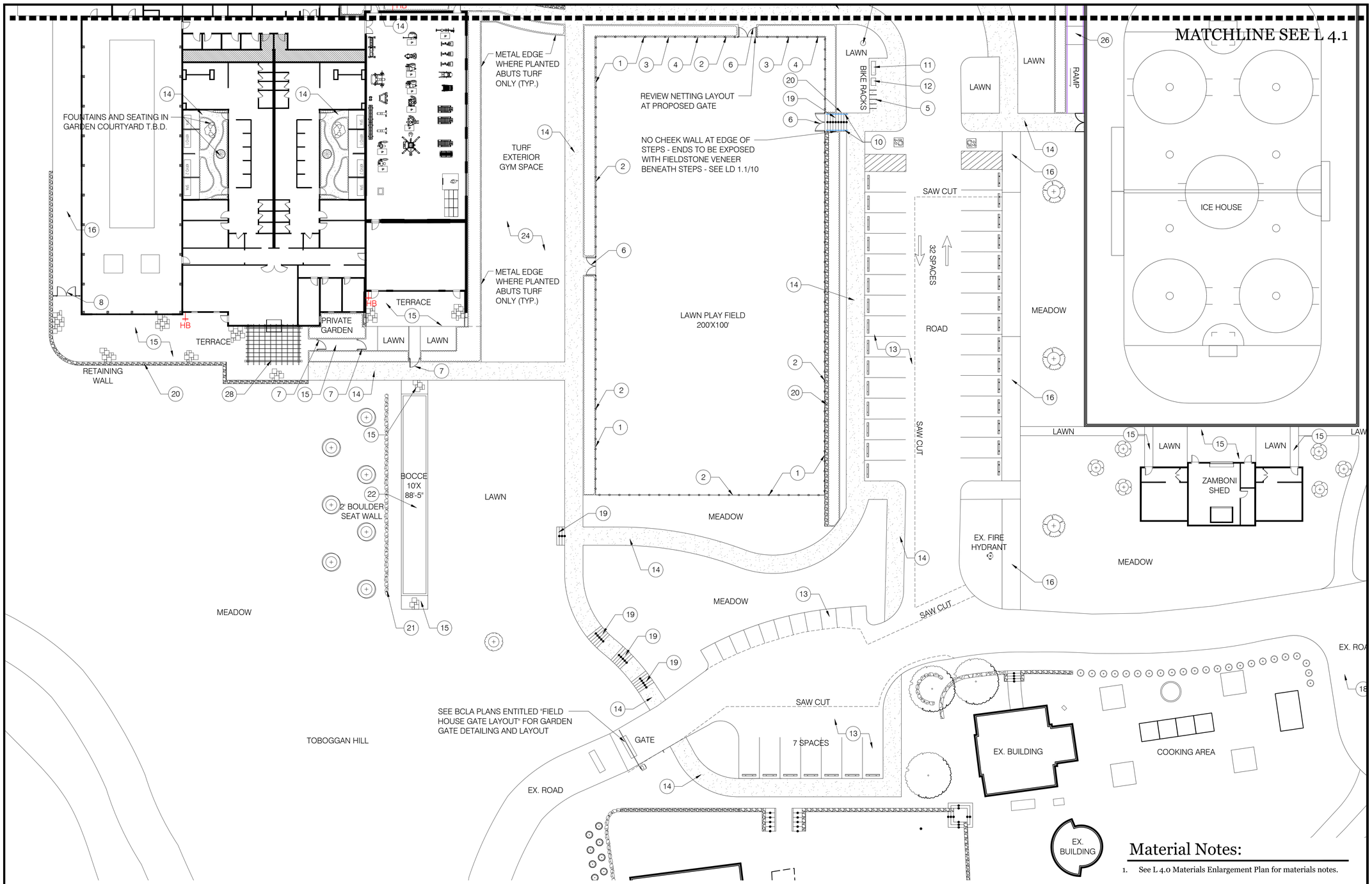

DETAIL REFERENCE LIST

LD-1.1

1	CHAIN LINK FENCE 1/LD-1.1	BLACK, POWDER COATED, CHAIN LINK	SAMPLE
2	CHAIN LINK FENCE TOP RAIL AND POST PADDING 2/LD-1.1	SPORTSFIELD SPECIALTIES - BASEZONE PADDING, COLOR T.B.D.	SAMPLE
3	PULLEY AND VERTICAL SLIDE CABLE SYSTEM 3/LD-1.1	SPORTSFIELD SPECIALTIES - BREAK-AWAY BALL SAFETY NETTING SYSTEM	SAMPLE
4	NETTING MESH 4/LD-1.1	SPORTSFIELD SPECIALTIES - BSSNUC ULTRA CROSS KNOTTLESS NETTING	SAMPLE
5	BIKE RACK 5/LD-1.1	BELSON OUTDOORS - SQUARE TUBE CIRCULAR BIKE RACK. STAINLESS STEEL CBBR-2CS-SS	N/A
6	CHAIN LINK DOUBLE GATE 6/LD-1.1	BLACK, POWDER COATED, CHAIN LINK	INCLUDED ABOVE
7	SOLID WOOD SINGLE GATE 7/LD-1.1	STK WHITE CEDAR, SNUG COTTAGE HARDWARE - SEE DETAIL	SAMPLE, HARDWARE SAMPLE
8	SOLID WOOD DOUBLE GATE 8/LD-1.1	STK WHITE CEDAR, SNUG COTTAGE HARDWARE - SEE DETAIL	INCLUDED ABOVE
9	RAILING AT DECK 9/LD-1.1	IPE, ALT: TIMBERTECH 1/8" STAINLESS STEEL WIRE	DECK AND WIRE SAMPLE
10	RAILING AT STEPS 10/LD-1.1	STAINLESS STEEL	N/A
11	BENCH 11/LD-1.1	T.B.D.	N/A
12	GARBAGE CAN 12/LD-1.1	T.B.D.	N/A

DETAIL REFERENCE LIST

LD-1.2

13	ASPHALT 13/LD-1.2	ASPHALT - SEE VHB DRAWING SET	N/A
14	RESIN BOUND AGGREGATE WITH METAL EDGE 14/LD-1.2	3/8" NATIVE PEASTONE, BY HENRI HILLMAN, HENRI@ROMEXHARDSCAPES.COM 3/8" BLACK STEEL ALT: CONCRETE SEE VHB DRAWING SET	SAMPLE
15	STONE ON CONCRETE 15/LD-1.2	1.25" BLUESTONE, NATURAL CLEFT, RANDOM RECTANGULAR PATTERN, ALT: CONCRETE	SAMPLE
16	CONCRETE PAVING 16/LD-1.2	CONCRETE - SEE VHB DRAWING SET	N/A
17	PLAYGROUND MULCH 17/LD-1.2	ENGINEERED WOOD FIBER PLAY MULCH, ALT: RUBBERIZED SURFACE T.B.D.	SAMPLE
18	GRAVEL DRIVE 18/LD-1.2	1/4" GRAVEL	SAMPLE
19	TREAD AND RISER STEPS 19/LD-1.2	2" THICK BLUESTONE TREAD - ROCKED FACE, THERMAL TOP, FIELDSTONE RISE, ALT: CONCRETE - SEE VHB DRAWING SET	INCLUDED ABOVE
20	RETAINING WALL 20/LD-1.2	FIELDSTONE, ALT: REUSE SITE BOULDERS, SUPPLEMENT AS NEEDED	3'X3' MOCK UP SHOWING FULL COLOR RANGE
21	BOULDER RETAINING WALL 21/LD-1.2	REUSE SITE BOULDERS, SUPPLEMENT AS NEEDED	N/A
22	BOCCE COURT 22/LD-1.2	PACIFIC PEARL SURFACE, 2" BLUESTONE CAP - ROCKED FACE, THERMAL TOP, 2"X6" STK WHITE CEDAR	SAMPLE
23	~~STONE BENCH 23/LD-1.2 - OMIT~~	~~CASCADE STONE WORKS - 4'-6"H, 2"X6" MONOLITHIC GRANITE~~	N/A
24	ARTIFICIAL TURF 24/LD-1.2	BY LANDSCAPES BY FOREVER LAWN - FOREVER LAWN SYNTHETIC GRASS SYSTEM OR APPROVED EQUAL	SAMPLE

LD-1.3

25	DECK 25/LD-1.3	IPE, ALT: TIMBERTECH	SAMPLE
26	DECK RAMP 26/LD-1.3	IPE, ALT: TIMBERTECH	INCLUDED ABOVE
27	DECK STEPS 27/LD-1.3	IPE, ALT: TIMBERTECH	INCLUDED ABOVE
28	PERGOLA 28/LD-1.3	MATCH EXISTING PERGOLA AT TENNIS COURTS - NO ROOF	N/A
29	FREESTANDING WALL 29/LD-1.3	FIELDSTONE, 4" SAGER STONE CAP	INCLUDED ABOVE

Material Notes:

1. See L 4.0 Materials Enlargement Plan for materials notes.

L 4.2
Materials Enlargement Plan

Silo Ridge Field Club
4651 Route 22
Amenia, NY

PERMIT SET

July 1, 2025

BC|LA
BROOK CLARK LANDSCAPE ARCHITECTS
75 GLEN ROAD, SUITE 312
SANDY HOOK, CT 06482

203.275.9255
hello@brookclark.com

Legend

- Proposed Stone Wall
- Resin Bound Aggregate Paving
- Step Indicator
- Existing Hose Bib (HB)
- Proposed Hose Bib (HB)
- Proposed Fence
- Proposed Gate
- Proposed Deck Railing
- Proposed Step Railing

REGISTERED LANDSCAPE ARCHITECT BROOK CLARK 3284 STATE OF NEW YORK

SEE PLAN SET BY VHB ENGINEERS ENTITLED "SILAND RECREATION FACILITY" FOR LAYOUT AND GRADING PLANS

NOT FOR CONSTRUCTION

Project Reference Notes:

1. SURVEY, TOPOGRAPHIC, AND UTILITY DATA FROM PLAN ENTITTLED "SILAND - EX CONDITIONS" BY VHB ENGINEERING DATED 07/08/2021.

Revisions:

Date:	Issue:
10/30/25	3. Overall plan revision
12/09/25	5. Overall plan revision

NORTH

SCALE: 1"=40'
0 20 40 80

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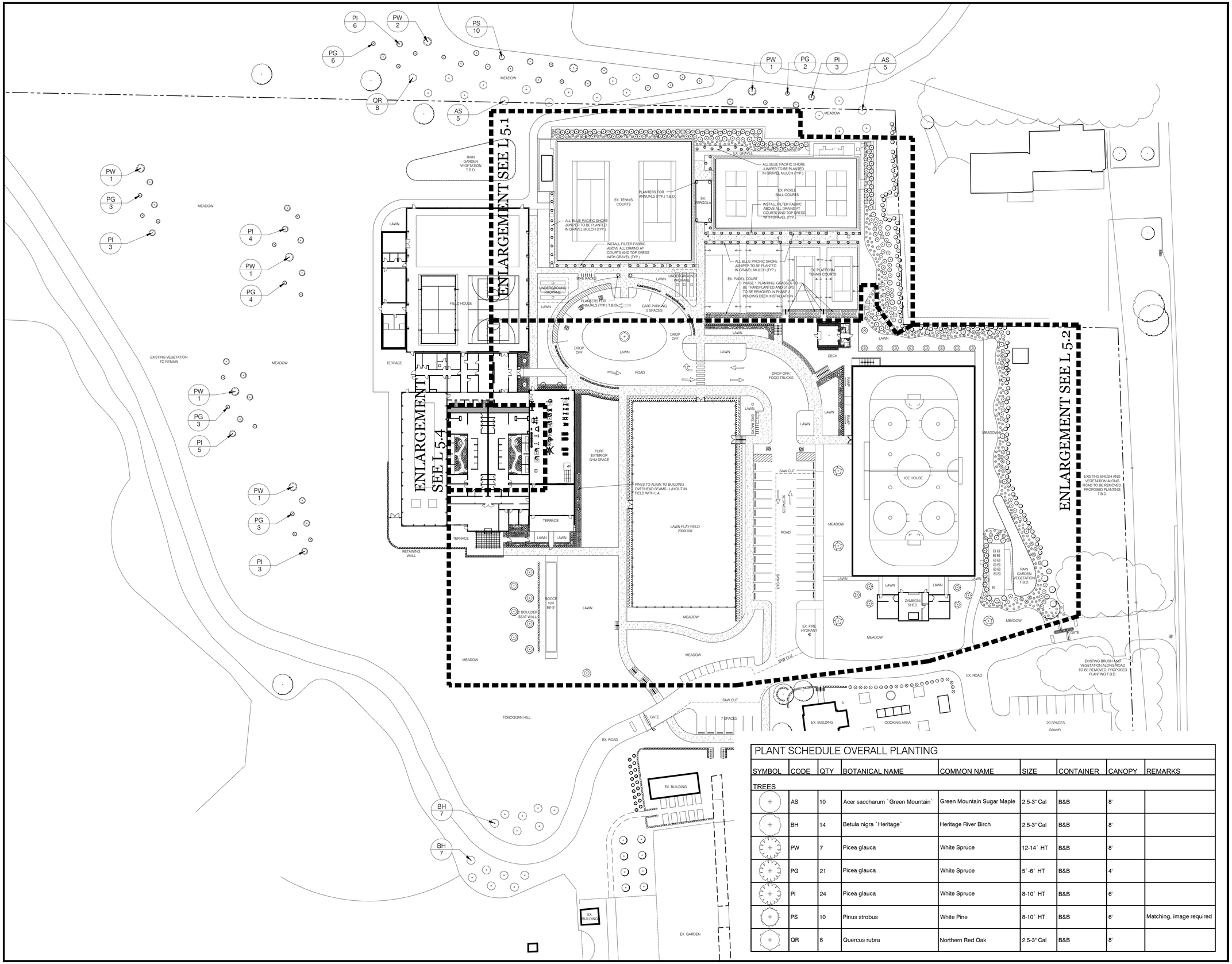

PLANT SCHEDULE OVERALL PLANTING

SYMBOL	CODE	QTY	BOTANICAL NAME	COMMON NAME	SIZE	CONTAINER	CANOPY	REMARKS
TREES								
	AS	10	Acer saccharum `Green Mountain`	Green Mountain Sugar Maple	2.5-3" Cal	B&B	8'	
	BH	14	Betula nigra `Heritage`	Heritage River Birch	2.5-3" Cal	B&B	8'	
	PW	7	Picea glauca	White Spruce	12-14` HT	B&B	8'	
	PG	21	Picea glauca	White Spruce	5`-6` HT	B&B	4'	
	PI	24	Picea glauca	White Spruce	8-10` HT	B&B	6'	
	PS	10	Pinus strobus	White Pine	8-10` HT	B&B	6'	Matching, image required
	QR	8	Quercus rubra	Northern Red Oak	2.5-3" Cal	B&B	8'	

L 5.0
Planting Plan

Silo Ridge Field Club
4651 Route 22
Amenia, NY

PERMIT SET

July 1, 2025

BC|LA
BROOK CLARK LANDSCAPE ARCHITECTS
75 GLEN ROAD, SUITE 312
SANDY HOOK, CT 06482

203.275.9255
hello@brookclark.com

Legend

- Existing Tree
- Existing Shrub
- T — Existing Tree To Be Transplanted
- ✕ — Existing Tree To Be Removed
- Proposed Deciduous Tree
- Proposed Evergreen Tree

REGISTERED LANDSCAPE ARCHITECT · BROOK CLARK · 3284 · STATE OF NEW YORK

NOT FOR CONSTRUCTION

Project Reference Notes:

1. SURVEY, TOPOGRAPHIC, AND UTILITY DATA FROM PLAN ENTITLED "SILAND - EX CONDITIONS" BY VHB ENGINEERING DATED 07/08/2021.

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NORTH

SCALE: 1"=40'

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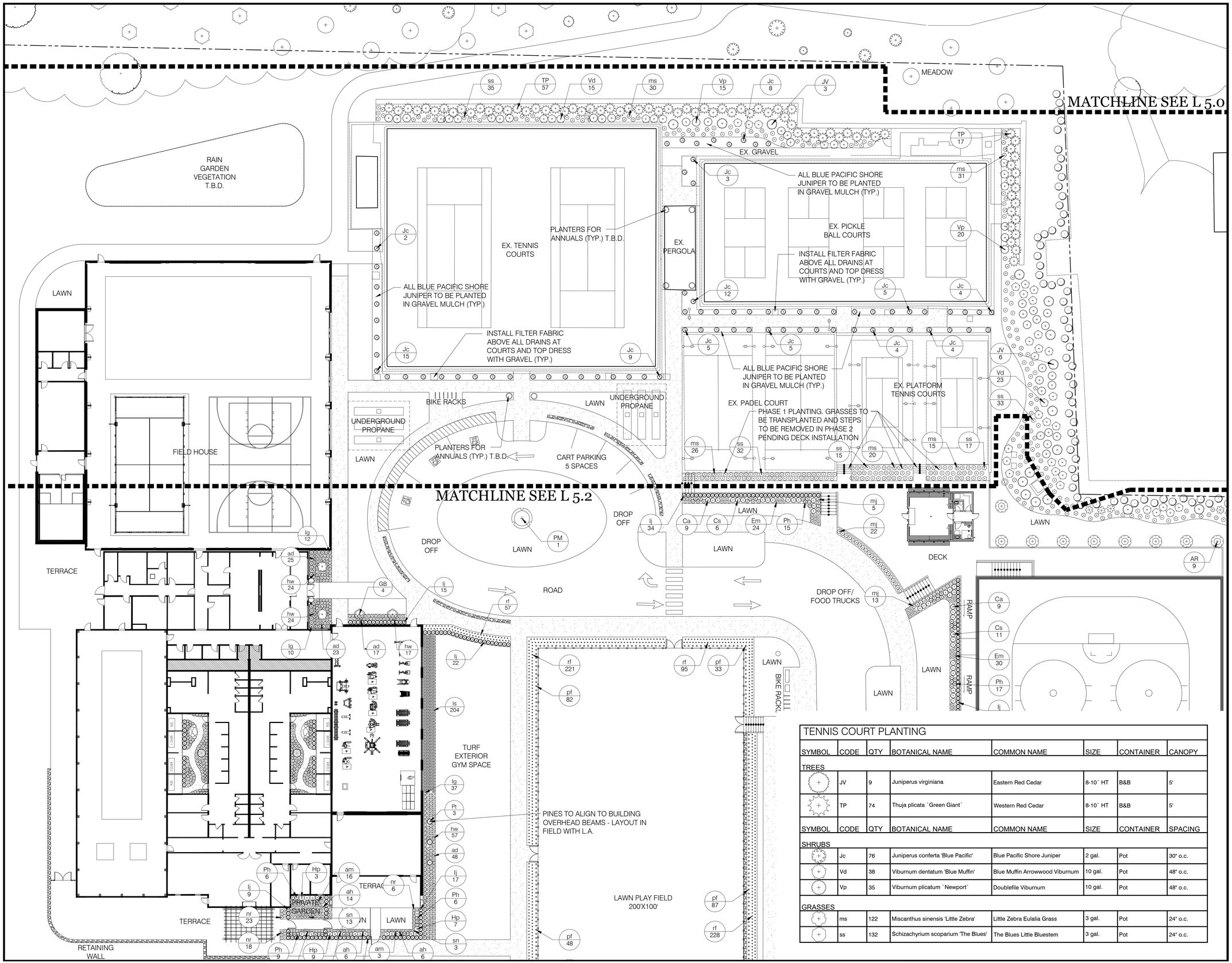

L 5.1
Planting Enlargement Plan

Silo Ridge Field Club
4651 Route 22
Amenia, NY

PERMIT SET

July 1, 2025

BC|LA

BROOK CLARK LANDSCAPE ARCHITECTS
75 GLEN ROAD, SUITE 312
SANDY HOOK, CT 06482

203.275.9255
hello@brookclark.com

Legend

- Existing Tree
- Existing Shrub
- T — Existing Tree To Be Transplanted
- × — Existing Tree To Be Removed
- Proposed Deciduous Tree
- Proposed Evergreen Tree

REGISTERED LANDSCAPE ARCHITECT — BROOK CLARK — 3284 — STATE OF NEW YORK

NOT FOR CONSTRUCTION

Project Reference Notes:

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Revisions:

Date:	Issue:
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12/09/25	5. Overall plan revision

NORTH

SCALE: 1"=20'

0 10 20 40

TENNIS COURT PLANTING

SYMBOL	CODE	QTY	BOTANICAL NAME	COMMON NAME	SIZE	CONTAINER	CANOPY
TREES							
	JV	9	Juniperus virginiana	Eastern Red Cedar	8-10` HT	B&B	5'
	TP	74	Thuja plicata `Green Giant`	Western Red Cedar	8-10` HT	B&B	5'
SYMBOL	CODE	QTY	BOTANICAL NAME	COMMON NAME	SIZE	CONTAINER	SPACING
SHRUBS							
	Jc	76	Juniperus conferta 'Blue Pacific'	Blue Pacific Shore Juniper	2 gal.	Pot	30" o.c.
	Vd	38	Viburnum dentatum 'Blue Muffin'	Blue Muffin Arrowwood Viburnum	10 gal.	Pot	48" o.c.
	Vp	35	Viburnum plicatum `Newport`	Doublefile Viburnum	10 gal.	Pot	48" o.c.
GRASSES							
	ms	122	Miscanthus sinensis 'Little Zebra'	Little Zebra Eulalia Grass	3 gal.	Pot	24" o.c.
	ss	132	Schizachyrium scoparium 'The Blues'	The Blues Little Bluestem	3 gal.	Pot	24" o.c.

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L 5.2
Planting Enlargement Plan

Silo Ridge Field Club
4651 Route 22
Amenia, NY

PERMIT SET

July 1, 2025

BC|LA
BROOK CLARK LANDSCAPE ARCHITECTS
75 GLEN ROAD, SUITE 312
SANDY HOOK, CT 06482

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hello@brookclark.com

Legend

- Existing Tree
- Existing Shrub
- T — Existing Tree To Be Transplanted
- × — Existing Tree To Be Removed
- Proposed Deciduous Tree
- Proposed Evergreen Tree

MATCHLINE SEE L 5.1

SEE L 5.4

SEE L 5.3 FOR PLANT SCHEDULE

NOT FOR CONSTRUCTION

Project Reference Notes:

1. SURVEY, TOPOGRAPHIC, AND UTILITY DATA FROM PLAN ENTITLED "SILAND - EX CONDITIONS" BY VHB ENGINEERING DATED 07/08/2021.

Revisions:

Date:	Issue:
10/30/25	3. Overall plan revision
12/09/25	5. Overall plan revision

NORTH

SCALE: 1"=20'

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PLANT SCHEDULE BACKYARD

SYMBOL	CODE	QTY	BOTANICAL NAME	COMMON NAME	SIZE	CONTAINER	CANOPY	REMARKS
TREES								
	AR	9	Acer rubrum 'Armstrong'	Armstrong Red Maple	2.5-3" Cal	B&B	6'	Matching, images required
	CJ	7	Cercidiphyllum japonicum	Katsura Tree	3-3.5" cal.	B&B	8'	
	GB	4	Ginkgo biloba 'Fastigiata'	Fastigiate Maidenhair Tree	2.5-3" Cal	B&B	5'	
	JV	21	Juniperus virginiana	Eastern Red Cedar	8-10` HT	B&B	5'	Matching, image required
	MA	6	Malus x 'Adams'	Adams Crabapple	3-3.5" cal.	B&B	7'	
	PM	1	Platanus x acerifolia 'Morton Circle'	Exclamation London Plane Tree	10" cal.	B&B	10'	
	QP	4	Quercus palustris	Pin Oak	4-5" Cal.	B&B	10'	
	TP	11	Thuja plicata `Green Giant`	Western Red Cedar	8-10` HT	B&B	5'	
	TC	1	Tilia cordata 'Greenspire'	Greenspire Littleleaf Linden	3-3.5" cal.	B&B	8'	
SYMBOL	CODE	QTY	BOTANICAL NAME	COMMON NAME	SIZE	CONTAINER	SPACING	REMARKS
SHRUBS								
	Ca	18	Clethra alnifolia 'Hummingbird'	Hummingbird Summersweet	6 gal.	Pot	30" o.c.	
	Cs	17	Cornus sericea 'Farrow'	Farrow Red Twig Dogwood	6 gal.	Pot	30" o.c.	
	Hp	19	Hydrangea paniculata 'Bobo'	Bobo Hydrangea	6 gal.	Pot	30" o.c.	
	Ij	156	Ilex crenata `Chesapeake`	Chesapeake Japanese Holly	5`-6` HT	B&B	24" o.c.	Hedge grade
	Ig	59	Ilex glabra `Gem Box`	Compact Inkberry	24"-30" HT	B&B	24" o.c.	
	Pt	3	Pinus thunbergii `Kotobuki`	Kotobuki Japanese Black Pine	5`-6` HT	B&B	36" o.c.	
	Vd	32	Viburnum dentatum 'Blue Muffin'	Blue Muffin Arrowwood Viburnum	10 gal.	Pot	48" o.c.	
	Vm	29	Viburnum plicatum `Mariesii`	Doublefile Viburnum	10 gal.	Pot	48" o.c.	
GRASSES								
	mj	40	Miscanthus sinensis	Japanese Silver Grass	3 gal.	Pot	24" o.c.	
	ms	104	Miscanthus sinensis 'Little Zebra'	Little Zebra Eulalia Grass	3 gal.	Pot	24" o.c.	
	pf	250	Pennisetum alopecuroides `Cassian`	Cassian Fountain Grass	Plug		9" o.c.	
	Ph	53	Pennisetum alopecuroides `Hameln`	Hameln Fountain Grass	3 gal.	Pot	24" o.c.	
	ss	94	Schizachyrium scoparium 'The Blues'	The Blues Little Bluestem	3 gal.	Pot	24" o.c.	
PERENNIALS								
	am	25	Alchemilla mollis	Lady's Mantle	1 gal.	Pot	18" o.c.	
	ah	26	Anemone hupehensis 'Pretty Lady Diana'	Pretty Lady Diana Japanese Anemone	1 gal.	Pot	18" o.c.	
	ad	113	Aruncus aethusifolius	Dwarf Goatsbeard	1 gal.	Pot	18" o.c.	
	Em	54	Echinacea purpurea `Magnus`	Magnus Purple Coneflower	1 gal.	Pot	18" o.c.	
	hw	122	Heuchera x 'Wild Rose'	Wild Rose Coral Bells	1 gal.	Pot	18" o.c.	
	ls	204	Liriope spicata `Big Blue`	Creeping Lily Turf	1 gal.	Pot	18" o.c.	
	nr	47	Nepeta racemosa `Junior Walker`	Junior Walker Catmint	1 gal.	Pot	18" o.c.	
	rf	728	Rudbeckia fulgida deamii	Deam's Coneflower	Plug		6" o.c.	
	sn	19	Salvia nemorosa `May Night`	May Night Sage	1 gal.	Pot	18" o.c.	

L 5.3
L 5.2 Plant Schedule

Silo Ridge Field Club
4651 Route 22
Amenia, NY

PERMIT SET

July 1, 2025

BC|LA
BROOK CLARK LANDSCAPE ARCHITECTS
75 GLEN ROAD, SUITE 312
SANDY HOOK, CT 06482

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REGISTERED LANDSCAPE ARCHITECT
BROOK CLARK
3284
STATE OF NEW YORK

NOT FOR CONSTRUCTION

Project Reference Notes:

1. SURVEY, TOPOGRAPHIC, AND UTILITY DATA FROM PLAN ENTITLED "SILAND - EX CONDITIONS" BY VHB ENGINEERING DATED 07/08/2021.

Revisions:

Date:	Issue:
10/30/25	3. Overall plan revision
12/09/25	5. Overall plan revision

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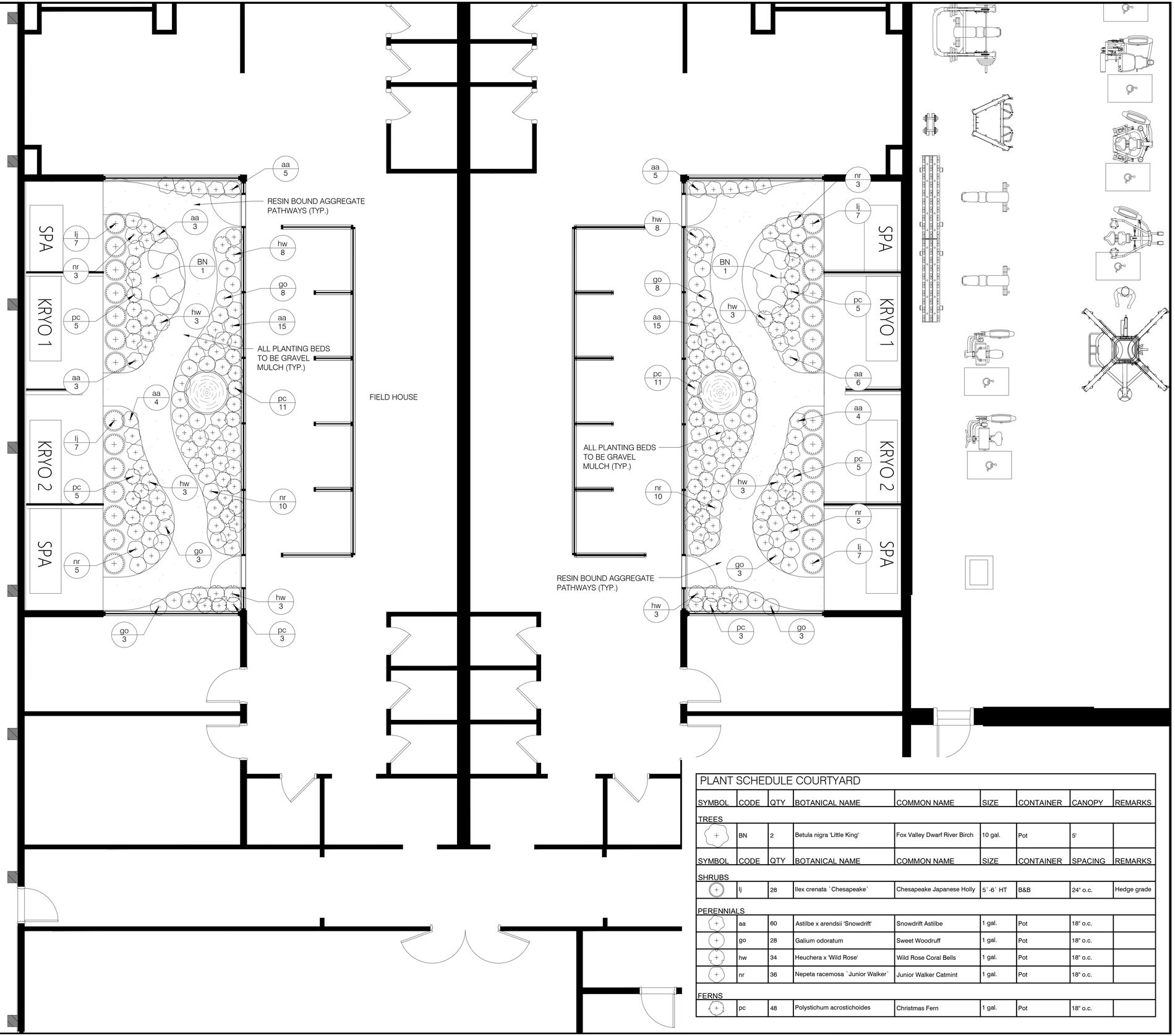

PLANT SCHEDULE COURTYARD

SYMBOL	CODE	QTY	BOTANICAL NAME	COMMON NAME	SIZE	CONTAINER	CANOPY	REMARKS
TREES								
	BN	2	Betula nigra 'Little King'	Fox Valley Dwarf River Birch	10 gal.	Pot	5'	
SYMBOL	CODE	QTY	BOTANICAL NAME	COMMON NAME	SIZE	CONTAINER	SPACING	REMARKS
SHRUBS								
	lj	28	Ilex crenata `Chesapeake`	Chesapeake Japanese Holly	5`-6` HT	B&B	24" o.c.	Hedge grade
PERENNIALS								
	aa	60	Astilbe x arendsii 'Snowdrift'	Snowdrift Astilbe	1 gal.	Pot	18" o.c.	
	go	28	Galium odoratum	Sweet Woodruff	1 gal.	Pot	18" o.c.	
	hw	34	Heuchera x 'Wild Rose'	Wild Rose Coral Bells	1 gal.	Pot	18" o.c.	
	nr	36	Nepeta racemosa `Junior Walker`	Junior Walker Catmint	1 gal.	Pot	18" o.c.	
FERNS								
	pc	48	Polystichum acrostichoides	Christmas Fern	1 gal.	Pot	18" o.c.	

L 5.4
Planting Enlargement Plan

Silo Ridge Field Club
4651 Route 22
Amenia, NY

PERMIT SET

July 1, 2025

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Legend

- Existing Tree
- Existing Shrub
- Existing Tree To Be Transplanted
- Existing Tree To Be Removed
- Proposed Deciduous Tree
- Proposed Evergreen Tree

REGISTERED LANDSCAPE ARCHITECT BROOK CLARK 3284 STATE OF NEW YORK

NOT FOR CONSTRUCTION

Project Reference Notes:

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NORTH

SCALE: 1"=4'

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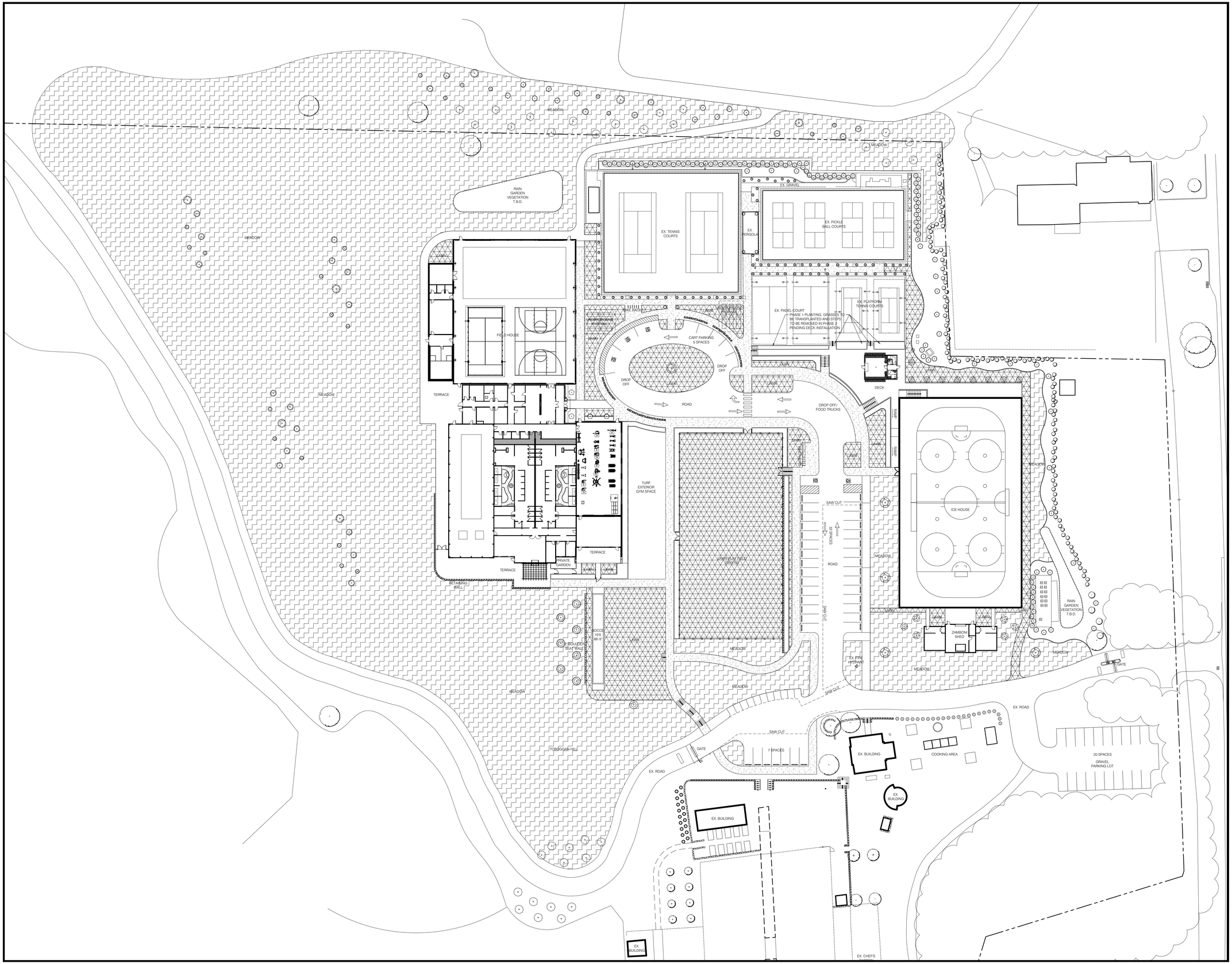

L 5.5
Seeding Plan

Silo Ridge Field Club
4651 Route 22
Amenia, NY

PERMIT SET

July 1, 2025

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Legend

Meadow Areas: 252,171 s.f.
Delea - Fine Fescue

Lawn Areas: 36,037 s.f.
Delea - Tall Fescue

REGISTERED LANDSCAPE ARCHITECT
BROOK CLARK
3284
STATE OF NEW YORK

NOT FOR CONSTRUCTION

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Revisions:

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NORTH

0 20 40 80
SCALE: 1"=40'

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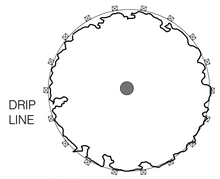
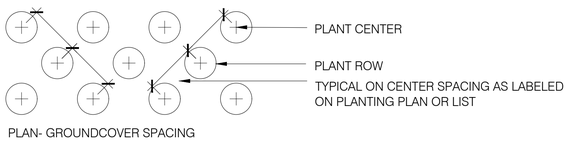


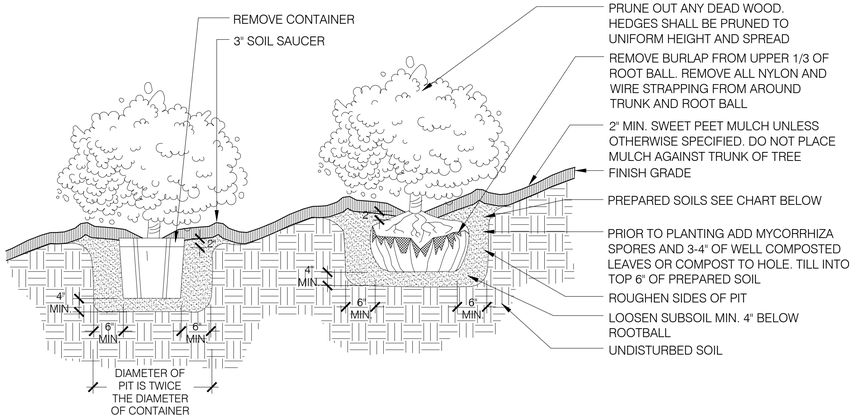
1 L 5.6 **TREE PROTECTION**

NOT TO SCALE



2 L 5.6 **GROUNDCOVER PLANTING**

NOT TO SCALE

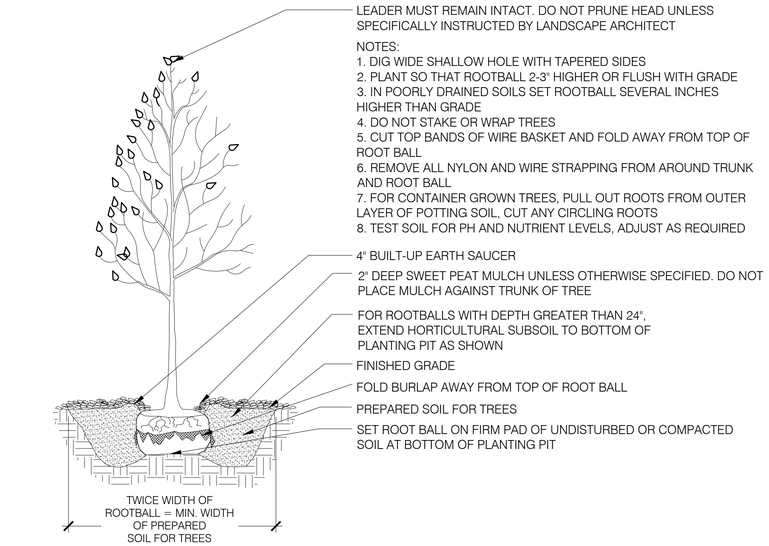


3 L 5.6 **PLANTING PIT FOR SHRUBS**

NOT TO SCALE

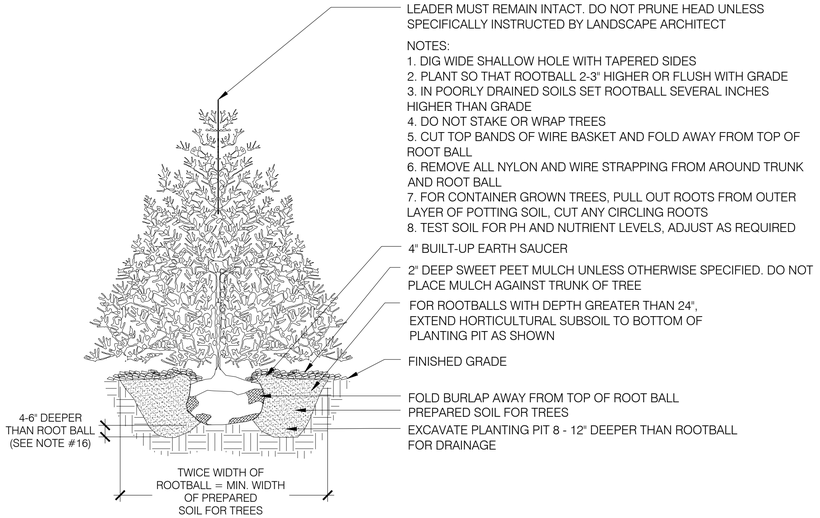
Soil Chart:

POST CONSTRUCTION SOIL CONDITION	TYPE OF PREPARATION
GOOD SOIL	LOOSEN EXISTING SOIL
COMPACTED SOIL	LOOSEN EXISTING SOIL, ADD ORGANIC MATTER TO BRING ORGANIC CONTENT TO 5% DRY WEIGHT
CLAY CONTENT: 5% - 35%	LOOSEN EXISTING SOIL, ADD ORGANIC MATTER TO BRING ORGANIC CONTENT TO 5% DRY WEIGHT
POOR QUALITY, HEAVY CLAY SOIL	REMOVE EXISTING SOIL, ADD LOAM TOPSOIL



4 L 5.6 **DECIDUOUS TREE PLANTING**

NOT TO SCALE



5 L 5.6 **EVERGREEN TREE PLANTING**

NOT TO SCALE

NOTES:
- DISTINCTIVE CURVE IN TRUNK IS NOT ALWAYS PRESENT DEPENDING ON SPECIES
- IF GIRDLING ROOTS ARE FOUND, REMOVE IF POSSIBLE AND CONSULT ARBORIST AS NEEDED
- FEEDER ROOTS DO NOT INDICATE THAT THE PROPER PLANTING DEPTH HAS BEEN FOUND

MULCH AND IRRIGATION SHOULD NOT BE INSTALLED UNTIL L.A. HAS REVIEWED AND APPROVED

SOIL TO BE REMOVED TO EXPOSE TOPMOST ROOT WHEN PLANTED

ROOT FLARE IS LOCATED WHERE TOPMOST ROOT EMERGES FROM THE TRUNK

6 L 5.6 **ROOT FLARE**

NOT TO SCALE

Planting Notes:

BIDDING:
1. It is the contractors (L.C.) responsibility to verify that the quantities on the plant list correspond with the plan. Should there be a discrepancy between plant quantities shown on the plant list and the plan, the plan will take precedent and the L.A. must be notified.
2. Provide unit pricing for all plant material. If a bid form is provided it must be used by the L.C. The bids must be inclusive of all work necessary to provide a complete job.
3. While bidding and during install bring any anticipated additional costs or concerns to the attention of L.A. Change orders must be issued in writing for approval prior to installation of work.

GUARANTEE:
1. All plant material shall be guaranteed by the contractor to be in good, healthy and flourishing condition for a period of one year from the date of acceptance (as agreed upon in writing by L.A. and L.C.). The L.C. shall replace, as soon as weather and seasonal conditions permit, all dead plants and all plants not in a vigorous, thriving condition, or that have the original shape due to dead branches and as determined by the L.A. Replacements shall be made as needed during, and at the end of the guarantee period. Guarantee replacement will be provided at no cost to the Owner and include materials and labor. L.C. is responsible for repair of any damage incurred during replacement of warranty materials.

START OF WORK:
1. Be aware of all underground utilities prior to any planting operations. Contact "call before you dig" prior to excavation.
2. Notify L.A. 72 hours minimum in advance of starting planting operations. Receive approval for layout of all bed lines and material locations prior to installation.
3. The L.C. must protect the site from damage, L.C. is responsible for integrity of all site features, conditions and existing vegetation, and will be responsible for restoration of any damage or disturbance at no additional cost to the Owner. Final decisions regarding damage and restoration by L.A.

EROSION CONTROLS:
1. Any concerns regarding erosion and sedimentation before, during or after installation shall be brought to the attention of the L.A.

PLANT SELECTION:
1. The L.A. reserves the right to reject inferior plant materials and substitutions. The L.A. is willing to make two trips to suppliers to review and approve materials. Previously unapproved materials may be rejected at the site. Minimally, all materials will conform to the "American Standard for Nursery Stock" (ansi z60.1 - 2004) of the American Nursery & Landscape Association.
2. Images are required for all trees and specimen shrubs.

TRANSPLANTS:
1. All material to be transplanted must be reviewed by the L.C. and L.A. in field.
2. Final destination of transplants to be approved in field by L.A. prior to the digging of existing material.
3. L.C. must ensure all transplants are properly heeled in and irrigated (by hand or temporary irrigation) as needed between removal and replanting. Whenever possible, plant destination to be prepared and approved by L.A. prior to plant removal, with transplanted material immediately and properly installed at final destination.

INSTALL:
1. For container grown shrubs, pull out roots from outer layer of potting soil, cut any circling roots.
2. Hedging and linear planting materials specified at required matching heights and widths. Where material does not matching the specified widths but are otherwise approved by L.A., then additional matching plant material shall be supplied by L.C. to complete the hedging or linear planting shown at no additional cost. A single trench shall be dug for all shrubs in a hedge.
3. Plant material stabilization and/or staking to be reviewed at the time of install. To be determined based on site conditions.
4. All bed lines must to be laid out by L.A. in the field. It is the responsibility of the L.C. to coordinate the irrigation layout based on the final bed lines. All bed edging to be shovel-cut unless specified otherwise. Edges must have smooth curves with no 'breaks' if 90 degree corners are required they must be 'sharp' with no rounding.
5. Only the best horticultural practices are acceptable. The L.A. may require remedial work to their satisfaction, if in their judgement, the health and vigor of the plant material has been damaged or impacted by the L.C. methods.
6. The top root of all trees must be exposed prior to final placement of proposed trees. If at any point during the warranty period the trees are found to be planted 'too low' they must be raised to expose the top root at the L.C. expense. Trees must also be examined for girdling roots. The top root on all trees must be exposed and reviewed by the L.A. prior to irrigation and mulching.

MULCH:
1. Furnish and install a (2") deep layer of sweet peat mulch (or approved equal) over entire planting area. Rake smooth all mulch for a neat appearance. Top of mulch to be flush with top of adjacent edging, curbing, pavement and lawn. Sample to be submitted to L.A. for approval.

IRRIGATION:
1. See Irrigation Notes. It is the L.C. responsibility to coordinate with the Irrigation Contractor.

SOIL:
1. See Soil Notes. It is the L.C. responsibility to ensure proper drainage and review the site for potentially detrimental planting conditions.

COMPLETION:
1. All disturbed areas to be restored with seed or sod as per client direction.
2. All plastic, twine and tags must be removed from plant material. The site must be thoroughly reviewed for construction debris.

L 5.6
Planting Details

Silo Ridge Field Club
4651 Route 22
Amenia, NY

PERMIT SET

July 1, 2025

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Lighting Schedule:

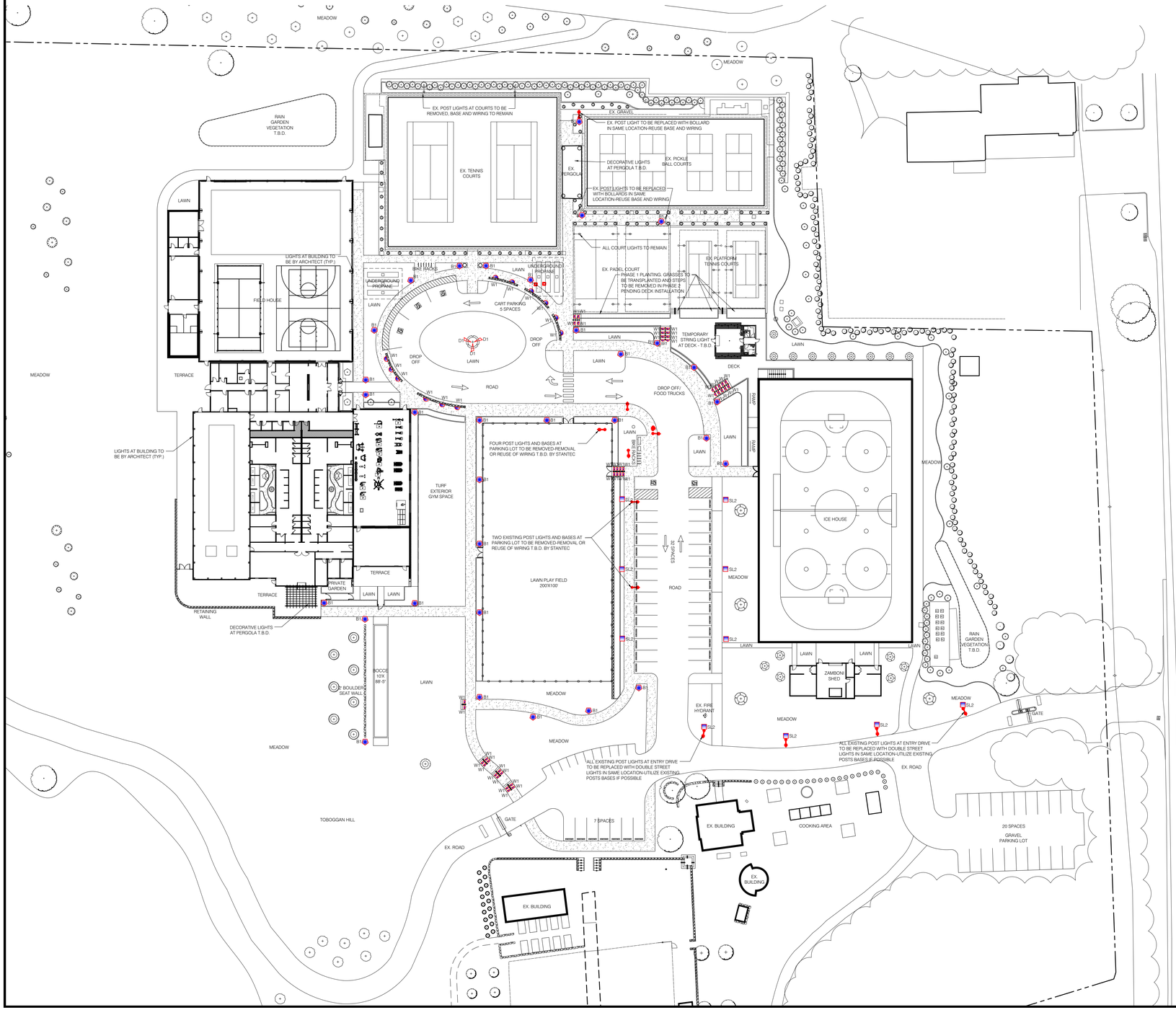
	ZONE	MANUFACTURER/FIXTURE	QTY.
SL2	DOUBLE STREET LIGHT	TEKA-LBW POLE MOUNT-LBW-2-SD27-LED-BW-BZW-A-DT-TR5-16-010-MT	10
B1	BOLLARD	LOUIS POULSEN-FLINDT GARDEN BOLLARD-BLACK-ANCHOR MOUNTING-698 MM	32
W1	WALL/STEP LIGHT	UNIQUE-VANGUARD 8-ODYSSEY SERIES-WB	56
D1	TREE MOUNT DOWNLIGHT (LARGE)	UNIQUE-LUNAR-ODYSSEY SERIES-3000K-WB	3

Street Light

Bollard

Wall/Step Light

Downlight



Lighting Notes:

1. Utilize existing lighting system and infrastructure wherever possible.
2. The electrical plan is diagrammatic, the desired locations and type of lighting fixtures are shown, but the exact location for each fixture shall be designated in the field by the L.A. and Lighting Contractor.
3. Lighting Contractor to review plan and overall intent with L.A. and make recommendations for alternate fixtures and layout where required. Lighting Contractor to review site and provide recommendations for upgrades/LED conversion.
4. Contractor to provide all labor, materials, equipment and services necessary for the satisfactory installation of the proposed outdoor lighting system. Provide installation of the fixtures and connections complete with lamps, supports, poles, bases, etc., all as required and necessary for a complete and satisfactory job.
5. Excavate and backfill underground lighting system infrastructure.
6. All underground wiring shall be inspected to insure that it is free in the conduit and capable of removal. Any conduit that does allow not for easy installation and removal of wire shall be replaced.
7. Lighting Contractor must review installation procedures and coordination with any other subcontractor's work that may be affected by the electrical installation. Electrical Contractor may be required to work side by side with Planting Contractor installing proposed plantings. Extra care shall be taken so as not to harm or disturb nearby proposed and existing plantings, trees and root systems.
8. The lighting system must comply with all applicable Local, State, and Federal requirements regarding work, materials, and disposal of waste materials. Materials, equipment and methods of installation must comply with all State and Local regulatory codes.
9. Lighting Contractor must obtain and pay for all required inspections, permits and fees.
10. Lighting Contractor to provide cut sheets, sample fixtures and finishes for L.A. and Owner approval.
11. All designated lighting fixture locations, transformer locations and conduit locations must be marked on site before installation. Obtain Owner and L.A. acceptance before installation.
12. All conduits, fixtures, switches, receptacles, and other electrical equipment shall be relocated, from where shown on the drawings or marked on site, prior to installation, when so directed, at no cost to the owner.
13. Electrical Contractor will provide testing and instruction of the completed lighting system.
14. Electrical Contractors contract to include 2-5 hours of time for the aiming and adjusting of the light fixtures, after dark. This shall be at the owner's convenience.
15. Electrical Contractor shall provide electrical system record drawings, clearly marked, to show actual location of lighting system and wiring.
16. Electrical Contractor shall agree to correct all problems which may develop in the lighting system within one year of the date of completion of the job. The Electrical Contractor shall furnish a complete set of shop drawings with all parts and manufacturer's maintenance instructions at completion of the project.
17. Electrical Contractor to provide an itemized bid for the work, separating individual fixture and equipment costs.

Outlet Notes:

1. Outlet to be outdoor rated gfi outlet by others.
2. Outlet to be located on building - see architecture.

Lighting Zone Notes:

Zone 1: t.b.d. by engineer

L 6.0
Lighting Plan

Silo Ridge Field Club
4651 Route 22
Amenia, NY

PERMIT SET

July 1, 2025

BC|LA

BROOK CLARK LANDSCAPE ARCHITECTS
75 GLEN ROAD, SUITE 312
SANDY HOOK, CT 06482

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hello@brookclark.com

REGISTERED LANDSCAPE ARCHITECT
BROOK CLARK
3284
STATE OF NEW YORK

TEKA ILLUMINATION
LIGHTING REPRESENTATIVE:
CLIFF GILBERT
CGILBERT@ILLUMINATENE.COM

NOT FOR CONSTRUCTION

Project Reference Notes:

1. SURVEY, TOPOGRAPHIC, AND UTILITY DATA FROM PLAN ENTITLED "SILAND - EX CONDITIONS" BY VHB ENGINEERING DATED 07/08/2021.

Revisions:

Date:	Issue:
10/28/25	2. Lighting revision
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12/09/25	5. Overall plan revision

NORTH

0 20 40 80

SCALE: 1"=40'

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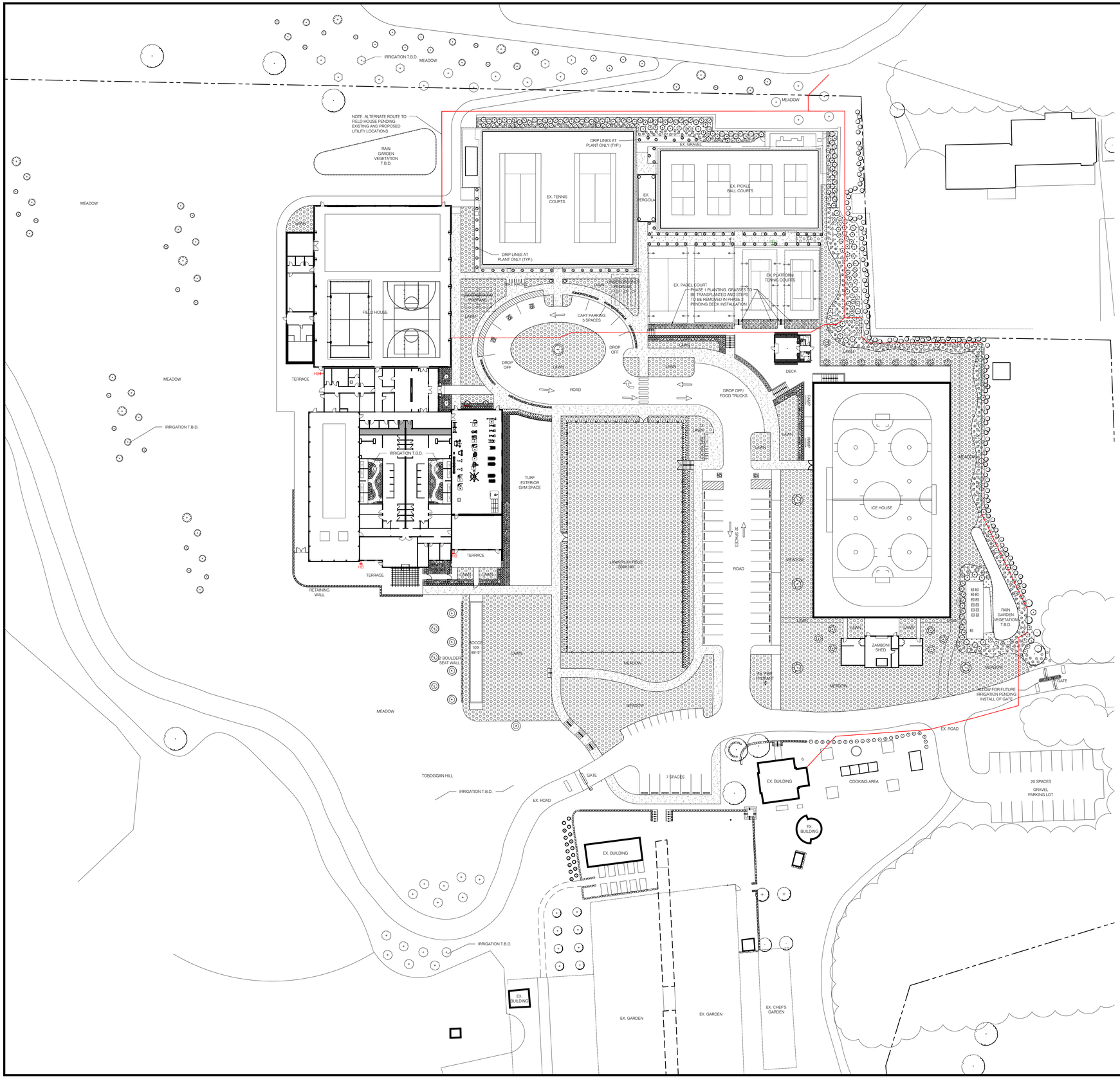

Irrigation Notes:

1. Prior to any site work the existing irrigation system must be disconnected by the Irrigation Contractor in the proposed area of construction (if applicable).
2. Proposed irrigation system must be incorporated with existing irrigation system (if applicable).
3. Irrigation Contractor must submit a Shop Drawing of the proposed system for L.A. approval prior to start of work.
4. Irrigation will be required for all disturbed and all new plantings. Limit of disturbance and proposed irrigation areas shown are approximate. Review in field with L.A.
5. The location of irrigation main, controller valve/junction boxes must be reviewed with L.A. prior to install. Any visible junction boxes must be located in plant beds whenever possible. Boxes located in lawn must be approved by L.A. Boxes must allow for drainage and be filled with gravel by irrigation contractor.
6. Separate zones are required and shall be determined in the field with L.A. and Irrigation Contractor based on the final Planting Plan. Separate zones will be required for planters, raised beds, areas below eaves and specialized planting areas.
7. No trenching or disturbance within root zones of existing trees and large shrubs. If trenching in root zone is required it must be approved by L.A. prior to disturbance.
8. Underground irrigation systems shall not be installed within the regulated distance of proposed or existing septic system including septic tank. Coordinate with L.A.
9. No irrigation or water spray to occur at root zone of existing trees, paved surfaces or structures. Lawn spray should not overlap existing or proposed planting beds.
10. At project completion Irrigation Contractor to provide an "as-built" plan of installed irrigation system including zones, main lines, and valves. A zone chart must be provided and should include current program timing. The cost of an 'as-built' must by included in proposal.
11. At the completion of the project the Irrigation Contractor must allow for 2-4 hours to review the system with the L.A., Owner and Landscape Contractor. Review will include an explanation of the as-built plan and zone chart, test individual zones, review of spray pattern for lawn areas, review of irrigation controller and timing.
12. Every system must allow for future expansion including wire runs and all mechanical components.

L 7.0
Irrigation Plan

Silo Ridge Field Club
4651 Route 22
Amenia, NY

PERMIT SET

April 17, 2025

BC|LA
BROOK CLARK LANDSCAPE ARCHITECTS
75 GLEN ROAD, SUITE 312
SANDY HOOK, CT 06482

203.275.9255
hello@brookclark.com

Legend

- Drip Lines
  Drip Rings At Each Proposed Tree/Shrub
  Drip Line Rows At Perennial Beds
- Rotors
  Lawn/Meadow Areas
- HB — Existing Hose Bib
- HB — Proposed Hose Bib
- Proposed Irrigation Main Line

NOT FOR CONSTRUCTION

Project Reference Notes:

1. SURVEY, TOPOGRAPHIC, AND UTILITY DATA FROM PLAN ENTITLED "SILAND - EX CONDITIONS" BY VHB ENGINEERING DATED 07/08/2021.

Revisions:

Date:	Issue:
10/15/25	1. Irrigation main line revision
10/30/25	3. Overall plan revision
12/09/25	5. Overall plan revision

NORTH

0 20 40 80
SCALE: 1"=40'

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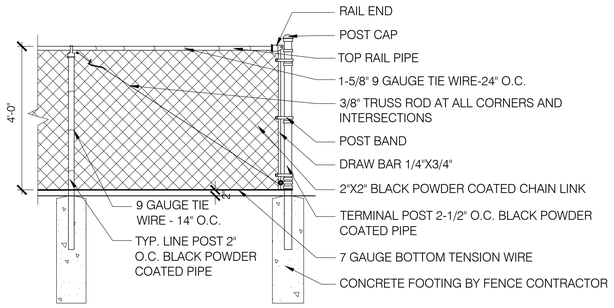


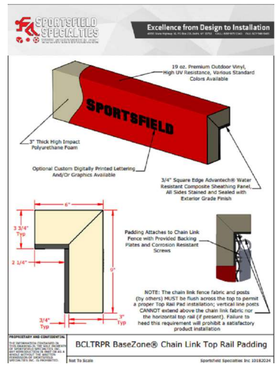
TYPICAL LINE POST FOOTING

TYPICAL CORNER POST FOOTING

NOTE: ALL FENCE COMPONENTS TO BE BLACK POWDER COATED.

1 LD1.1 CHAIN LINK FENCE

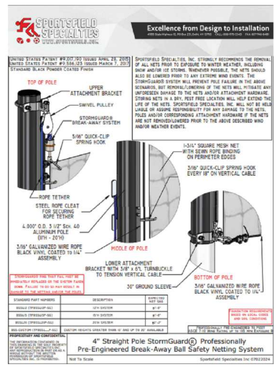
1/2" = 1'-0"



NOTE: BASEZONE CHAIN LINK TOP RAIL PADDING BY SPORTSFIELD SPECIALTIES. COLOR AND GRAPHICS T.B.D.

2 LD1.1 CHAIN LINK FENCE TOP RAIL AND POST PADDING

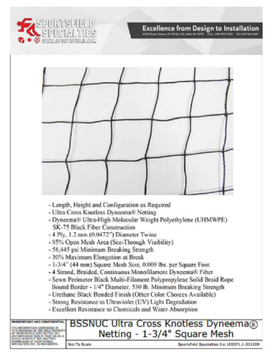
NOT TO SCALE



NOTE: 4" STRAIGHT POLE STORMGUARD PROFESSIONAL PRE-ENGINEERED BREAK-AWAY BALL SAFETY NETTING SYSTEM BY SPORTSFIELD SPECIALTIES.

3 LD1.1 PULLEY AND VERTICAL SLIDE CABLE SYSTEM

NOT TO SCALE



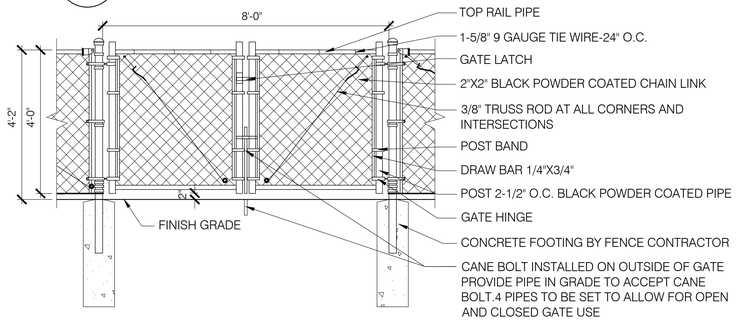
4 LD1.1 NETTING MESH

NOT TO SCALE

NOTE: SQUARE TUBE CIRCULAR BIKE RACK BY BELSON OUTDOORS. STAINLESS STEEL CBBR-2CS-SS

5 LD1.1 BIKE RACK

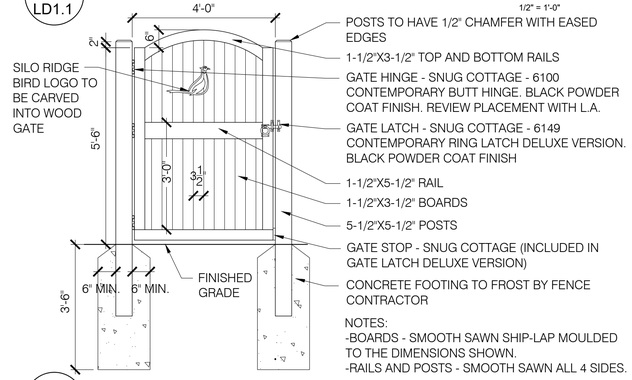
NOT TO SCALE



NOTE: ALL FENCE COMPONENTS TO BE BLACK POWDER COATED.

6 LD1.1 CHAIN LINK DOUBLE GATE

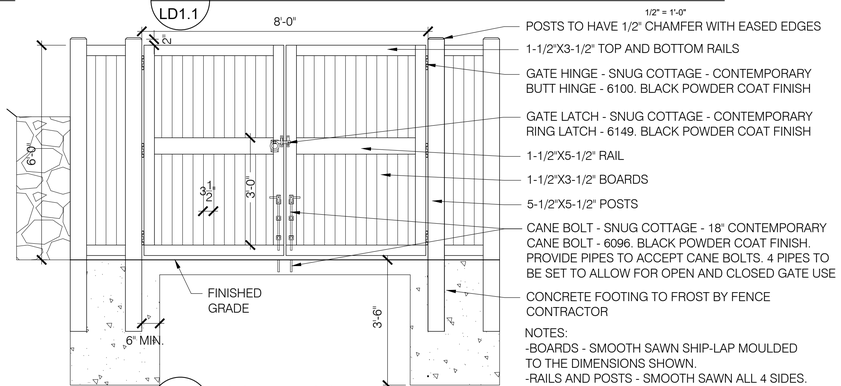
1/2" = 1'-0"



NOTES:
-BOARDS - SMOOTH SAWN SHIP-LAP MOULDED TO THE DIMENSIONS SHOWN.
-RAILS AND POSTS - SMOOTH SAWN ALL 4 SIDES.

7 LD1.1 SOLID WOOD SINGLE GATE

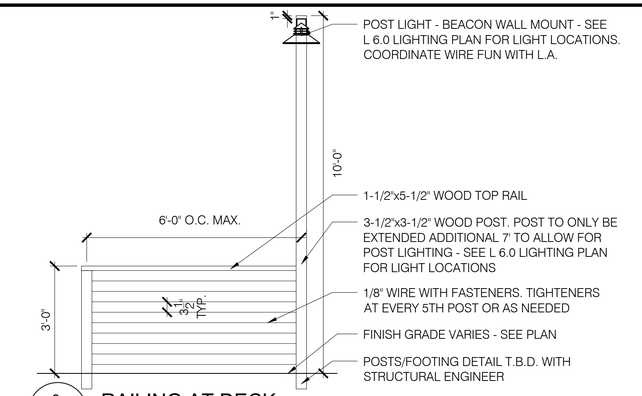
1/2" = 1'-0"



NOTES:
-BOARDS - SMOOTH SAWN SHIP-LAP MOULDED TO THE DIMENSIONS SHOWN.
-RAILS AND POSTS - SMOOTH SAWN ALL 4 SIDES.

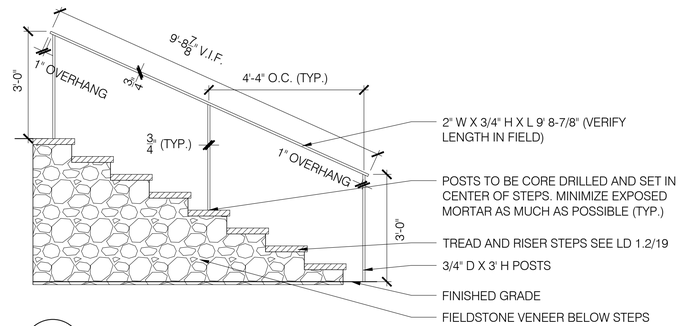
8 LD1.1 SOLID WOOD DOUBLE GATE

1/2" = 1'-0"



9 LD1.1 RAILING AT DECK

1/2" = 1'-0"



10 LD1.1 RAILING AT STEPS

1/2" = 1'-0"

T.B.D.

11 LD1.1 BENCH

NOT TO SCALE

T.B.D.

12 LD1.1 GARBAGE CAN

NOT TO SCALE

LD 1.1
Project Details

Silo Ridge Field Club
4651 Route 22
Amenia, NY

PERMIT SET

July 1, 2025

BC|LA
BROOK CLARK LANDSCAPE ARCHITECTS
75 GLEN ROAD, SUITE 312
SANDY HOOK, CT 06482

203.275.9255
hello@brookclark.com

REGISTERED LANDSCAPE ARCHITECT
BROOK CLARK
3284
STATE OF NEW YORK

NOT FOR CONSTRUCTION

Revisions:

Date:	Issue:
10/30/25	3. Overall plan revision
12/09/25	5. Overall plan revision

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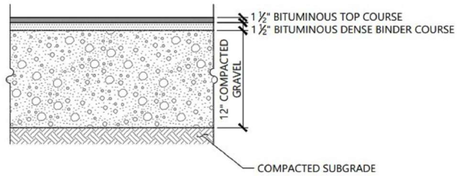


STANDARD DUTY FLEXIBLE PAVEMENT

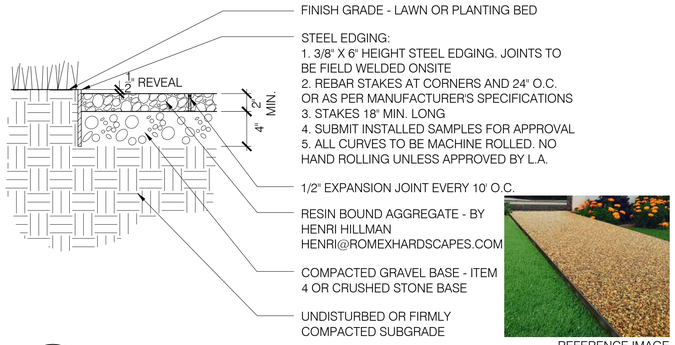
NOTES

PAVEMENT SECTIONS ARE SUBJECT TO CHANGE AND WILL BE BASED ON THE RESULTS OF FURTHER GEOTECHNICAL INVESTIGATIONS.

NOTE: DETAIL BY VHB ENGINEERING

13 LD1.2 ASPHALT

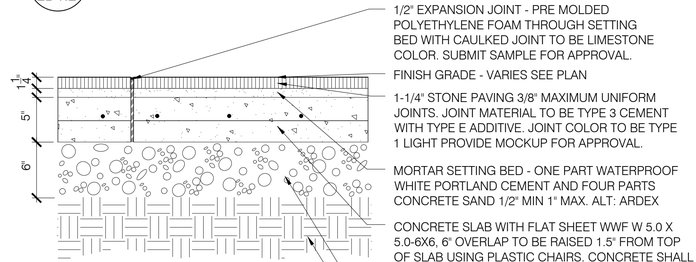
NOTE TO SCALE



REFERENCE IMAGE

14 LD1.2 RESIN BOUND AGGREGATE WITH METAL EDGE

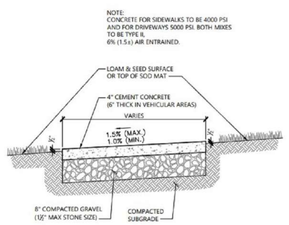
1-1/2" = 1'-0"



NOTE: IN ORDER TO LIMIT EFFLORESCENCE A URETHANE BASE SEALER MUST BE USED WHERE CONCRETE ABUTS WALLS, HOUSE, AND OTHER VERTICAL SURFACES AND PRIOR TO INSTALLATION OF VENEER AND ANY STONE WORK. CONCRETE MUST BE SEALED BETWEEN INDIVIDUAL POURS.

15 LD1.2 STONE ON CONCRETE

1-1/2" = 1'-0"



Section

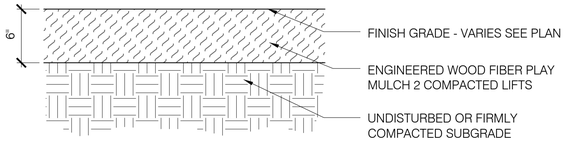
NOTES

1. PROVIDE EXPANSION JOINTS AT MIN. 30 FT. O.C. WITH PRE- FORMED JOINT FILLER.
2. PROVIDE TOOLED CONTROL JOINTS AT 6' O.C.
3. PROVIDE BROOM FINISH IN DIRECTION PERPENDICULAR TO SIDEWALK DIRECTION

NOTE: DETAIL BY VHB ENGINEERING

16 LD1.2 CONCRETE PAVING

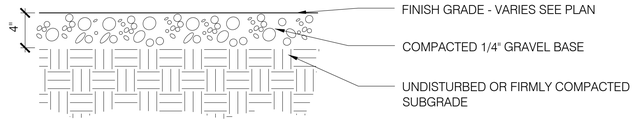
NOT TO SCALE



REQUIRED CERTIFICATIONS:
-IPEMA: INTERNATIONAL PLAYGROUND EQUIPMENT MANUFACTURERS ASSOCIATION
-CONFORMS TO ASTM F1292 STANDARD SPECIFICATION FOR IMPACT ATTENUATION OF SURFACE -SYSTEMS UNDER AND AROUND PLAYGROUND EQUIPMENT
-CONFORMS TO ASTM F2075 STANDARD SPECIFICATION FOR ENGINEERED WOOD FIBER FOR USE AS A PLAYGROUND SAFETY SURFACE UNDER AND AROUND
-AMERICANS WITH DISABILITIES ACT (ADA) COMPLIANT WOOD PLAYGROUND MULCH AVAILABLE

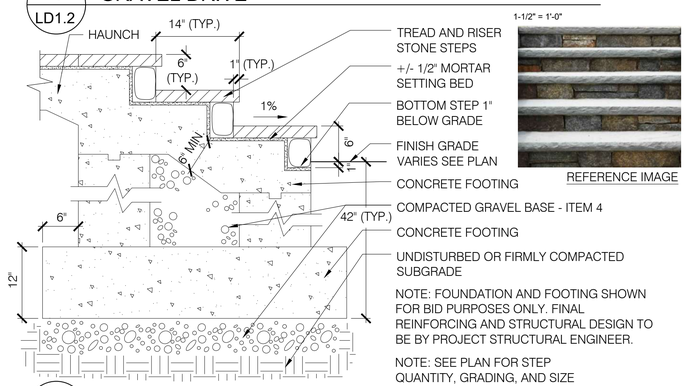
17 LD1.2 PLAYGROUND MULCH

1-1/2" = 1'-0"



18 LD1.2 GRAVEL DRIVE

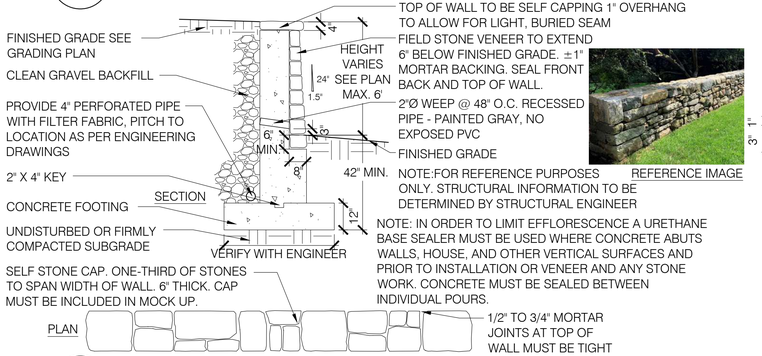
1-1/2" = 1'-0"



REFERENCE IMAGE

19 LD1.2 TREAD AND RISER STEPS

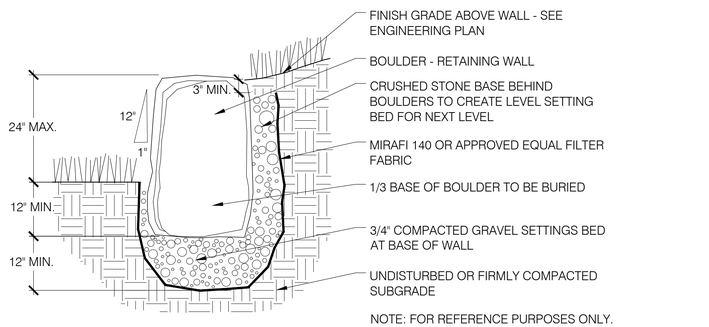
1" = 1'-0"



REFERENCE IMAGE

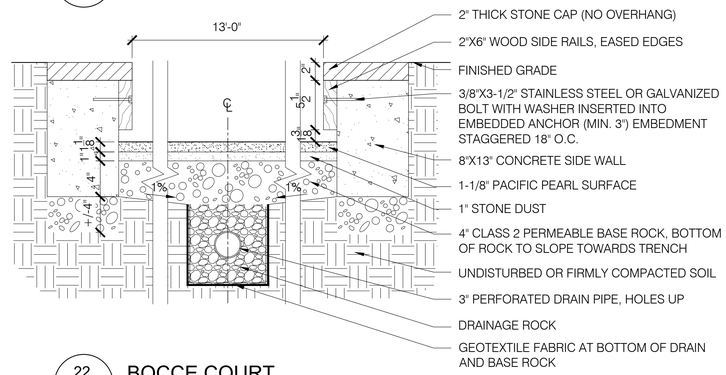
20 LD1.2 RETAINING WALL

3/8" = 1' - 0"



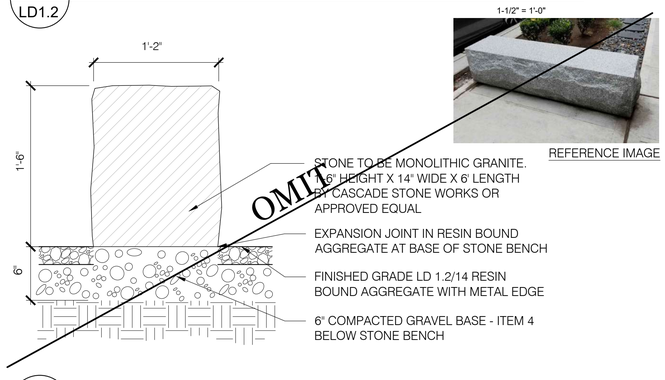
21 LD1.2 BOULDER RETAINING WALL

3/4" = 1'-0"



22 LD1.2 BOCCE COURT

1-1/2" = 1'-0"

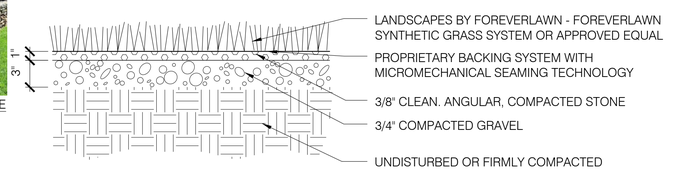


1-1/2" = 1'-0"

REFERENCE IMAGE

23 LD1.2 STONE BENCH

1-1/2" = 1'-0"



24 LD1.2 ARTIFICIAL TURF

1-1/2" = 1'-0"

LD 1.2
Project Details

Silo Ridge Field Club
4651 Route 22
Amenia, NY

PERMIT SET

July 1, 2025

BC|LA
BROOK CLARK LANDSCAPE ARCHITECTS
75 GLEN ROAD, SUITE 312
SANDY HOOK, CT 06482

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hello@brookclark.com

REGISTERED LANDSCAPE ARCHITECT
BROOK CLARK
3284
STATE OF NEW YORK

NOT FOR CONSTRUCTION

Revisions:

Date:	Issue:
10/30/25	3. Overall plan revision
12/09/25	5. Overall plan revision

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T.B.D. PENDING MATERIAL SELECTION

25 LD1.3 DECK

NOT TO SCALE

T.B.D. PENDING MATERIAL SELECTION

26 LD1.3 DECK RAMP

NOT TO SCALE

T.B.D. PENDING MATERIAL SELECTION

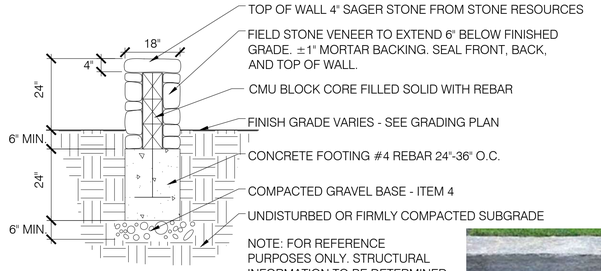
27 LD1.3 DECK STEPS

NOT TO SCALE

NOTE: MATCH EXISTING PERGOLA - NO ROOF

28 LD1.3 PERGOLA

NOT TO SCALE



TOP OF WALL 4" SAGER STONE FROM STONE RESOURCES

FIELD STONE VENEER TO EXTEND 6" BELOW FINISHED GRADE. ±1" MORTAR BACKING. SEAL FRONT, BACK, AND TOP OF WALL.

CMU BLOCK CORE FILLED SOLID WITH REBAR

FINISH GRADE VARIES - SEE GRADING PLAN

CONCRETE FOOTING #4 REBAR 24"-36" O.C.

COMPACTED GRAVEL BASE - ITEM 4

UNDISTURBED OR FIRMLY COMPACTED SUBGRADE

NOTE: FOR REFERENCE PURPOSES ONLY. STRUCTURAL INFORMATION TO BE DETERMINED BY STRUCTURAL ENGINEER

SAGER STONE REFERENCE IMAGE

29 LD1.3 FREESTANDING WALL

1/2" = 1'-0"

LD 1.3
Project Details

Silo Ridge Field Club
4651 Route 22
Amenia, NY

PERMIT SET

July 1, 2025

BC|LA

BROOK CLARK LANDSCAPE ARCHITECTS
75 GLEN ROAD, SUITE 312
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REGISTERED LANDSCAPE ARCHITECT
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Revisions:

Date:	Issue:
10/30/25	3. Overall plan revision
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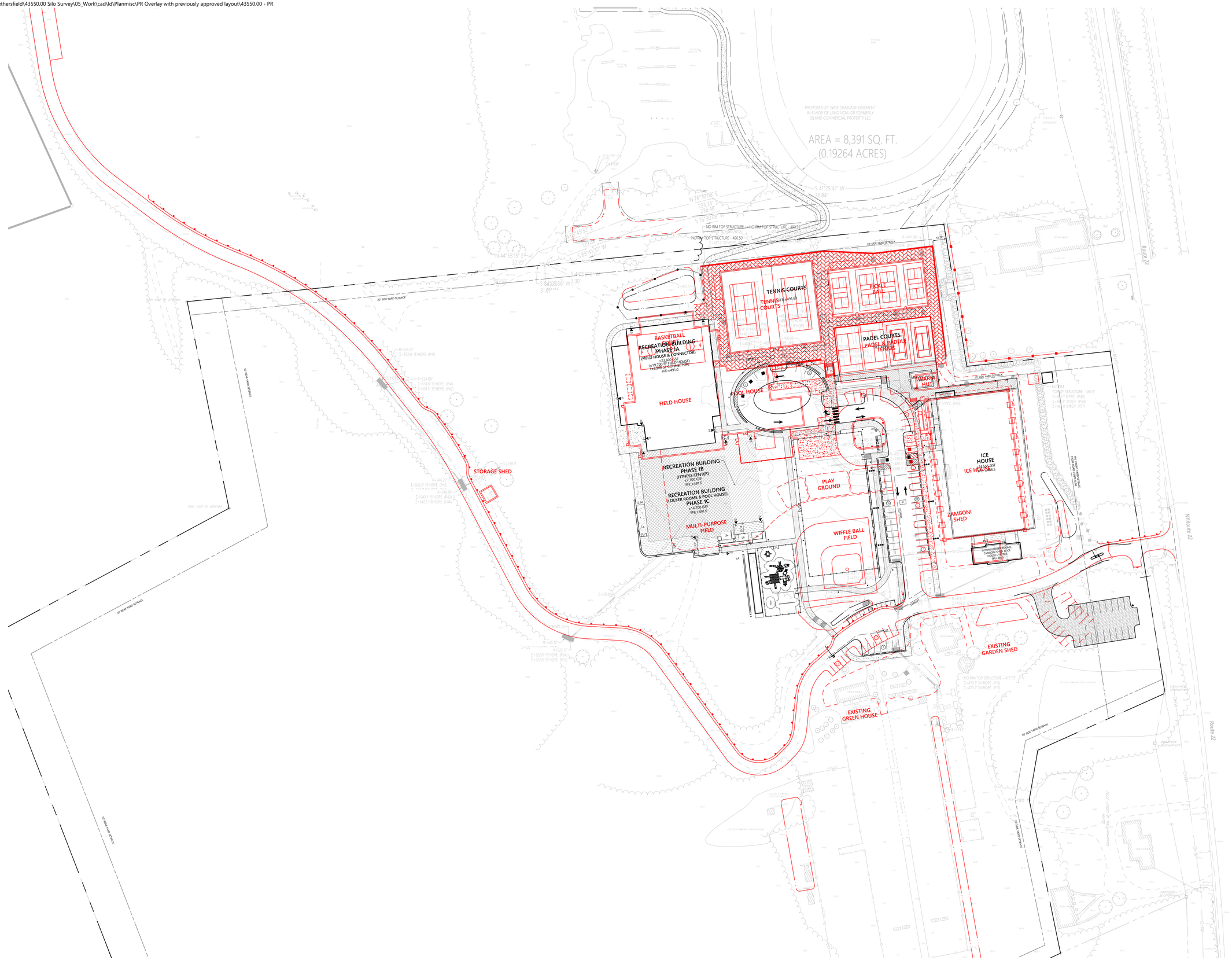
\\vhb.com\gbl\proj\Wethersfield\43550.00 Silo Survey\05_Work\cad\ld\Planmisc\PR Overlay with previously approved layout\43550.00 - PR Overlays REV.dwg



vhb.com
vhb
260 Arsenal Place #2
Watertown, MA 02472-4026
617.924.1770

LEGEND:

- PREVIOUSLY APPROVED LAYOUT, PLANSET LATEST ISSUE DATE: MARCH 12, 2024
- CURRENTLY PROPOSED LAYOUT
- CURRENT EXISTING CONDITIONS (SURVEY)

0 30 60 120Feet

Siland Recreation Facility

4391 Route 22, Town of Amenia
Dutchess County, NY

No.	Revision	Date	Appvd.

Designed by AMK/ MRG | Checked by PV

Issued for: Review | Date: 12/11/2025

Not Approved for Construction

Drawing Title
Overlay Previously Approved Layout vs Current Layout

Drawing Number
Ov-1

Sheet 1 of 1

Project Number
43550.00

Saved Monday, December 8, 2025 2:46:22 PM AKOWALCZYK Plotted Monday, December 8, 2025 2:52:27 PM Andria May Kowalczyk

TOWN OF AMENIA

4988 Route 22 AMENIA, NY 12501
TEL: 845-373-8860 FAX: 845-373-9147
www.AmeniaNY.Gov

Special Use and Site Plan Application

Dear Applicant,
Attached please find an application packet for the Town of Amenia. You will find:

1. Special use permit and site plan application
    - Project site description
    - Land use application
    - Authorization of agent
    - Record Owner
    - Escrow application for professional services
    - The agricultural data statement (if needed)
    - The short environmental form

A minimum of three (3) hard copies of a complete submission with maps if applicable, and in PDF format or email attachment to the project administrator and assistant at ldelango@ameniany.gov and building@ameniany.gov no later than three weeks prior to the meeting.

TOWN OF AMENIA

4988 Route 22, AMENIA, NY 12501
TEL: 845-373-8860, x106 FAX: 845-373-9147

Site Plan Modification

SITE PLAN & SPECIAL USE APPLICATION
PROJECT DESCRIPTION

APPLICANT: Patrick O'Leary

OWNER: Siland Commercial Property LLC

PROPERTY ADDRESS: 4391 Route 22

GRID NUMBER(S): 132000-7066-00-910219-0000

PROJECT NAME: Siland Recreation Facility

PROJECT SITE DESCRIPTION: Provide a description of the Project Site, include the existing conditions of the site, the natural resources and environmental features of the site (e.g., wetlands and watercourses, vernal pools, steep slopes, forest, wildlife habitat, prime and statewide important agricultural soils, active farmland, and scenic viewsheds), current use/development of property (e.g., structures, roads, fences), and known past uses of the site. A conservation analysis complying with section 121-20(A) of the Zoning Law may be substituted for this Project Site Description.

The project site, located at 4391 Route 22, currently consists of a greenhouse and garden shed. The site area is located on a 53 acre parcel in Amenia, NY, zoned OC - Office Commercial/Industrial and RA - Rural Agricultural. The surrounding uses are mixed with some residential uses. Soils within the project area include Udorthents, smoothed (hydrologic soil group A), Copake gravelly silt loam, rolling (hydrologic soil group A), Stockbridge-Farmington complex, rolling, rocky (hydrologic soil group C), Stockbridge-Farmington complex, hilly, rocky (hydrologic soil group C), Nassau-Rock outcrop, steep (hydrologic soil group D), and Farmington-Rock outcrop complex, steep (hydrologic soil group D). Based on information from the NYSDEC Environmental Resource Mapper the site is located within a buffer area for rare plants and animals. There are also wetlands within the vicinity of the site, however, the site is not located within a regulated area.

The site has been partially developed in general compliance with the Approved Site Plan. The access road to Eagle Pass has been constructed along with the access to Route 22. The overall site has been generally graded in accordance with the approved Site Plan. Tennis, Paddel, and Pickle Ball Courts have been constructed along with retaining walls and landscaping along the easterly property lines.

PROJECT DESCRIPTION: Provide a description of the Project including: a general description of the nature of the Project; the type, number and approximate square footage of proposed buildings to be constructed; the approximate amount of land to be disturbed; the approximate length and/or surface area of proposed driveways, internal roads, and parking areas; the municipal, state and/or federal approvals and permits that will be required, and any waivers or variances that will be requested from the Town.

The applicant is proposing to construct a recreation facility, which includes a field and pool house, ice house, warming hut, tennis, pickle ball, and paddle tennis courts, with associated parking and utilities. Internal roads and proposed driveways will consist of asphalt pavement or crushed stone. The site currently consists of a greenhouse and garden shed. The overall site is approximately 53 acres and is generally vacant, aside from the existing garden uses. The limit of work for the proposed recreation facility is approximately 12.8 acres. The plan also proposes an internal drainage network to convey stormwater runoff to a proposed stormwater basin.

Site Plan Modifications Include: See Attachment A

Town of Amenia Planning Board

Town of Amenia
4988 Route 22
Amenia, NY 12501

(845) 373-8860 / (845) 373-9147 fax

LAND USE APPLICATION

Modifications to Original Application in Red and Clouded

Type of Application: Check all that apply

☒ *Site Plan* Modification ☒ *Special Permit* O *Zoning Permit* O *Subdivision*

Grid Number(s): 132000-7066-00-910219-0000

Name of Project: Siland Recreation Facility

Property Address: 4391 Route 22

Primary Contact Person: Patrick O'Leary

Address: 20 Hillcrest Dr
Ashford, CT 06278

Telephone Number: 860-428-6615

Email: Oleary936@gmail.com

Name of Property Owner: Siland Commercial Property LLC

Address: 14605 N 73rd St
Scottsdale AZ 85260

Telephone Number:

Name of Applicant (if *different*): Patrick O'Leary

Address: 20 Hillcrest Dr
Ashford, CT 06278

Telephone Number: 860-428-6615

Email: Oleary396@gmail.com

Relationship of Applicant to Owner (e.g. *contract vendee, option holder, lessee*): Engineer/Agent

Plans Prepared By:
Name: VHB Engineering, Surveying, Landscape Architecture and Geology, PC
Address: 100 Motor Parkway Suite 350
Hauppauge, NY 11788
Telephone Number: 860-807-4369
E-mail: mgrocki@vhb.com

Zoning District(s): RA X, RR__, HM__, HR__, SR__, HC__, OC X, M__

Overlay District(s) (if *any*): Floodplain___, Stream Corridor___, Scenic Protection X, Aquifer X, Mixed-Use Institutional___, Soil Mining___, Historic Preservation___, Mobile Home Park___, Resort Development___

Current Use(s): Greenhouse & Garden Shed

Proposed Use(s): Recreation

Parcel Size: 53 Acres

Type of Activity: New structure X, Alteration of existing structure_____, Expansion of use or structure_____, Change of use in existing structure____, Subdivision _____.

Total Square Footage of Structures:
Current +/- 1,500 SF Proposed +/- 85,400 SF

Footprint of Structures: +/- 85,400 SF

Deed Reference: Liber _____
Page _____ Date _____

Filed Map Reference: Lot # _____ Map # _____

Does the property contain a farm operation located within an agricultural district or is the property boundary within 500 feet of a farm operation located in an agricultural district:

O yes ☒ no

If yes, submit an Agricultural Date Statement.

Will the development be phased? Yes____ No X

If yes, how many phases?_____

Is there an existing Special Permit, Site Plan and/or Subdivision approval for the property? Yes X No____

If yes, provide certified copies of those existing approvals with this application.

TOWN OF AMENIA

4988 Route 22, AMENIA, NY 12501
TEL: 845-373-8860, x106 FAX: 845-373-9147

TOWN OF AMENIA PLANNING BOARD
AUTHORIZATION OF AGENT

I, Siland Commercial Property LLC, am the owner of the property located at 4391 Route 22, Amenia, New York, identified as Grid Number 132000-7066-00-910219-0000.

I hereby authorize Patrick O'Leary to act as my agent in an Application to the Town of Amenia Planning Board for Siland Recreation Facility.
(Name of Project)

Print Name Saul Scherl

Signature Signed by: Saul Scherl BD2211D6AFDC404...

Date 12/11/2025

Town of Amenia Planning Board

Town of Amenia
4988 Route 22
Amenia, NY 12501

(845) 373-8860
(845) 373-9147 fax

The undersigned hereby makes application in accordance with all applicable laws and other requirements of the Town of Amenia, Dutchess County, New York. **All owners of record must sign.**

Signed by:
Saul Schurl
BD2211D6AFDC404...

Signature of Record Owner

Date: 7/12/21

Signature of Record Owner

Date: 12/11/2025

P.N. O'Leary

Signature of Applicant (if different)

Date: 12/11/2025

Date stamp of submission
(Office Use Only)

TOWN OF AMENIA
ESCROW FOR PROFESSIONAL SERVICES

Date: _____

Applicant: Patrick O'Leary

Project Name: Siland Recreation Facility

Location: 4391 Route 22

Description of Project: Proposed recreation facilities

_____

Amount Requested: $ _____ Minimum Balance: $ _____

The Town of Amenia _____ Board is currently reviewing your application for _____. This Board is requesting that you place in escrow sufficient funds to be used to defray reasonable costs incurred by the Town for professional services and inspections required throughout the entire review process, as authorized by the Town Code of the Town of Amenia.

Based on estimated review costs, you are requested to deposit $ _____ in the escrow account. Should the balance of this account fall below $ _____, you will be notified and requested to replenish the account to the requested amount.

This escrow account does not provide for the other development, application and filing fees set forth in the Town of Amenia Town Code and Schedule of Fees. The applicant must make timely, direct payment of those other fees as a prerequisite to continued review of the application.

All parties agree to the terms and conditions stated herein.

_____
Town of Amenia _____ Board
By:

P.N. O'Leary
_____
Applicant: Patrick O'Leary
By:

Memorandum

To: To Whom It May Concern

Date: December 10, 2025
Project #: 43550.00

From: Mark Grocki, VHB

Re: Siland Recreation Facility "Backyard"
Modifications to Previous Approval
"ATTACHMENT A"

To whom it may concern,

The Siland Recreation Facility located at 4651 Route 22, Amenia, NY had originally been approved in 2022. The Owner wishes to propose several changes to the previously approved planset layout. The originally approved planset is dated September 14, 2022, latest revised date March 12, 2024. The following is a list of modifications:

1. Recreation Building (Field House/ Pool house) footprint expanded to current layout on west side of site.
2. Parking configuration modified for better accessibility and flow through site
3. Lawn/ play field modifications and exterior turf gym space added, central to the site.
4. Bocci court modifications in southwest corner of site.
5. Ice House – generally same footprint, slight adjustment on location
6. Warming Hut – generally same footprint, slight adjustment on location
7. Zamboni Shed modified to current size and location, locker rooms added.
8. Stormwater Management System:
    a. Bypass pipe added west of site to redirect runoff to Retention Pond, north of site, greatly reducing stormwater runoff from the Siland Rec Facility.
    b. Modifications to above and underground detention systems. Peak runoff continues to be reduced as previously approved due to detention and treatment measures.
    c. Revised SWPPP and stormwater hydraulic/ hydrologic calculations revised accordingly to accommodate new site layout.
    d. Removal of previously proposed Cistern. Irrigation is now proposed Pond located on Landfill Property north of development.
9. Layout of westerly access drive revised to current layout as constructed in the field. Current survey information in the submitted planset reflects the current access drive layout.
10. Expanded gravel parking area in southeast corner of site.
11. Sidewalk/ cart path added at north end of property
12. Modifications to parking along Eagle Pass north of Greenhouse.
13. Playground shown in future Phase 1C
14. Shed adjacent to playground is removed
15. Garden Support Building renovations noted
16. New sidewalk connection south of fields to cross main southerly drive aisle
    a. Storm catch basin & pipe connection introduced to accommodate new sidewalk
17. Additional three (3) propane tanks added to service new Rec Building (located in northwest corner of 'roundabout'.

100 Great Meadow Road
Suite 200
Wethersfield, CT 06109-2377
P 860.807.4300

Memorandum

Layout conditions proposed to remain unaltered:

1. Tennis Courts
2. Padel Courts
3. Pickle ball Courts

Should you need any additional information, please don't hesitate to contact me.

100 Great Meadow Road
Suite 200
Wethersfield, CT 06109-2377
P 860.807.4300

Memorandum

To: John V. Andrews, Jr., P.E.
ROHDE, SOYKA & ANDREWS
Consulting Engineers, P.C.
40 Garden Street
Poughkeepsie, NY 12601
jandrews@rsaengrs.com

Date: December 10, 2025

Project #: 43550.00

From: Mark Grocki, VHB

Re: Siland Recreation Facility "Backyard"
Modifications to Previous Approval
Revisions from July, 2025 to December, 2025

Dear Mr. Andrews

This memo describes the revisions to the Siland Backyard civil planset from the previous submission in July, 2025 to the current December, 2025 submission:

1. Playground shown in future Phase 1C
2. Shed adjacent to playground is removed
3. Garden Support Building renovations noted
4. New stairs and sidewalk connection south of fields for crossing main southerly drive aisle
    a. Storm catch basin & pipe connection introduced to accommodate new stairs/ sidewalk
5. Additional three (3) propane tanks added to service new Rec Building (located in northwest corner of 'roundabout').

Should you need any additional information, please don't hesitate to contact me.

Mark Grocki, PE
Sr. Project Engineer
mgrocki@vhb.com

100 Great Meadow Road
Suite 200
Wethersfield, CT 06109-2377
P 860.807.4300

Proposed Recreation Facility

4651 Route 22, Town of Amenia
Dutchess County, New York

PREPARED FOR

Siland Commercial Property LLC

14605 N 73rd Street
Scottsdale, Arizona 85260

PREPARED BY

Engineering, Surveying, Landscape
Architecture & Geology, P.C.
100 Motor Parkway
Suite 350
Hauppauge, NY 11788
631.787.3400

October 2025
Revised: February 2022
May 2022
July 2025

VHB Project #: 43550.01

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Attachment A – Construction SMP Inspection Checklist A-1

Attachment B – Site Plan Approval B-1

Attachment C – Soils Information C-1

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Attachment E – Water Quality Calculations E-1

Attachment F – Soil Restoration F-1

Attachment G – Additional Mapping G-1

Forms .....

Certification of Project Construction Contractors

Notice of Intent

Blank Notice of Intent

MS4 Acceptance Form

Blank MS4 Acceptance Form

Spill Response Procedure

Hazardous Waste/Oil Spill Report

Emergency Response Equipment Inventory

Emergency Notification Phone Numbers

Pre-construction Site Assessment Checklist

Construction Duration Inspections

Monthly Summary of Site Inspection Activities

Notice of Termination

Blank Notice of Termination

Introduction and Instruction to Owner/Operator

On behalf of the Owner/Operator, this Erosion and Sedimentation Control / Storm Water Pollution Prevention Plan (SWPPP) has been developed for the project, as required under New York's State Pollutant Discharge Elimination System (SPDES) Permit for Construction Activites (GP-0-25-001). This document will serve as a master document for the development of a new Recreation Building, tennis, pickelball and padel courts, and a new ice-house/ ice skating rink with associated sheds, parking, utilities, landscaping, and stormwater management system. Please note, although the proposed recreation facility development area is approximately ±8-acres, approximately ±99-acres were analyzed as part of the hydrologic analysis. All requirements outlined herein shall be adhered to throughout construction.

The GP-0-25-001 permit authorizes storm water discharges to surface waters of the state for construction projects involving soil disturbances of one (1) or more acres; including disturbance of less than one (1) acre but part of a larger common plan of development.

This manual provides the following information, as required for the SWPPP by the SPDES Permit when applicable to the project:

- Site Description
- Development Description
- Wetland Characteristics
- Drainage Characteristics
- Soil Characteristics
- Rare and Endangered Species Data
- Construction Phasing Information
- Pollution Prevention Practices
- Erosion and Sedimentation Control BMPs
- Operations and Maintenance Plans
- Grading, Drainage and Erosion Control Plans
- SPDES Permit and Fact Sheet
- Notice of Intent (NOI) Form (to be finalized and Certified by the Owner/Operator)
- Notice of Termination (NOT) Form
- Inspection Forms, Monitoring and Reporting Requirements
- Contractor Certification Form

The general requirements (Part I.A.,D.,E.) for Owners/Operators with permit coverage include the following:

- Ensure all 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.
- Maintain a copy of the General Permit (GP-0-25-001), NOI, NOI Acknowledgement Letter, SWPPP, MS4 SWPPP Acceptance Form (if applicable) and inspection reports at the consruction site.
- Written authorization from NYSDEC and the regulated, traditional land use control (MS4) must be received prior to construction activity that will disturb greater than five (5) acres of soil at one time.
- Notify the regulated traditonal land use control MS4, in writing, of any amendments or modifications to the post construction management practice component of the SWPPP, if applicable.
- The owner or operator is authorized to commence construction activity as of the authorization date indicated in the Letter of Authorization (LOA), which is sent by NYSDEC after a complete NOI is electronically submitted.

The NYSDEC has the right to suspend or revoke an Owner/Operator coverage under this permit at any time if the NYSDEC determines that the SWPPP does not meet the permit requirements.

Prior to construction, the Owner/Operator (under the supervision of a licensed Engineer/Landscape Architect or NYSDEC Certified Inspector), must complete the following:

- Certify that they have read and understand the terms of the SPDES Permit.
- Review this manual and coordinate any revisions with the Licensed Engineer who prepared the SWPPP.
- Review location and types of sedimentation and erosion control materials as shown on the approved Soil Erosion and Sedimentation Control Plans.
- Designate areas for stockpiles, sanitary facilities, dumpsters, wash-down, lay-down and construction trailers and appropriate erosion and sedimentation control features, which shall be approved by the Licensed Engineer, Landscape Architect, or the NYSDEC Certified Inspector.
- Identify the trained demolition contractors, site contractors and subcontractors that will be responsible for the implementation of the SWPPP and any post construction storm water management practices, if exists. A trained contractor should be on site on a daily basis when soil disturbance activities are being performed. (See the Forms section at the end of this manual.)
- Designate project contact person(s) and include contact information.

The SWPPP is a dynamic document, and must be continually updated by the Owner/Operator, under the supervision of a licensed Engineer/Landscape Architect or NYSDEC Certified Inspector, throughout construction. It is the responsibility of the Owner/Operator, under the supervision of a Licensed Engineer/Landscape Architect

or NYSDEC Certified Inspector, to update this manual and perform the activities herein, including, but not limited to:

- Perform inspections and maintenance as designated in this manual, and as required as the project phases change.
- Prepare and certify inspection reports and include reports in the SWPPP.
- Request revisions to plans, as necessary, to denote major site changes and/or changes in the site BMPs.
- Request revisions to plans to reflect changes in stockpile, sanitary facility, lay-down and other site areas.
- Maintain schedule of dates of major earthwork, stabilization and/or erosion control installations.
- Document any spills.
- Document off-site sedimentation resulting from this construction.

The following documents will need to be inserted prior to the submission to the NYSDEC:

- Signed Certification form from Contractors and Subcontractors (See Forms Section).
- Signed Notice of Intent (See NOI Forms Section).
- Signed MS4 SWPPP Acceptance Form, if applicable (See Forms Section).
- Final approved site plans including the Erosion Control Plan (See Attachment B)
- Phasing or construction schedule (See Construction Schedule and Sequence, Section IV).

The Owner/Operator, under the supervision of a Licensed Engineer, Landscape Architect, or NYSDEC Certified Inspector, must update the SWPPP throughout construction, until a Notice of Termination (NOT) Form has been submitted to the NYSDEC. From the date of submital of the NOT form, the SWPPP documents must be maintained by the site operator for a period of five years from the date of final stabilization of the site. Any changes to the approved Erosion Control Plan must be coordinated with a Licensed Engineer.

1.

Electronic Notice of Intent (eNOI) Submittal

The NYS Department of Environmental Conservation must receive the completed Notice of Intent electronically (eNOI) using the DEC nForm Portal, users must be registered with NY.gov to use the system. The Notice of Intent (NOI) is to be submitted once a SWPPP has been developed according to all applicable requirements of the GP-0-25-001 Permit. On behalf of the Owner/Operator, VHB has prepared a majority of the NOI Form, based on the existing conditions of the site, proposed work on the site, and water quality calculations. The owner/operator is authorized to commence construction activity as of the authorization date indicated in the Letter of Authorization (LOA), which is sent by the NYSDEC after a completed eNOI is submitted. The Owner/Operator shall also advise VHB of any additional information that may not have been filled in the NOI form. The NOI does require the Local Municipality to sign an MS4 SWPPP Acceptance Form.

Prerequisites for submitting an eNOI, the owner or operator must:

1. Prepare a SWPPP
2. Complete SWPPP Preparer Certication Form, signed by the SWPPP Preparer
3. Complete the Owner/Operator Certification Form, signed by the owner or operator.

As per the requirements of the NYSDEC, this SWPPP document has been prepared, and approved by the MS4, prior to filing of the Electronic Notice of Intent (eNOI) with NYSDEC. The NYSDEC will respond to the eNOI filing with issuance of a Letter of Acknowledement (LOA), which will indicate the authorization date for discharge under this permit to commence. The owner or operator must, within five (5) business days of receipt of the LOA, send an electronic copy of the LOA to the Traditional Land Use Control MS4 Operator(s) with review authority.

2.

Contractor Certifications and Designation Letters

It is a requirement of the SPDES Permit that all those implementing the SWPPP certify that they have read and understand the permit. Certification Forms are included in this manual.

In addition, those implementing the SWPPP must be certified as designees of the contract firm's owner as described in Part III, Subsection A of the SPDES Permit. A copy of the New York State SPDES Permit GP-0-25-001 is included in Section XIII of this manual.

SWPPP Preparer Certification

"I hereby certify that the Stormwater Pollution Prevention Plan (SWPPP) for this project has been prepared in accordance with the terms and conditions of the GP-0-25-001. Furthermore, I understand that certifying false, incorrect or inaccurate information is a violation of this permit and the laws of the State of New York and could subject me to criminal, civil and/or administrative proceedings."

Name: Emma Brewer, PE

Company: VHB

Telephone: 860-807-4300

Signature: _____

Date: _____

CERTIFICATION OF PROJECT CONSTRUCTION CONTRACTORS

Siland Recreation Facility
4651 Route 22 – Amenia, NY

The following certification, applicable to either contractors or subcontractors, is in accordance with the requirements of the current New York State Department of Environmental Conservation SPDES General Permit for Stormwater Discharges from Construction Activity (Permit No. GP-0-25-001). The certification shall be signed by each contractor and subcontractor responsible for on-site activities, or any other subcontractor who will perform any action that may reasonably be expected to cause or have the potential to cause pollution of the waters of New York.

"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. "

Owner/Operator Representative	**Trained Contractor**	**Trained Subcontractor (If Necessary)**
_____	_____	_____
Name	Name	Name
_____	_____	_____
Signature and Date	Signature and Date	Signature and Date
_____	_____	_____
Title/Responsible For	Title/Responsible For	Title/Responsible For
_____	_____	_____
_____	_____	_____
_____	_____	_____
Company and Address	Company and Address	Company and Address
_____	_____	_____
Telephone Number	Telephone Number	Telephone Number

3.
Project Figures

The following pages contain figures that will help establish the location and existing conditions of the site. These figures are:

- Figure 1 – Site Location Map
- Figure 2 – Existing Conditions Drainage Area Plan
- Figure 3 – Proposed Conditions Drainage Area Plan
- Figure 4 – Existing Conditions Plan
- Figure 5 – FEMA Flood Map

The following figures shall be inserted prior to construction:

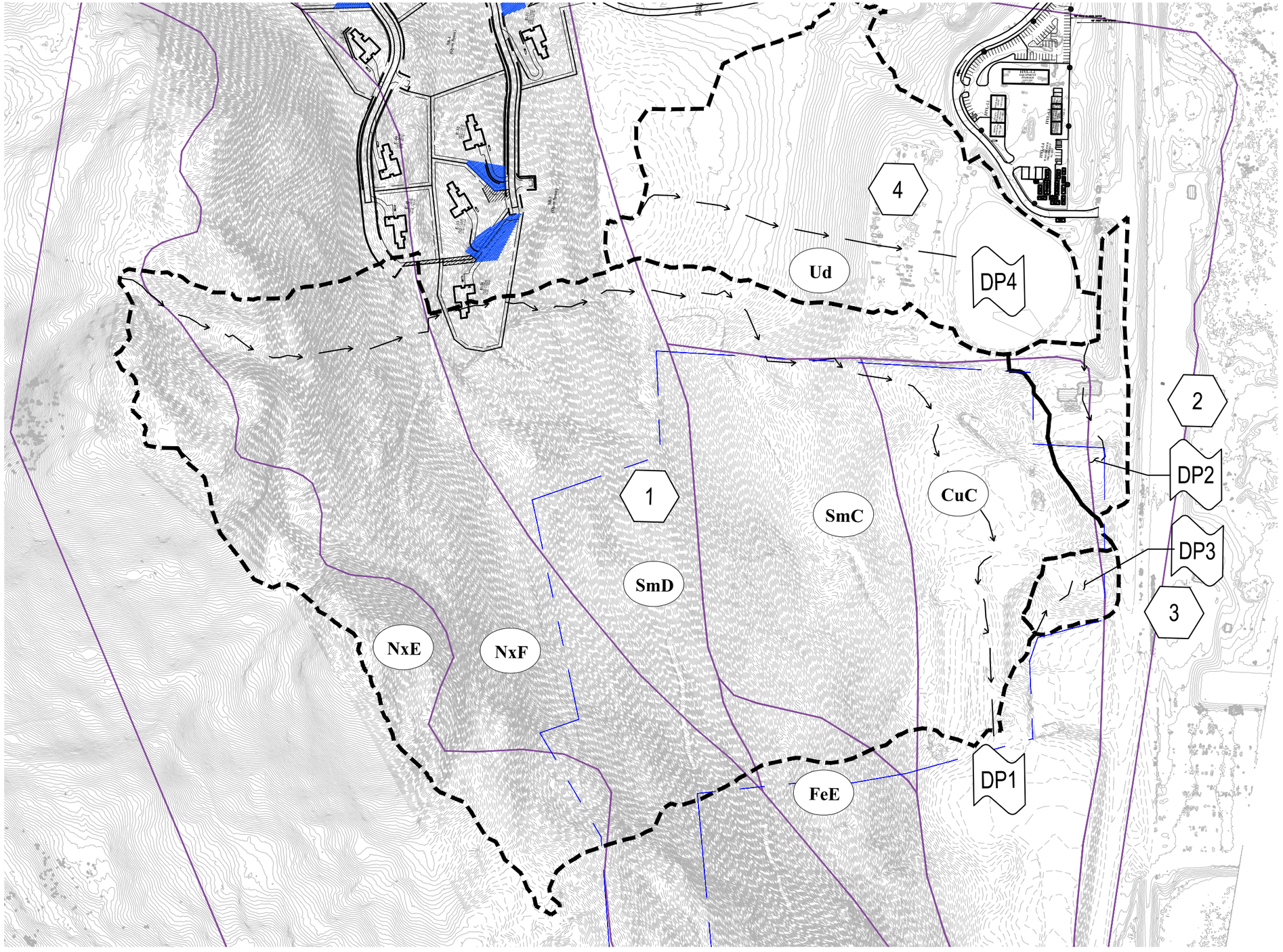
- Layout and Materials Plans
- Grading and Drainage Plans
- Erosion and Sediment Control Plans

0 250 500 1000 Feet

Site Aerial Map
Proposed Recreation Facility
4651 Route 22, Town of Amenia
Dutchess County, New York 12501

Figure 1

October 2021



Legend

SYMBOLS

- X — **DESIGN POINT**
- X — **DRAINAGE AREA DESIGNATION**
- X — **POND**

LINETYPES

- **DRAINAGE AREA BOUNDARY**
- **TIME OF CONCENTRATION FLOW LINE**
- **SOIL TYPE BOUNDARY**

SCS SOIL CLASSIFICATIONS

CuC	**COPAKE GRAVELLY SILT LOAM, ROLLING, HSG A**
FeE	**FARMINGTON-ROCK OUTCROP COMPLEX, STEEP, HSG D**
NxF	**NASSAU-ROCK OUTCROP COMPLEX, VERY STEEP, HSG D**
SmC	**STOCKBRIDGE-FARMINGTON COMPLEX, ROLLING, ROCKY, HSG C**
SmD	**STOCKBRIDGE-FARMINGTON COMPLEX, HILLY, ROCKY, HSG C**
Ud	**UDORTHENTS, SMOOTHED, HSG A**

0 150 300 600Feet

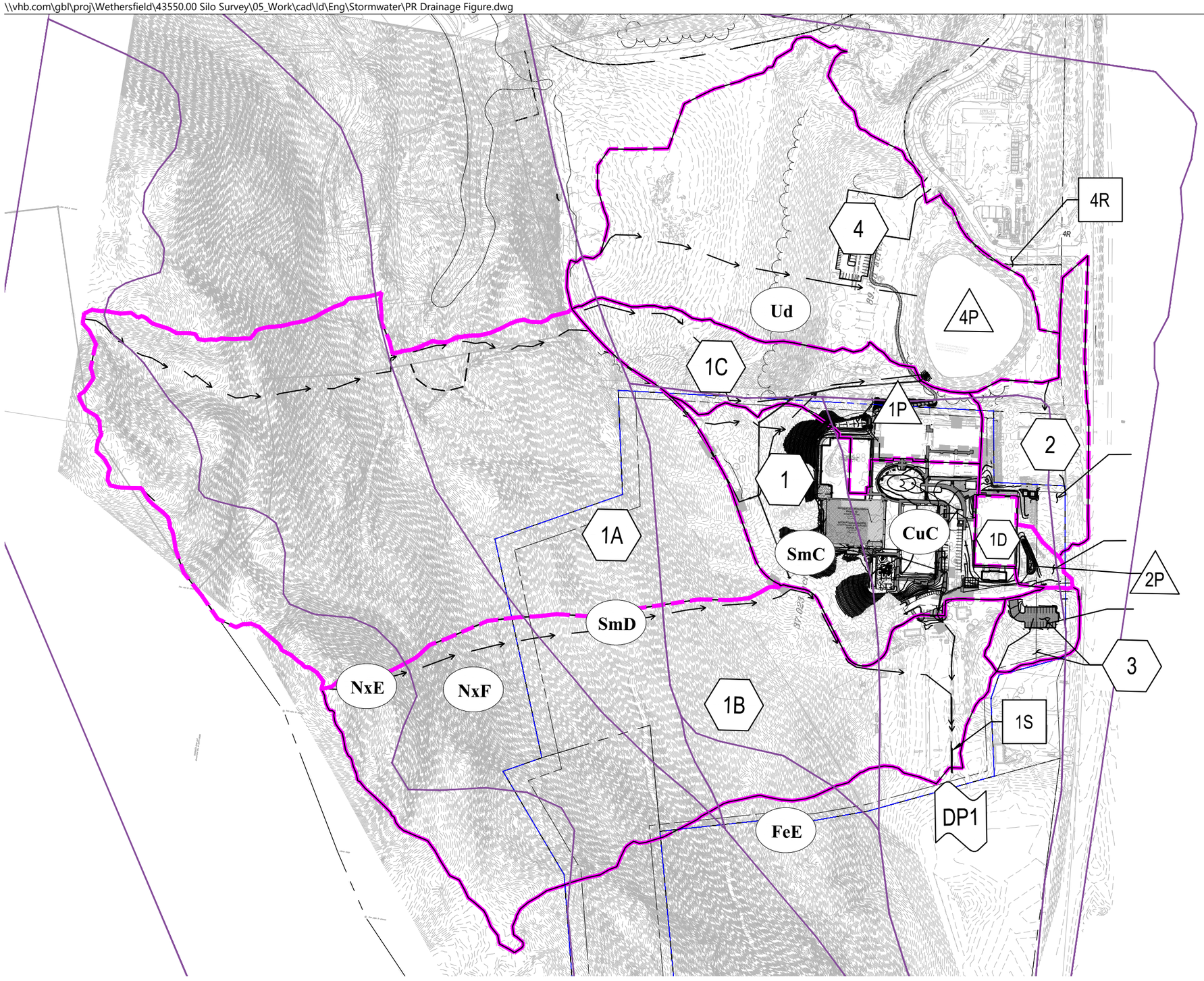
Existing Drainage Conditions

Figure 2

Siland Recreation Facility
4651 Route 22, Amenia, NY

03/19/2025

\\vhb.com\gbl\proj\Wethersfield\43550.00 Silo Survey\05_Work\cad\ld\Eng\Stormwater\PR Drainage Figure.dwg



Legend

SYMBOLS

- X — **DESIGN POINT**
- X — **DRAINAGE AREA DESIGNATION**
- X — **POND**
- X — **REACH**

LINETYPES

- **DRAINAGE AREA BOUNDARY**
- **TIME OF CONCENTRATION FLOW LINE**
- **SOIL TYPE BOUNDARY**

SCS SOIL CLASSIFICATIONS

- CuC — **COPAKE GRAVELLY SILT LOAM, ROLLING, HSG A**
- FeE — **FARMINGTON-ROCK OUTCROP COMPLEX, STEEP, HSG D**
- NxF — **NASSAU-ROCK OUTCROP COMPLEX, VERY STEEP, HSG D**
- SmC — **STOCKBRIDGE-FARMINGTON COMPLEX, ROLLING, ROCKY, HSG C**
- SmD — **STOCKBRIDGE-FARMINGTON COMPLEX, HILLY, ROCKY, HSG C**
- Ud — **UDORTHENTS, SMOOTHED, HSG A**

0 150 300 600Feet

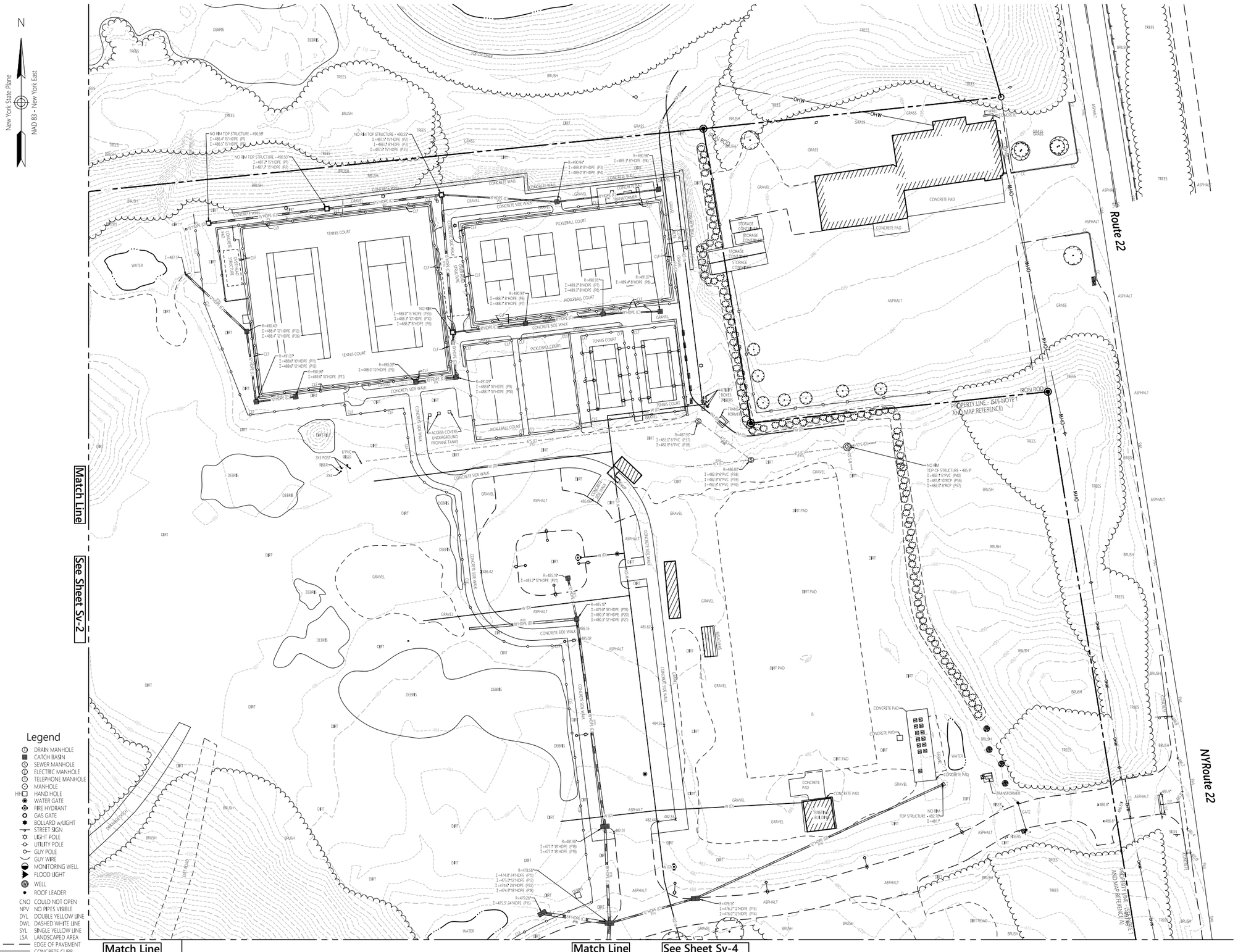
Proposed Drainage Conditions

Figure 3

Siland Recreation Facility
4651 Route 22, Amenia, NY

07/22/2025

\\vhb.com\gbl\proj\WhitePlains\29011.04 SiloRidgeAmeniaSParcel\cad\sr\aerial\29011.04_Planimetrics_02.dwg



Saved Wednesday, July 23, 2025 1:34:03 PM. SPECK Plotted Wednesday, July 23, 2025 4:07:00 PM Stephen Peck

vhb.com

vhb

Engineering, Surveying, Landscape Architecture and Geology, P.C.

100 Motor Parkway
Suite 350
Hauppauge, NY 11788
631.787.3400

NEW YORK STATE CERTIFICATE OF AUTHORIZATION # 001389
UNAUTHORIZED ALTERATION OR ADDITION TO THIS SURVEY IS A VIOLATION OF SECTION 7209 OF THE NEW YORK STATE EDUCATION LAW. COPIES OF THE SURVEY MAP NOT BEARING THE LAND SURVEYOR'S SIGNATURE AND INKED SEAL OR EMBOSSED SEAL SHALL NOT BE CONSIDERED TO BE VALID TRUE COPIES.

General Notes

1) THE PROPERTY LINES SHOWN ON THIS PLAN ARE BASED UPON INFORMATION TAKEN FROM MAP REFERENCE. VHB DID NOT PERFORM THE ORIGINAL SURVEY.
2) THE EXISTING CONDITIONS SHOWN ON THIS PLAN WERE DEVELOPED FROM A COMBINED EFFORT OF UAV BASED LIDAR AND ORTHO-RECTIFIED IMAGERY SEPTEMBER 2024 AND AUGMENTED BY AN ON-THE-GROUND SURVEY PERFORMED BY VHB MARCH 2025.
3) THE LOCATIONS OF UNDERGROUND UTILITIES SHOWN ON THIS PLAN WERE MAPPED PER AMERICAN SOCIETY OF CIVIL ENGINEERS (ASCE) STANDARD 38-22, QUALITY LEVEL(S) "C" & "D". PLEASE NOTE THAT WHILE BEST PRACTICES WERE FOLLOWED, NOT ALL UTILITIES MAY BE SHOWN AND THE ACCURACY OF UTILITY LOCATIONS CANNOT BE GUARANTEED.
4) HORIZONTAL DATUM IS BASED ON NEW YORK STATE PLANE - NEW YORK EAST, NAD 1983. ELEVATIONS SHOWN ON THIS PLAN REFER TO NAVD OF 1988.
5) THE TREE SYMBOL OUTLINE SHOWN ON THIS PLAN DOES NOT REPRESENT THE ACTUAL TREE CANOPY.

Map Reference

SURVEY MAP, PREPARED FOR SILAND COMMERCIAL, LLC, TOWN OF AMENIA, DUTCHESS COUNTY, NEW YORK, SCALE 1"=100', JULY 6, 2006, REVISED OCTOBER 17, 2017, KIRK NORTON, LAND SURVEYOR.

Siland Recreation Facility

4391 Route 22, Town of Amenia
Dutchess County, New York

No.	Revision	Date	Appvd.

Designed by	Checked by
SEP	CCD

Issued for: **CLIENT**
Date: **FEBRUARY 25, 2025**

Not Approved for Construction

Drawing Title
Topographic Survey

Drawing Number
Sv-1

Sheet 1 of 4

Project Number
43550.01

Christopher C. Danforth L.S.
NY Lic Surveyor #050848

\\vhb.com\gbl\proj\WhitePlains\29011.04 SiloRidgeAmeniaSParcel\cad\sr\aerial\29011.04_Planimetrics_02.dwg

N

New York State Plane
NAD 83 - New York East

iron rod in stones

N 17°24'22" W
305.00'

iron rod in stones

N 61°49'02" E
396.40'

Match Line

See Sheet Sv-1

Match Line

See Sheet Sv-3

30 0 30 60
SCALE IN FEET

Legend

- DRAIN MANHOLE
- CATCH BASIN
- SEWER MANHOLE
- ELECTRIC MANHOLE
- TELEPHONE MANHOLE
- MANHOLE
- HH HAND HOLE
- WATER GATE
- FIRE HYDRANT
- GAS GATE
- BOLLARD w/LIGHT
- STREET SIGN
- LIGHT POLE
- UTILITY POLE
- GUY POLE
- GUY WIRE
- MONITORING WELL
- FLOOD LIGHT
- W WELL
- ROOF LEADER

CNO COULD NOT OPEN
NPV NO PIPES VISIBLE
DYL DOUBLE YELLOW LINE
DWL DASHED WHITE LINE
SYL SINGLE YELLOW LINE
LSA LANDSCAPED AREA
EOP EDGE OF PAVEMENT
CC CONCRETE CURB
CHAIN LINK FENCE
STONE WALL
TREE LINE

Saved Wednesday, July 23, 2025 1:34:03 PM SPECK Plotted Wednesday, July 23, 2025 4:07:04 PM Stephen Peck

vhb.com

vhb

Engineering, Surveying,
Landscape Architecture
and Geology, P.C.

100 Motor Parkway
Suite 350
Hauppauge, NY 11788
631.787.3400

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Siland Recreation Facility

4391 Route 22, Town of Amenia
Dutchess County, New York

No.	Revision	Date	Apprvd.

Designed by SEP | Checked by CCD

Issued for CLIENT | Date FEBRUARY 25, 2025

Not Approved for Construction

Drawing Title
Topographic Survey

Drawing Number
Sv-2

Sheet 2 of 4

Project Number
43550.01

Christopher C. Danforth L.S.
NY Lic Surveyor #050848

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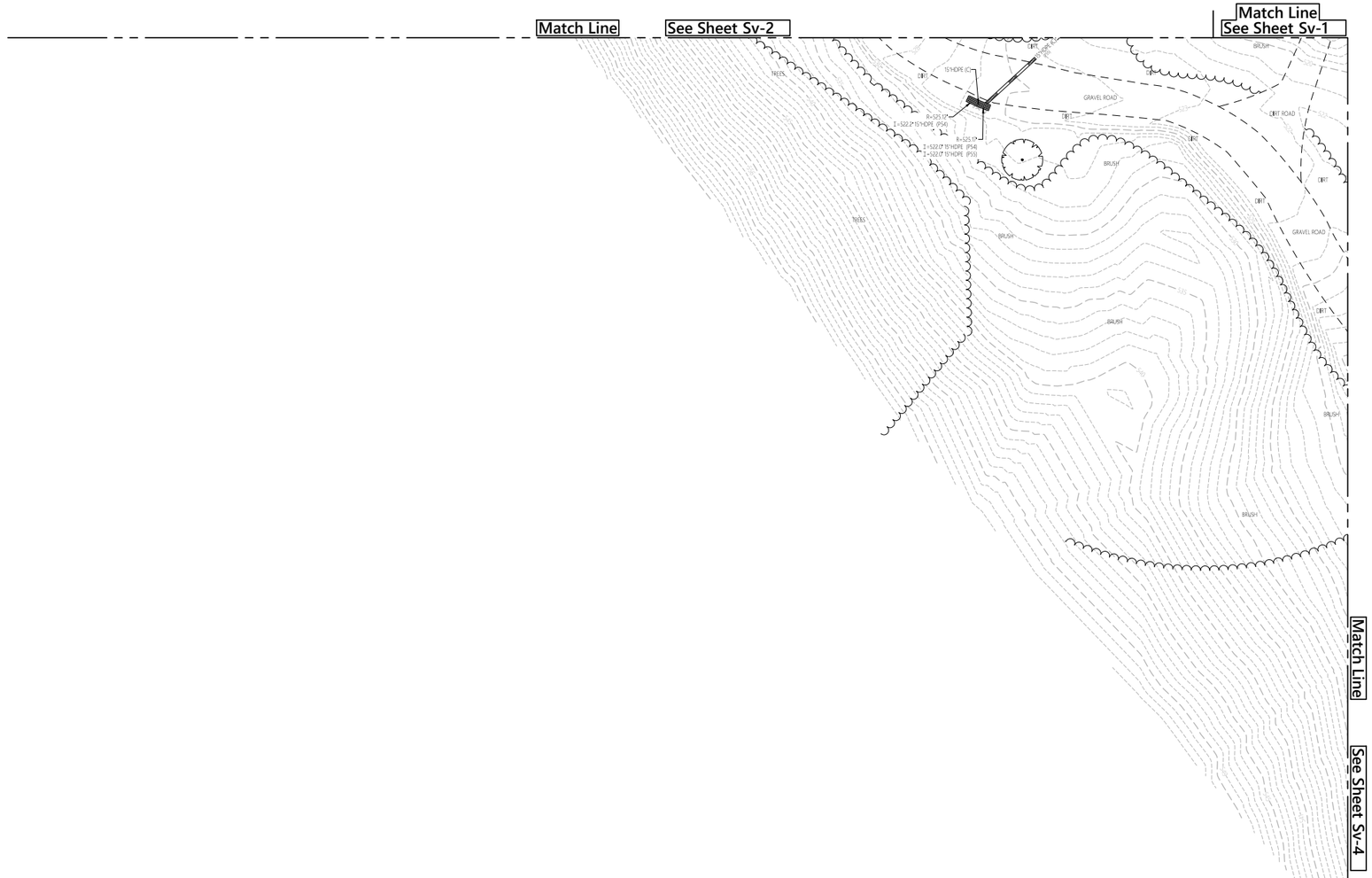

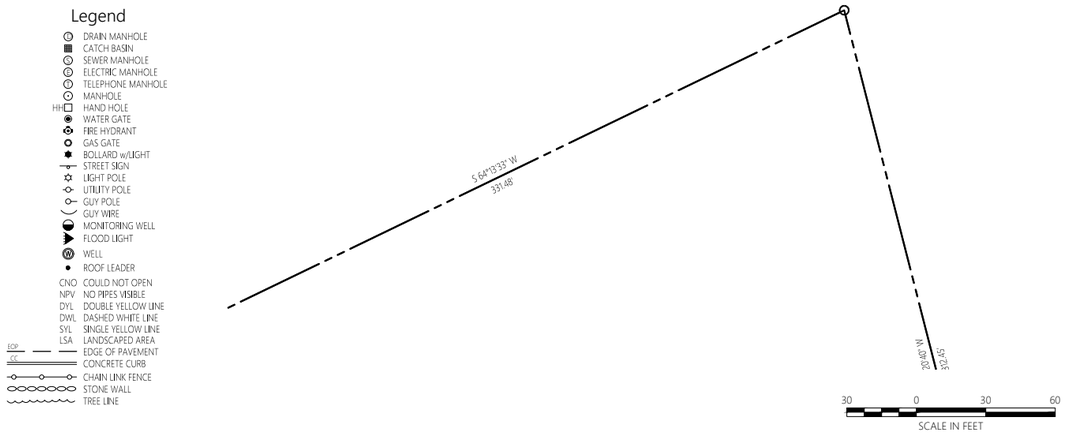

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Checked by: CCD
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Date: FEBRUARY 25, 2025

Not Approved for Construction

Drawing Title
Topographic Survey

Drawing Number
Sv-3

Sheet 3 of 4

Project Number
43550.01

Christopher C. Danforth L.S.
NY Lic Surveyor #050848

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N

New York State Plane
NAD 83 - New York East

Match Line

See Sheet Sv-1

Match Line

See Sheet Sv-3

30 0 30 60
SCALE IN FEET

Legend

- DRAIN MANHOLE
- CATCH BASIN
- SEWER MANHOLE
- ELECTRIC MANHOLE
- TELEPHONE MANHOLE
- MANHOLE
- HH HAND HOLE
- WATER GATE
- FIRE HYDRANT
- GAS GATE
- BOLLARD w/LIGHT
- STREET SIGN
- LIGHT POLE
- UTILITY POLE
- GUY POLE
- GUY WIRE
- MONITORING WELL
- FLOOD LIGHT
- WELL
- ROOF LEADER

CNO COULD NOT OPEN
NPV NO PIPES VISIBLE
DYL DOUBLE YELLOW LINE
DWL DASHED WHITE LINE
SYL SINGLE YELLOW LINE
LSA LANDSCAPED AREA
EOP EDGE OF PAVEMENT
CC CONCRETE CURB
CHAIN LINK FENCE
STONE WALL
TREE LINE

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Drawing Title
Topographic Survey

Drawing Number
Sv-4

Sheet 4 of 4

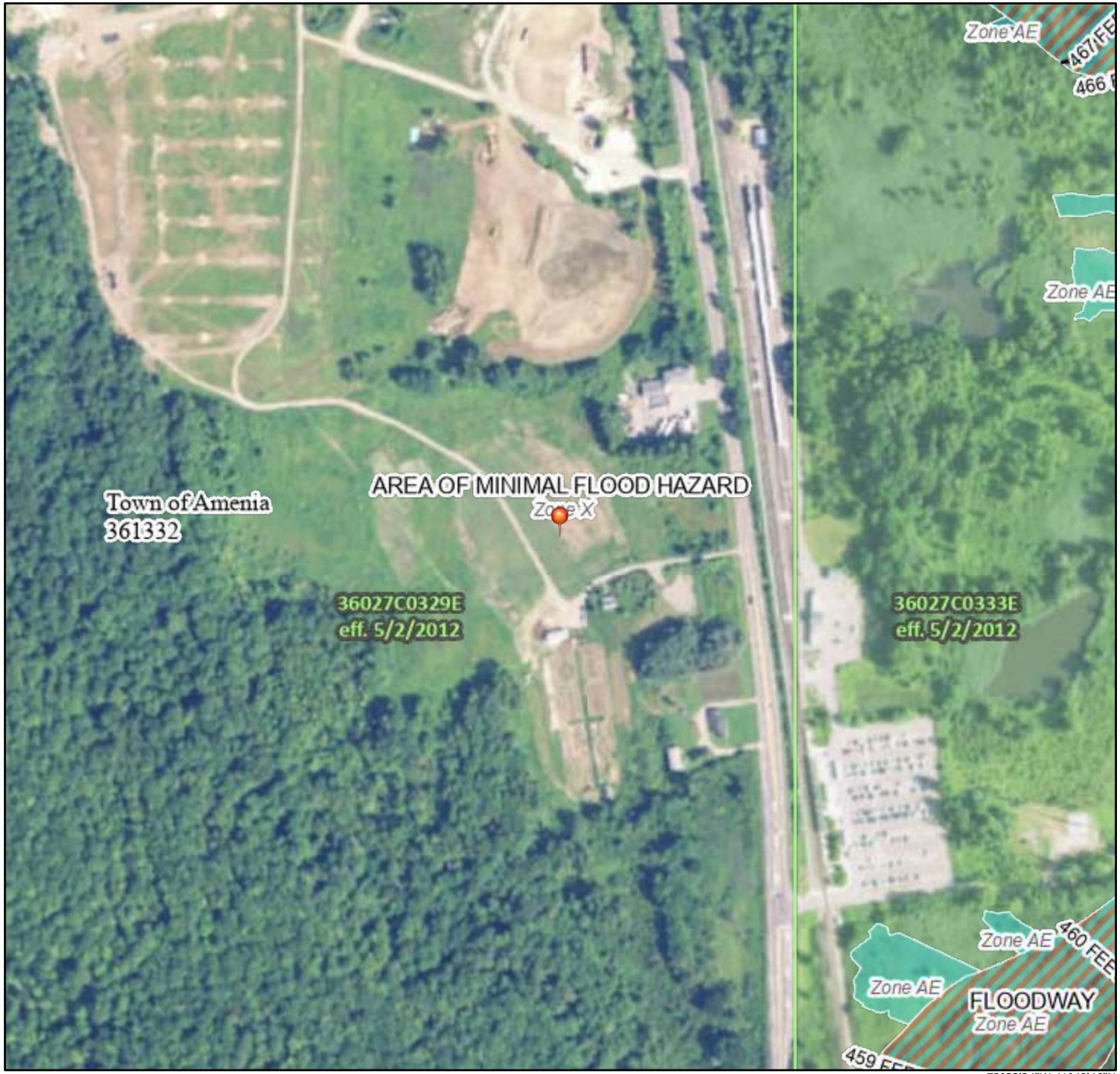
Project Number
43550.01

Christopher C. Danforth L.S.
NY Lic Surveyor #050848

National Flood Hazard Layer FIRMette

FEMA

73°34'12"W 41°49'13"N



73°33'34"W 41°48'46"N

0 250 500 1,000 1,500 2,000 Feet

1:6,000

Basemap: USGS National Map: Orthoimagery: Data refreshed October, 2020

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS
- NO SCREEN Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- 20.2 Cross Sections with 1% Annual Chance
- 17.5 Water Surface Elevation
- Coastal Transect
- Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS
- Digital Data Available
- No Digital Data Available
- Unmapped

N

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 10/8/2021 at 11:42 AM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

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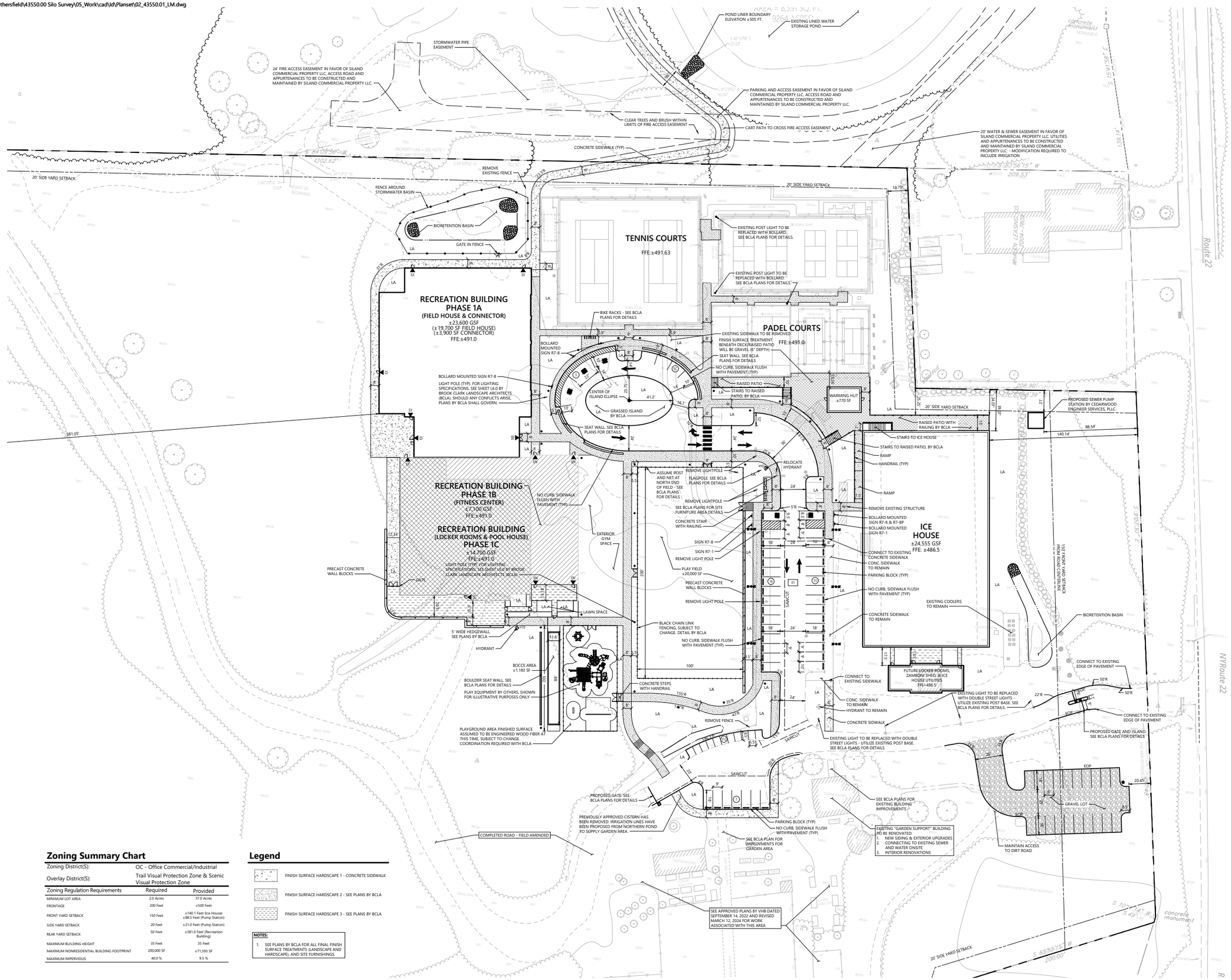

Zoning Summary Chart

Zoning District(S):	OC - Office Commercial/Industrial
Overlay District(S):	Trail Visual Protection Zone & Scenic Visual Protection Zone

Zoning Regulation Requirements	Required	Provided
MINIMUM LOT AREA	2.0 Acres	37.0 Acres
FRONTAGE	200 Feet	±500 Feet
FRONT YARD SETBACK	150 Feet	±140.1 Feet (Ice House) ±88.5 Feet (Pump Station)
SIDE YARD SETBACK	20 Feet	±21.0 Feet (Pump Station)
REAR YARD SETBACK	50 Feet	±581.0 Feet (Recreation Building)
MAXIMUM BUILDING HEIGHT	35 Feet	35 Feet
MAXIMUM NONRESIDENTIAL BUILDING FOOTPRINT	200,000 SF	±71,593 SF
MAXIMUM IMPERVIOUS	40.0 %	9.5 %

Legend

- FINISH SURFACE HARDSCAPE 1 - CONCRETE SIDEWALK
- FINISH SURFACE HARDSCAPE 2 - SEE PLANS BY BCLA
- FINISH SURFACE HARDSCAPE 3 - SEE PLANS BY BCLA

NOTES:

1. SEE PLANS BY BCLA FOR ALL FINAL FINISH SURFACE TREATMENTS (LANDSCAPE AND HARDSCAPE), AND SITE FURNISHINGS.

Sign Summary

M.U.T.C.D. Number	Specification Width	Specification Height	Desc.
R7-1	12"	18"	NO PARKING ANY TIME
R7-8	12"	18"	RESERVED PARKING
R7-8P	12"	6"	VAN ACCESS

0 20 40 80 Feet

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Siland Recreation Facility

4391 Route 22, Town of Amenia
Dutchess County, New York

No.	Revision	Date	Appvd.
1	EDITS PER TOWN ENGINEER COMMENTS	12/11/2025	

Designed by: AMK
Checked by: PV/MRG
Issued for: Site Plan Modificatoin Approval
Not Approved for Construction
Date: July 25, 2025

Drawing Title: Layout and Materials Plan Full Buildout

Drawing Number: C-2.2

Project Number: 43550.01

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0 20 40 80 Feet

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1	EDITS PER TOWN ENGINEER COMMENTS	12/11/2025	

Designed by: AMK
Checked by: PV/MRG

Issued for
Site Plan
Modificatoin Approval
Not Approved for Construction

Date
July 25, 2025

Drawing Title
Grading and Drainage Plan

Drawing Number
C-3.0

Project Number
43550.01

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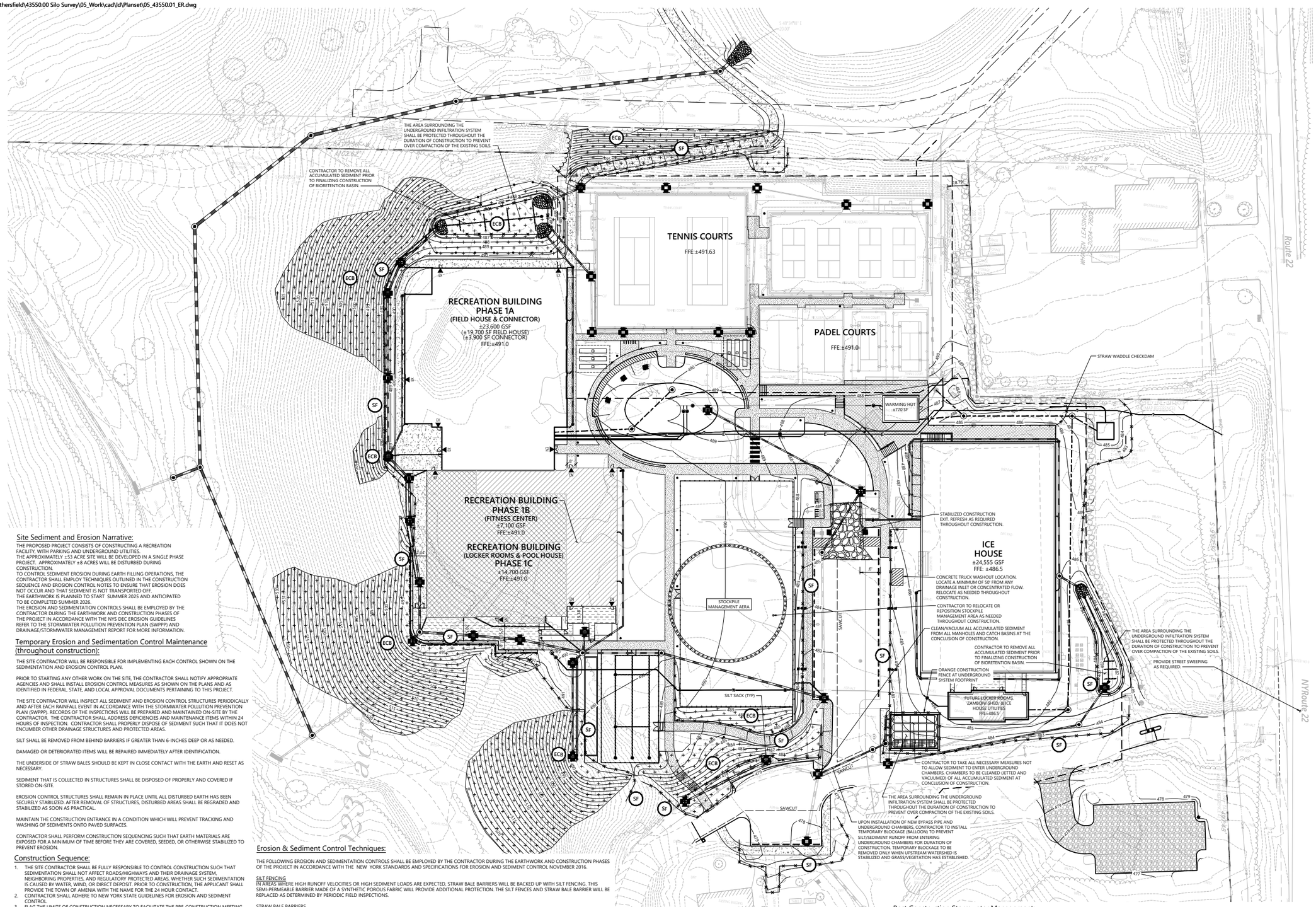

Site Sediment and Erosion Narrative:

THE PROPOSED PROJECT CONSISTS OF CONSTRUCTING A RECREATION FACILITY, WITH PARKING AND UNDERGROUND UTILITIES.
THE APPROXIMATELY ±53 ACRE SITE WILL BE DEVELOPED IN A SINGLE PHASE PROJECT. APPROXIMATELY ±8 ACRES WILL BE DISTURBED DURING CONSTRUCTION.
TO CONTROL SEDIMENT EROSION DURING EARTH FILLING OPERATIONS, THE CONTRACTOR SHALL EMPLOY TECHNIQUES OUTLINED IN THE CONSTRUCTION SEQUENCE AND EROSION CONTROL NOTES TO ENSURE THAT EROSION DOES NOT OCCUR AND THAT SEDIMENT IS NOT TRANSPORTED OFF.
THE EARTHWORK IS PLANNED TO START SUMMER 2025 AND ANTICIPATED TO BE COMPLETED SUMMER 2026.
THE EROSION AND SEDIMENTATION CONTROLS SHALL BE EMPLOYED BY THE CONTRACTOR DURING THE EARTHWORK AND CONSTRUCTION PHASES OF THE PROJECT IN ACCORDANCE WITH THE NYS DEC EROSION GUIDELINES
REFER TO THE STORMWATER POLLUTION PREVENTION PLAN (SWPPP) AND DRAINAGE/STORMWATER MANAGEMENT REPORT FOR MORE INFORMATION.

Temporary Erosion and Sedimentation Control Maintenance (throughout construction):

THE SITE CONTRACTOR WILL BE RESPONSIBLE FOR IMPLEMENTING EACH CONTROL SHOWN ON THE SEDIMENTATION AND EROSION CONTROL PLAN.

PRIOR TO STARTING ANY OTHER WORK ON THE SITE, THE CONTRACTOR SHALL NOTIFY APPROPRIATE AGENCIES AND SHALL INSTALL EROSION CONTROL MEASURES AS SHOWN ON THE PLANS AND AS IDENTIFIED IN FEDERAL, STATE, AND LOCAL APPROVAL DOCUMENTS PERTAINING TO THIS PROJECT.

THE SITE CONTRACTOR WILL INSPECT ALL SEDIMENT AND EROSION CONTROL STRUCTURES PERIODICALLY AND AFTER EACH RAINFALL EVENT IN ACCORDANCE WITH THE STORMWATER POLLUTION PREVENTION PLAN (SWPPP). RECORDS OF THE INSPECTIONS WILL BE PREPARED AND MAINTAINED ON-SITE BY THE CONTRACTOR. THE CONTRACTOR SHALL ADDRESS DEFICIENCIES AND MAINTENANCE ITEMS WITHIN 24 HOURS OF INSPECTION. CONTRACTOR SHALL PROPERLY DISPOSE OF SEDIMENT SUCH THAT IT DOES NOT ENCUMBER OTHER DRAINAGE STRUCTURES AND PROTECTED AREAS.

SILT SHALL BE REMOVED FROM BEHIND BARRIERS IF GREATER THAN 6-INCHES DEEP OR AS NEEDED.

DAMAGED OR DETERIORATED ITEMS WILL BE REPAIRED IMMEDIATELY AFTER IDENTIFICATION.

THE UNDERSIDE OF STRAW BALES SHOULD BE KEPT IN CLOSE CONTACT WITH THE EARTH AND RESET AS NECESSARY.

SEDIMENT THAT IS COLLECTED IN STRUCTURES SHALL BE DISPOSED OF PROPERLY AND COVERED IF STORED ON-SITE.

EROSION CONTROL STRUCTURES SHALL REMAIN IN PLACE UNTIL ALL DISTURBED EARTH HAS BEEN SECURELY STABILIZED. AFTER REMOVAL OF STRUCTURES, DISTURBED AREAS SHALL BE REGRADED AND STABILIZED AS SOON AS PRACTICAL.

MAINTAIN THE CONSTRUCTION ENTRANCE IN A CONDITION WHICH WILL PREVENT TRACKING AND WASHING OF SEDIMENTS ONTO PAVED SURFACES.

CONTRACTOR SHALL PERFORM CONSTRUCTION SEQUENCING SUCH THAT EARTH MATERIALS ARE EXPOSED FOR A MINIMUM OF TIME BEFORE THEY ARE COVERED, SEEDED, OR OTHERWISE STABILIZED TO PREVENT EROSION.

Construction Sequence:

1. THE SITE CONTRACTOR SHALL BE FULLY RESPONSIBLE TO CONTROL CONSTRUCTION SUCH THAT SEDIMENTATION SHALL NOT AFFECT ROADS/HIGHWAYS AND THEIR DRAINAGE SYSTEM, NEIGHBORING PROPERTIES, AND REGULATORY PROTECTED AREAS, WHETHER SUCH SEDIMENTATION IS CAUSED BY WATER, WIND, OR DIRECT DEPOSIT. PRIOR TO CONSTRUCTION, THE APPLICANT SHALL PROVIDE THE TOWN OF AMENIA WITH THE NAME FOR THE 24 HOUR CONTACT.
2. CONTRACTOR SHALL ADHERE TO NEW YORK STATE GUIDELINES FOR EROSION AND SEDIMENT CONTROL
3. FLAG THE LIMITS OF CONSTRUCTION NECESSARY TO FACILITATE THE PRE-CONSTRUCTION MEETING.
4. HOLD PRE-CONSTRUCTION MEETING. (REMEMBER TO CALL "DIG SAFELY NEW YORK" 1-800-962-7962 OR 811).
5. NOTIFY THE TOWN OF AMENIA ZONING ENFORCEMENT OFFICER AND ENGINEERING DEPARTMENT, 48 HOURS PRIOR TO COMMENCEMENT OF ANY CONSTRUCTION ACTIVITY.
6. INSTALL STABILIZED VEHICLE CONSTRUCTION EXIT.
7. INSTALL EROSION AND SEDIMENT CONTROLS IN ACCORDANCE WITH THE E&S PLAN FOR THE SITE INCLUDING SILT FENCE BARRIERS AND SILT SACKS.
8. COMPLETE DEMOLITION.
9. ESTABLISH ROUGH GRADE ON THE SITE.
10. CONSTRUCT BUILDING FOUNDATIONS AND UNDERGROUND UTILITIES.
11. INSTALL SILT SACK SEDIMENT TRAPS IN ALL NEW AND EXISTING CATCH BASINS.
12. CONTINUE BUILDING CONSTRUCTION
13. INSTALL PAVEMENT BASE & FIRST COURSE OF BITUMINOUS CONCRETE.
14. INSTALL LANDSCAPING & LOAM AND SEED ALL DISTURBED AREAS.
15. FINALIZE BUILDING CONSTRUCTION.
17. LOAM AND SEED ALL DISTURBED AREAS.
18. AFTER SITE IS STABILIZED AND VEGETATION (GRASS) IS AT LEAST 75% ESTABLISHED, REMOVE TEMPORARY EROSION AND SEDIMENT CONTROLS.
19. WHEN ALL OTHER WORK HAS BEEN COMPLETED, REPAIR AND SWEEP ALL PAVED AREAS FOR THE FINAL COURSE OF PAVING. INSPECT THE DRAINAGE SYSTEM AND CLEAN AS NEEDED.
20. INSTALL FINAL COURSE OF PAVEMENT.
21. UPON COMPLETION OF CONSTRUCTION AND ESTABLISHMENT OF PERMANENT GROUND COVER, CONTRACTOR SHALL REMOVE AND DISPOSE OF EROSION CONTROL MEASURES AND CLEAN/ JET-VAC SEDIMENT AND DEBRIS FROM ENTIRE DRAINAGE AND SEWER SYSTEMS.

Erosion & Sediment Control Techniques:

THE FOLLOWING EROSION AND SEDIMENTATION CONTROLS SHALL BE EMPLOYED BY THE CONTRACTOR DURING THE EARTHWORK AND CONSTRUCTION PHASES OF THE PROJECT IN ACCORDANCE WITH THE NEW YORK STANDARDS AND SPECIFICATIONS FOR EROSION AND SEDIMENT CONTROL NOVEMBER 2016.

SILT FENCING
IN AREAS WHERE HIGH RUNOFF VELOCITIES OR HIGH SEDIMENT LOADS ARE EXPECTED, STRAW BALE BARRIERS WILL BE BACKED UP WITH SILT FENCING. THIS SEMI-PERMEABLE BARRIER MADE OF A SYNTHETIC POROUS FABRIC WILL PROVIDE ADDITIONAL PROTECTION. THE SILT FENCES AND STRAW BALE BARRIER WILL BE REPLACED AS DETERMINED BY PERIODIC FIELD INSPECTIONS.

STRAW BALE BARRIERS
STRAW BALE BARRIERS WILL BE PLACED TO TRAP SEDIMENT TRANSPORTED BY RUNOFF BEFORE IT REACHES THE DRAINAGE SYSTEM OR LEAVES THE CONSTRUCTION SITE. BALES WILL BE SET AT LEAST FOUR INCHES INTO THE EXISTING GROUND TO MINIMIZE UNDERCUTTING BY RUNOFF.

CATCH BASIN PROTECTION
NEWLY CONSTRUCTED AND EXISTING CATCH BASINS WILL BE PROTECTED WITH SILT SACKS THROUGHOUT CONSTRUCTION.

GRAVEL AND CONSTRUCTION ENTRANCE/EXIT
A TEMPORARY CRUSHED-STONE CONSTRUCTION ENTRANCE/EXIT WILL BE CONSTRUCTED. A CROSS SLOPE WILL BE PLACED IN THE ENTRANCE TO DIRECT RUNOFF TO THE SEDIMENT TRAP.

STOCKPILE MANAGEMENT
SIDESLOPES OF STOCKPILED MATERIAL SHALL BE NO STEEPER THAN 2:1. STOCKPILES NOT USED WITHIN 30 DAYS NEED TO BE SEEDED AND MULCHED IMMEDIATELY AFTER FORMATION OF THE STOCKPILE. STRAW BALES AND SILT FENCE ARE TO BE PLACED AROUND THE STOCKPILE AREA APPROXIMATELY 10 FEET FROM THE TOW OF SLOPE.

DUST CONTROL
PERIODICALLY MOISTEN EXPOSED SURFACES ON UNPAVED TRAVELWAYS TO KEEP THE TRAVELWAY DAMP AND REDUCE DUST.

CONCRETE TRUCK WASHOUT
CONCRETE WASHOUT SHALL BE LOCATED A MINIMUM OF 50 FT FROM ANY DRAINAGE INLET OR CONCENTRATED ONCE CONCRETE WASTE HAS BEEN WASHED IN THE WASHOUT AREA AND ALLOWED TO HARDEN, THE CONCRETE SHALL BE BROKEN UP AND REMOVED FROM THE SITE. THE CONTRACTOR SHALL REMOVE WASHED OUT CONCRETE ON A REGULAR BASIS. PLASTIC LINING SHALL BE A MINIMUM OF 10 MIL. POLYETHYLENE SHEETING AND SHALL BE FREE OF HOLES AND TEARS AND CLEANED OUT ONCE 75% CAPACITY IS REACHED. STRAW BALES MAY BE SUBSTITUTED WITH ALTERNATE SECURING MEASURES SUCH AS CONCRETE BLOCKS

Post Construction Stormwater Management:

THE PROPERTY OWNER SHALL BE RESPONSIBLE FOR ENSURING THAT STORMWATER MANAGEMENT SYSTEMS BE INSPECTED AND MAINTAINED. THE FOLLOWING PLAN COMPONENTS SHALL BE ADHERED TO:

SOURCE CONTROL
A COMPREHENSIVE SOURCE CONTROL PROGRAM WILL BE IMPLEMENTED AT THE SITE, WHICH INCLUDES REGULAR PAVEMENT SWEEPING AT A MINIMUM 2 TIMES PER YEAR, CATCH BASIN CLEANING, AND MAINTENANCE AND CLEARING OF LITTER FROM PARKING AREAS AND PERIMETER LANDSCAPED AREAS. CLEAN ALL CATCH BASINS AND STRUCTURES TWICE ANNUALLY TO REMOVE ACCUMULATED SAND, SEDIMENT, AND FLOATABLE PRODUCTS OR AS NEEDED BASED ON USE.

SUBSURFACE RETENTION SYSTEM
THE SUBSURFACE DETENTION SYSTEM IS AN UNDERGROUND DETENTION SYSTEM TO BE USED FOR SURFACE RUNOFF. INSPECT THE UNDERGROUND DETENTION SYSTEM ANNUALLY, IN THE SPRING. NECESSARY REPAIRS WILL BE PERFORMED IMMEDIATELY UPON IDENTIFICATION.

STORMWATER RETENTION BASIN
WHEN THE FILTERING CAPACITY DIMINISHES SUBSTANTIALLY (I.E., WHEN THE WATER PONDS ON THE SURFACE OF THE FILTER BED FOR MORE THAN 48 HOURS), THE TOP FEW INCHES OF DISCOLORED MATERIAL SHALL BE REMOVED AND REPLACED WITH FRESH MATERIAL. AREAS DEVOID OF MULCH SHALL BE RE-MULCHED ON AN ANNUAL BASIS. DEAD OR DISEASED PLANT MATERIAL SHALL BE REPLACED AS NECESSARY.

DEEP SUMP CATCH BASINS
CATCH BASINS AT THE SITE ARE TO BE CONSTRUCTED WITH SUMPS (MINIMUM 4-FEET) TO TRAP DEBRIS AND SEDIMENTS. CATCH BASINS WILL BE CLEANED TWICE PER YEAR.

ALL E&S CONTROL MEASURES WILL BE INSPECTED WEEKLY AND AFTER RAINFALL OF 0.5 INCHES IN 24 HOURS.

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THIS PLAN PROVIDES GENERAL GUIDANCE FOR THE CONSTRUCTION ACTIVITIES THAT MAY OCCUR. THE CONTRACTOR IS FULLY RESPONSIBLE TO PROVIDE AND MAINTAIN PROPER EROSION AND SEDIMENT CONTROL AT ALL TIMES. ADDITIONAL EROSION AND SEDIMENT CONTROL MEASURES MAY BE REQUIRED THROUGHOUT CONSTRUCTION BY THE TOWN, OWNER, OR OWNER'S REPRESENTATIVE.

EROSION CONTROL BLANKET (ECB)
SILT FENCE (SF)

0 20 40 80 Feet

Siland Recreation Facility

4391 Route 22, Town of Amenia
Dutchess County, New York

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Designed by: AMK
Checked by: PV/MRG
Issued for: Site Plan Modificatoin Approval
Not Approved for Construction
Date: July 25, 2025

Drawing Title: Erosion and Sediment Control Plan

Drawing Number: C-5.0

Project Number: 43550.01

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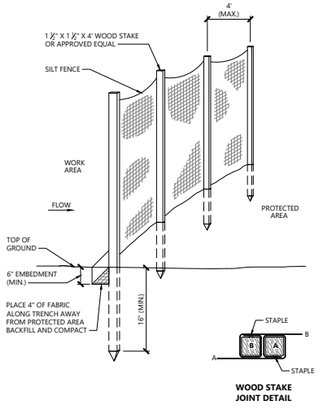
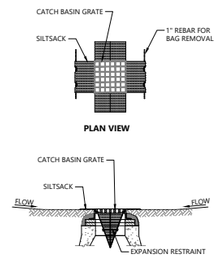


WOOD STAKE JOINT DETAIL

Silt Fence Barrier

1/16

N.T.S. Source: VHB LD_650



SECTION VIEW

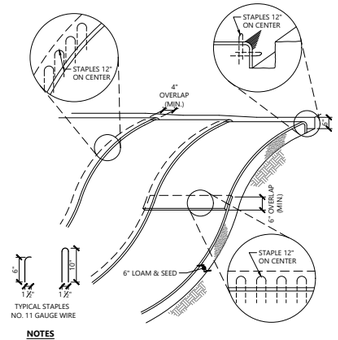
NOTES

1. INSTALL SILTSACK IN ALL CATCH BASINS WHERE INDICATED ON THE PLAN BEFORE COMMENCING WORK OR IN PAVED AREAS AFTER BINDER COURSE IS PLACED AND HAY BALES HAVE BEEN REMOVED.
2. GRATE TO BE PLACED OVER SILTSACK.
3. SILTSACK SHALL BE INSPECTED PERIODICALLY AND AFTER ALL STORM EVENTS AND CLEANING OR REPLACEMENT SHALL BE PERFORMED PROMPTLY AS NEEDED. MAINTAIN UNTIL UPSTREAM AREAS HAVE BEEN PERMANENTLY STABILIZED

Siltsack Sediment Trap

1/16

N.T.S. Source: VHB LD_674



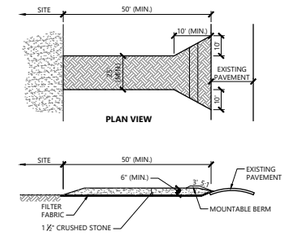
NOTES

1. BEGIN AT THE TOP OF BLANKET INSTALLATION AREA BY ANCHORING BLANKET IN A 6" DEEP TRENCH BACKFILL AND COMPACT TRENCH AFTER STAPLING.
2. ROLL THE BLANKET DOWN THE SWALE IN THE DIRECTION OF THE WATER FLOW.
3. THE EDGES OF BLANKETS MUST BE STAPLED WITH APPROX. 4 INCH OVERLAP WHERE 2 OR MORE STRIP WIDTHS ARE REQUIRED.
4. WHEN BLANKETS MUST BE SPLICED DOWN THE SWALE, PLACE UPPER BLANKET END OVER LOWER END WITH 6 INCH (MIN.) OVERLAP AND STAPLE BOTH TOGETHER.
5. METHOD OF INSTALLATION SHALL BE AS PER MANUFACTURER'S RECOMMENDATIONS.
6. EROSION CONTROL BLANKETS SHALL BE USED IN ALL AREAS WHERE SLOPES EXCEED 3:1.

Erosion Control Blanket Slope Installation

1/16

N.T.S. Source: VHB LD_680



CROSS-SECTION

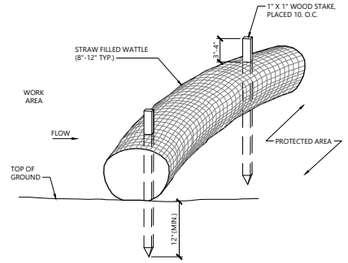
NOTES

1. EXIT WIDTH SHALL BE A TWENTY-FIVE (25) FOOT MINIMUM, BUT NOT LESS THAN THE FULL WIDTH AT POINTS WHERE INGRESS OR EGRESS OCCURS.
2. THE EXIT SHALL BE MAINTAINED IN A CONDITION WHICH SHALL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHTS-OF-WAY MUST BE REMOVED IMMEDIATELY. BERM SHALL BE PERMITTED. PERIODIC INSPECTION AND MAINTENANCE SHALL BE PROVIDED AS NEEDED.
3. STABILIZED CONSTRUCTION EXIT SHALL BE REMOVED PRIOR TO FINAL FINISH MATERIALS BEING INSTALLED.

Stabilized Construction Exit

1/16

N.T.S. Source: VHB LD_682



NOTES

1. STRAW WATTLE SHALL BE AS MANUFACTURED BY EARTHSAVER OR APPROVED EQUAL.
2. STRAW WATTLES SHALL OVERLAP A MINIMUM OF 12 INCHES.
3. STRAW WATTLE SHALL BE INSPECTED PERIODICALLY AND AFTER ALL STORM EVENTS, AND REPAIR OR REPLACEMENT SHALL BE PERFORMED PROMPTLY AS NEEDED.
4. TEMPORARY STRAW WATTLES TO BE REMOVED BY CONTRACTOR. ALL OTHERS TO REMAIN IN PLACE UNLESS DIRECTED OTHERWISE BY ENGINEER.
5. IF NON BIODEGRADABLE NETTING IS USED THE NETTING SHALL BE COLLECTED AND DISPOSED OF OFFSITE.

Straw Wattle - Erosion Control Barrier

1/20

N.T.S. Source: VHB LD_659

vhb.com

vhb

Engineering, Surveying, Landscape Architecture and Geology, PC
100 Motor Parkway
Suite 350
Hauppauge, NY 11788
631.787.3400

Siland Recreation Facility

4391 Route 22, Town of Amenia
Dutchess County, New York

No.	Revision	Date	Apprvd.
1	EDITS PER TOWN ENGINEER COMMENTS	12/11/2025	

Designed by: AMK
Checked by: PV/MRG

Issued for: **Site Plan Modificatoin Approval**
Not Approved for Construction
Date: **July 25, 2025**

Drawing Title: **Site Details 5**

Drawing Number: **C-6.4**

IT IS A VIOLATION OF SECTION 7209 OF ARTICLE 145 OF THE NEW YORK STATE EDUCATION LAW FOR ANY PERSON TO ALTER ANY DOCUMENT THAT BEARS THE SEAL OF A PROFESSIONAL ENGINEER, UNLESS THE PERSON IS ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER

Project Number: **43550.01**

Saved Tuesday, October 28, 2025 3:06:05 PM AKOWALCZYK Plotted Tuesday, December 9, 2025 9:56:09 AM Andria May Kowalczyk

4.
Project Description

Site Location and Summary

The site is located on the west side of Route 22 in Amenia, New York. Currently, the site is on one lot, consisting of two parcels, identified as:

- Parcel Number: 132000-7066-00-910219-0000

The proposed project includes the construction of a new Recreation Building, tennis, pickelball and padel courts, and a new ice-house/ ice skating rink with associated sheds, parking, utilities, landscaping, and stormwater management system. Please note, although the proposed recreation facility development area is approximately ±8-acres, approximately ±99-acres were analyzed as part of the hydrologic analysis. This includes the area associated with the development of the recreation area and the surrounding land on the property.

The parcel is currently zoned as Office Commercial/Industrial (OC) along Route 22 and Rural Agriculture (RA) at the rear/western portion of the site. All proposed work is located in the OC zone.

Surrounding Zoning
North: Office Commercial/Industrial (OC) & Rural Agriculture (RA)
East: Route 22 / Office Commercial/Industrial (OC)
South: Office Commercial/Industrial (OC) & Rural Agriculture (RA)
West: Rural Agriculture (RA)

The project site is bounded by:
North: Silo Ridge Field Club (Residential) & Landfill
East: Route 22 & Commercial Property
South: Residential Property a & Vacant wooden parcels.
West: Vacant wooded parcels.

Section 3 of this report includes Figures 1 - Site Location Map.

Existing Conditions

The overall watershed is generally woodlands and grass fields, with some gravel parking areas. The site drainage pattern, under existing conditions is as follows:

Drainage Area 1: This area is comprised of ±76-acres, consisting mostly of undeveloped woodlands to the west, grass fields, and some gravel roads/ parking areas. The majority of the stormwater runoff from this area flows overland, downhill from the west to east/southeast, reaching the south end of the site. The runoff ultimately discharges offsite to the south end of the property, into a forested area (shown as DP-1 on Figure 2: Existing Drainage Conditions).

Drainage Area 2: This area is comprised of ±3.3-acres located in the northeast corner of the site, which accumulating in a low-lying depressed area with no outlet other than infiltration into its soils, shown as DP-2 on Figure 2. Soil mapping reveals A-type soils in this area. Stormwater does not runoff from this drainage area.

Drainage Area 3: This area is comprised of ±1-acres and consists of a building and storage parking lot. Similar to Drainage Area 2, this area accumulates in a low-lying depressed area with no outlet other than infiltration into the ground, shown as DP-3 on Figure 2. Stormwater does not run offsite from this drainage area. Soil mapping reveals A-type soils in this area.

Drainage Area 4: This area is comprised of ±18-acres that consists of grassed hillside and a construction staging area that drains towards a large, onsite retention pond (lined, no infiltration) used for irrigation, shown as DP-4 on Figure 2. VHB had reviewed a stormwater management design and report by Rennia Engineering Design dated Dec. 20, 2020 and had mimicked the HydroCAD pond size in our HydroCAD program for modeling purposes of the Retention Pond (Pond 4P). The Rennia report is intended so stormwater runoff does not leave this pond for up to the 100yr storm event. As noted in the Rennia report, the original design of the Retention Pond assumed a contributing catchment area of approx. 3-acres, and a water elevation of 506.5. The bottom of the Pond is at EL=479, and the outlet elevation is at 507.18. This would allow up to a 100-yr storm event to be retained within the pond from elevation 506.5 to 507.18, and storms greater than the 100-yr would overflow via a grassed swale outlet. The report analyzes the outlet swale for up to a 1000-yr storm event.

According to Appendix C of the NYC DEC SPDES General Permit for Stormwater Discharges from Construction Activity Permit No. GP-0-25-001 dated January 29, 2025; the site is not located within watersheds where enhanced phosphorous removal standards are required.

Floodplains

According to the Flood Insurance Rate Map (FIRM) prepared by the Federal Emergency Management Agency (FEMA), the site has been identified as located in Zone X identified as "areas determined to be outside of the 0.2% annual chance floodplain" per Map No. 36027C0329E dated 05/02/2012.

The map retrieved is included in Section 3 of this report

Soils Information

Per the NRCS Web Soil Survey, the site consists of Udorthents and Copake gravelly silt loam, rolling, classified as Hydrologic Soil Group "A", having a high infiltration rate when thoroughly wet, Stockbridge-Farmington complex, rolling & hilly, rocky, classified as Hydrologic Soil Group "C", having slow infiltration rates when thoroughly wet, and Farmington-Rock outcrop complex, steep and Nassau-Rock outcrop complex, steep, classified as Hydrologic Soil Group "D", having very slow infiltration rate when thoroughly wet. Generally, the "C" soils are located on the western portion of the site and the "A" soils are located on the eastern portion of the site. Additionally, the "D" soils are generally located outside of the area that is being developed. Soil Data can be found in Attachment C.

Subsurface exploration was performed by Daniel G. Loucks, P.E. dated October 8, 2024 at the proposed ice house location and the western side of the site including the proposed building location. During the exploration, ten (10) soil borings were drilled between 12 and 27 feet below the existing ground surface within the existing property. Groundwater was encountered 4 ft. below grade at B-3 and 20 ft. below grade at B-2. See Geotechnical Report for Silo Ridge Field and Ice House by Daniel G. Loucks, P.E. Dated October 8, 2024, which can be found in Attachment C.

Topography

The existing topography is ranges from 1,110± at the top of the abutting hillside, northwest of the site, and slopes down to approx. elevation 470± at the southeast corner of the site.

Topographical information is shown on the Survey plan located in Section 2 of this report.

Endangered Species and Critical Habitat

The New York Natural Heritage Program's "Environmental Resource Mapper" indicates that the site is located within a rare plants or animals area. The site is not located within any state regulated freshwater wetlands. The site does not appear to

be within any Critical Environmental Areas (CEA), and there are no classified streams, wetland check zones, or significant natural communities in the notable vicinity. See Attachment G, for the NYSDEC Environmental Map.

The forested areas at the western boundary of the Subject Property may contain potential habitat for the timber rattlesnake, however, during initial site visits made to the Subject Property at the time of the development of the Silo Ridge Resort Community, it was observed that there were minimal habitat areas on-site for this species. Rock outcrops were observed scattered along the ridge line; however, due to the dense canopy on the side of the ridge and lack of prolonged sun exposure, there were few areas for basking. Site visits conducted found no suitable basking or den sites on-site for timber rattlesnakes. Under the Proposed Project, approximately 0.19 acres of forested area would be removed, less than 1 percent of the forested area within the Subject Property. Therefore, it is anticipated that the Proposed Project would not impact potential habitat for this species.

Historic & Cultural Resources

According to the New York State Cultural Resource Information System (CRIS) online database, the subject property is not located within an archeological sensitive area. Additionally, a Phase IA/IB was completed form the subject property in July 2014, prepared by Historical Perspectives, Inc., and it was concluded that no potential archeological deposits existing within the tested area.

Proposed Development

The project, which will include the construction of a recreation facility building and associated parking and infrastructure was designed to comply fully with local and state regulations. Please note, although the proposed recreation facility development area is approximately ±8-acres, approximately ±99-acres were analyzed as part of the hydrologic analysis.

Under proposed conditions, the runoff generally continues to flow from the western hilltop and northern portion of the site, to the southern end. There are a series of small, above ground stormwater detention ponds and swales, and an underground chamber system that are proposed throughout the site, designed to treat and provide infiltration and retention of stormwater prior to discharging to the southern end of the property. Percolation tests will be performed following the site preparation, prior to installation of the system. The results of the percolation tests will be sent to the Town for their records.

The following is a description of the proposed drainage patterns and subcatchments as shown on Figure 3:

Drainage Area 1: This is the primary site area that is being developed, comprised of approximately ±9-acres. Stormwater runoff is collected from the various above ground and below ground basins and is directed to a swale on the southern end of the site. The system ultimately discharges at the southeast corner of the property, to a forested area, which drains to the adjacent property owned by Siland, shown as DP-1 on Figure 3: Proposed Drainage Conditions.

Drainage Area 1A: A proposed roadway cuts through the property and a riprap swale is proposed on the west side of this roadway. The swale cuts off and intercepts Drainage Area 1A. This area is approximately 34-acres, and consists of steep-slope woodlands. A series of double-catch basins collect the stormwater runoff from this hillside and is piped directly into the Retention Pond (Pond 4P), north of the development. This area no longer drains towards Design Point 1.

Drainage Area 1B: Similar to area 1A, a majority of drainage area 1B is cutoff and intercepted by a riprap swale on the west/ southwest side of a new proposed roadway. This area consists of steep slope woodlands and the existing gardening area. Unlike Drainage Area 1A however, 1B drains directly towards the southeast corner of the Site, Design Point 1.

Drainage Area 1C: This area consists of approximately ±6-acres of grassed hillside and a small amount of new roadway. This area drains towards the main development. Rather than allow runoff to pass through the site, runoff from this area is intercepted by Pond 1P and piped around the site, combining with the onsite stormwater pipe network, and discharged to the southeast corner DP1.

Drainage Area 1D: This area consists of approximately 1-acre of land from the proposed site development. It includes the Ice House/ Rink roof and adjacent land. Stormwater from this area drains towards an onsite stormwater basin (Pond 2P). This basin outlets and connects to the onsite stormwater piping, ultimately discharging to the southeast corner of the site, DP1.

Drainage Area 2: This area remains relatively consistent with existing conditions Drainage Area 2. A small portion of the proposed site development now contributes to this area. The area continues to drain onto itself, accumulating in a low-lying depressed area with no outlet other than infiltration. Soil mapping reveals A-type soils in this area.

Drainage Area 3: This area also remains relatively consistent with existing conditions. A new gravel parking lot is proposed, but the gravel will allow infiltration of groundwater, as this Area 3 drains onto itself, accumulating in a low-lying depressed area with no outlet, other than infiltration. Soil mapping reveals A-type soils in this area.

Drainage Area 4: This area remains unchanged from existing conditions (±18-acres), however under proposed conditions (as noted above), proposed area 1A is re-routed to drain into the Retention Pond (Pond 4P), adding 34-acres of watershed to the

Pond. As noted in the stormwater report by Rennia Engineering Design, the original design of the Retention Pond assumed a water elevation of 506.5. Due to the large contributing Area 1A now routed to the Retention Pond, and Drainage Area 4 being 18-acres, the assumed starting water elevation of the Pond is now 492.3. The HydroCAD results reveal that when starting at this assumed water elevation, the volume of runoff from the 100, 200, and 500yr storm events is held within the Retention Pond without discharging out the outlet swale. When the 1000-yr storm is analyzed, stormwater from the pond rises high enough to exit the pond via the outlet swale. At this 1000-yr storm event, the outlet swale depth is 0.5ft, which matches the design depth of the swale and maximizes the outlet discharge.

The project has also been designed to meet New York State channel protection requirements.

Lastly, the project meets pre- and post-peak rate of runoff requirements in accordance with local and state standards. The bypass of Area 1A, and redirecting this stormwater volume to the Retention Pond allows the site design to meet this criteria.

A HydroCAD model, using TR-20 methodology, was developed to evaluate the existing and proposed drainage conditions on the Site. The results of the analyses indicate that there is no increase in peak discharge rates or volume of runoff between the pre- and post-development conditions for the 1, 2, 10, 25, and 100-year, 24-hour storm events. Additionally, below is a summary of the pre- and post-development rates at the design point:

Table 1
Peak Discharge Rates (cfs*)

Design Point	1-year	2-year	10-year	25-year	100-year
Design Point 1: Southeastern Property Area					
Existing	6.5	17.8	65.9	102.0	162.2
Proposed	6.4	13.9	43.7	67.3	106.0

* Expressed in cubic feet per second

NOTE: The runoff out of Pond 4 (resulting from Area 4 and 1A) was not analyzed for stormwater runoff as runoff is not discharged for up to the 100yr storm event under proposed conditions. Areas 2 and 3 were also not analyzed for runoff as runoff is retained within their own low-lying depressions, rather than producing overland runoff.

As shown in the table above, the proposed development will result in a reduced runoff potential within the area of disturbance and thus it is anticipated that the proposed drainage systems will be sufficient for the proposed conditions.

General Storm Water Management

Due to the diversion of a large portion of Area 1A to Retention Pond 4P under the proposed conditions, onsite detention is not required for peak flow mitigation at Design Point 1. However, Ponds 1P and 2P will remain as initially proposed in the previous design. These ponds continue to serve the function of reducing peak flows for the hydraulic stormwater pipe system, as some pipes from the previous design have already been installed. The modified site design ensures that the capacities of these existing pipes are not exceeded.

In order to provide for water quality, an off-line underground detention basin consisting of Stormtrap MC-3500 chambers is proposed. The required water quality volume calculations for the development are provided in Attachment E. The volume of the chambers exceeds the required water quality volume. The offline system is designed as follows: All the stormwater runoff from the Site passes through existing catch basin EXCB-C. A new outlet pipe will be cored into this catch basin. The crown of this new outlet pipe will be lower than the current outlet pipe invert, therefore all stormwater from the 90th percentile rainfall will be conveyed via the new bypass pipe first, and into the underground infiltration chamber system. There is no outlet pipe for the underground chambers, other than its inlet pipe. Therefore, for higher storm events, this pipe will be allowed to back up and the system will outlet via the original outlet pipe in EXCB-C.

The stormwater management design for the project site will ensure that runoff potential within the limit of work is reduced in comparison to existing conditions. Attachment B includes site plans and details relative to the project for reference.

Permanent Stabilization and Landscaping

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) calendar days from the date the current soil disturbance ceased to eliminate exposed soils and potential sources of erosion. For construction sites that are authorized to disturb greater than five (5) acres at one time, the application of soil stabilization measures must be initiated by the end of the next business day and completed within seven (7) calendar days from the date the current soil disturbance ceased to eliminate exposed soils and potential sources of erosion. All areas to be planted or vegetated are to follow the approved planting plan details. Areas to be paved will be covered by bituminous pavement after final subgrades are established. Any areas disturbed as a result of construction and that are not to be planted or re-vegetated shall receive minimum six (6) inches of loam and seed. All litter, as well as debris generated by construction activities, will be removed by hand from the site and adjacent undeveloped areas.

Project Materials

The materials or substances below are expected to be present on-site during the construction period:

Structural Steel
Portland Cement Concrete
Lumber
Stormwater Structures
Metal Studs
Cleaning Solvents
Detergents
Bituminous Concrete
Erosion and Sediment Control Materials
Welding Supplies
Petroleum-Based Products
Landscape Materials (Trees and Shrubs)
Paints
Wood
Fertilizer
Roofing Sealants

This materials list will be updated by the contractor, as necessary, prior to and during the construction process.

Non-Industrial Discharges

The following non-stormwater discharges may occur on this construction site:

- Fire hydrant flushing;
- Water used to wash vehicles where detergents are not used;
- Potable water including uncontaminated water line flushing;
- Pavement wash water 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;
- Uncontaminated air conditioning or compressor condensate;
- Uncontaminated ground water or spring water;
- Foundation or footing drains where flows are not contaminated with process materials such as solvents; and
- Uncontaminated excavation dewatering;

5.

Construction Schedule and Sequence

The following attachment is the Owner/Operator's prepared construction schedule and sequence. If revisions to the schedule and sequence are needed the Owner/Operator shall coordinate the changes with the Licensed Engineer, Landscape Architect or NYSDEC Certified Inspector. The Owner/Operator will update this construction schedule and sequence as needed and maintain a list of construction milestones.

The Site Contractor shall follow construction sequence scheduling. The sequence of actions in an Erosion and Sedimentation Control (E&SC) plan is runoff control, stabilization, and then sediment control. The management practices used in each phase of the plan must be identified on the Construction Sequence Schedule and on appropriate maps.

Erosion and sediment control provisions should be included for all construction activities as shown on the plans or as directed by the Engineer.

General Project Phasing

Site development for each phase will occur in three overlapping stages:

1. Site Preparation,
2. Construction, and
3. Final grading and Stabilization.

Site Preparation Stage

Prior to beginning any construction activities, construction fences will be installed. Silt fencing and straw bale barriers (as needed) will be installed to eliminate sediment underflow. Fencing will be placed around trees to be protected and will be at a minimum at the drip line of the longest branches. The erosion control barriers will be inspected and maintained routinely throughout the duration of the project. Following

the installation of erosion and sedimentation controls, and an onsite meeting with the Town of Amenia authorized agent as required, the site grading and excavation will occur.

As determined by the Licensed Engineer, Landscape Architect or NYSDEC Certified Inspector, temporary berms and swales may be used to direct runoff on the site during construction. No sediment-laden water will be allowed to discharge to resource or off-site areas.

The Contractor, under the observation of a Licensed Engineer, Landscape Architect, or NYSDEC Certified Inspector, shall ensure that the erosion controls are installed correctly and will be effective. They shall be responsible to maintain and clean out any erosion control measures and add any additional measures as determined by the Licensed Engineer, Landscape Architect, NYSDEC Certified Inspector, or determined by Local Municipality.

The following steps will be followed to ensure that the controls are installed correctly and will be effective:

Resource Protection

- Evaluate, mark and protect important trees and associated rooting zones.
- Fencing will be placed around trees to be protected and will be at a minimum at the drip line of the longest branches.
- Protect existing vegetated areas suitable for filter strips, especially in perimeter areas.

Surface Water Protection

- Identify the drainage area in the plan. Divide the site into natural drainage areas.
- Divert the off-site clean runoff from entering disturbed areas.
- Identify bodies of water located either on site or in the vicinity of the site.
- Plan appropriate practices to protect on-site or downstream surface water.

Stabilized Construction Exit

- Establish a temporary construction entrance to capture mud and debris from construction vehicles before they enter the public roadway.
- Stabilize bare areas (entrances, construction routes, equipment parking areas) immediately as work takes place. Top these areas with gravel or maintain vegetative cover.
- Sediment tracked onto public streets should be removed or cleaned on a daily basis.

- A description of the Stabilized Construction Exit is included in Section VI Required Erosion and Sedimentation Control Practices.

Perimeter Sediment Controls

- Silt fence material and installation must comply with the standard drawing and specifications.
- Silt fencing and straw bale barriers will be installed to eliminate sediment underflow.
- Silt fences will be installed based on appropriate spacing intervals. This interval will decrease as the slope increases. Silt fence should be placed on or parallel to contours where there is no concentration of water flowing to the silt fence and where erosion occurs in the form of sheet erosion. On sloped areas, the area below the final silt fence shall be undisturbed ground.
- Additional sediment traps and barriers will be installed as needed during grading.
- Erosion control blankets will be stapled and/or staked into place on slopes 5:1 or greater.
- The erosion control barriers will be inspected and maintained routinely throughout the duration of the project.

Runoff Control

- Install practices after sediment traps are installed and before land grading starts.
- Control the runoff in each small drainage area before flow reaches runoff from entire site.
- Divert offsite or clean runoff from disturbed areas.
- Convey surface flows from highly erodible soil and steep slopes to more suitable stable areas.
- Runoff from existing or proposed cut and fill slopes should be redirected to reduce water velocity without causing erosion.
- Final site drainage should be designed to prevent erosion, concentrated flows to adjacent properties, uncontrolled overflow, and ponding.

Runoff Conveyance System

- Stabilize conveyance system.
- Protect existing natural drainage systems and streams by maintaining vegetative buffers and by implementing other appropriate practices.

As necessary, temporary sediment basins may be constructed during this phase. Temporary berms and swales will be used to direct runoff to the basins on the site. No sediment-laden water will be allowed to discharge to resource areas or to the existing stormwater management system on the site. Following the installation of erosion and sedimentation controls, the site grading and excavation will occur.

Construction Stage

Throughout the construction stage of the project, the contractor is required to maintain the condition of all erosion and sediment control practices. These measures should be maintained in accordance with the project plans and weekly inspections.

The proposed building renovation, utility/infrastructure, and landscaping will be constructed during this phase. Temporary swales and berms will be constructed and maintained and relocated by the contractor as necessary to control and direct runoff to temporary basins during this phase.

Grading

- Limit the initial clearing and earth disturbance to that necessary to install sediment control measures. Excavation, clearing, or other earth disturbance may only take place after the sediment and erosion controls are installed, and approved by the inspector for the site.
- Stockpile the topsoil removed from the site. The topsoil should be protected, stabilized and sited in a location away from the storm drains and waterbodies, and saved on-site for reuse if not contaminated.
- Changes in grade or removal of vegetation should not disturb established adjacent properties, buffers and should not be allowed within any regulated distance from wetlands.
- Avoid disturbance of steep slopes.
- An undisturbed buffer should be maintained to control runoff from steep slopes within sensitive areas.
- Proposed grading should not impair existing surface drainage resulting in a potential erosion hazard impacting adjacent land or waterbodies.

Erosion Control (Stabilization)

- Implement erosion control practices to keep the soil in place.
- Stabilization should be completed immediately for the surface of all perimeter controls and perimeter slopes.
- When activities temporarily cease during construction, soil stockpiles and exposed soil should be stabilized by seed, mulch or other appropriate measures as soon

as possible, but in no case more than 14 days after construction activity has ceased.

- Apply temporary or permanent stabilization measures immediately on all disturbed areas where work is delayed or completed.
- Where the initiation of stabilization measures by the 14th day after construction activity temporarily or permanently ceased is precluded by snow cover or frozen ground conditions, stabilization measures shall be initiated as soon as practicable.
- Where construction activity on a portion of the site is temporarily ceased, and earth-disturbing activities will be resumed within twenty-one (21) days, temporary stabilization measures need not be initiated on that portion of the site.
- Consult the local Soil and Water Conservation District for proper timing and application rate of seed, fertilizer and mulch.

Sediment Control

- At any location where surface runoff from disturbed or graded areas may flow off the construction area, sediment control measures must be installed to prevent sediment from being transported off site. No grading, filling or other disturbance is allowed within existing drainage swales.
- Swales or other areas that transport concentrated flow should be appropriately stabilized.
- Downspout or sump pump discharges must have acceptable outfalls that are protected by splash blocks, sod, or piping as required by site conditions (i.e., no concentrated flow directed over fill slopes).

Maintenance and Inspections

- Identify the type, number and frequency of maintenance actions required for stormwater management and erosion control during construction and for permanent practices that remain on the site once construction is finalized.
- Inspections must be indicated on the Construction Sequence Schedule to be prepared by a qualified inspector, as required by GP-0-25-001.
- Inspections must be performed every 7 calendar days and immediately after periods of rainfalls greater than 0.5 inches per NYS Standards and Specifications for Erosion and Soil Control Inspection Reports, Appendix H.
- Inspections must verify that all practices are adequately operational, maintained properly, and that sediment is removed from all control structures.
- Inspections must look for evidence of the soil erosion on the site, potential of pollutants entering drainage systems, problems at discharge points (such as

turbidity in receiving water), and signs of soil and mud transport from the site to the public road at the entrance.

- Routine maintenance must be identified on the schedule and performed on a regular basis and as soon as a problem is identified.
- Identify the person or entities responsible for conducting the maintenance actions during construction and post-construction.
- Retain a copy of the inspection and quarterly reports on-site with the SWPPP.

Final Grading and Stabilization Stage

Final site grading and stabilization will be completed as soon as practicable to eliminate exposed soils and potential sources of erosion. Areas to be paved will be covered by bituminous pavement after final subgrades are established; landscaped areas shall be permanently stabilized with vegetation in accordance with the approved landscape plan and all disturbed soil shall be restored per Table 5.2 – Soil Restoration Requirements from the New York State Storm Water Management Design Manual, included in Attachment F. All litter, as well as debris generated by construction activities, will be removed by hand from the site and adjacent undeveloped areas.

Finalize Grading & Landscaping

- Identify the final grading and stabilization plan once the construction is completed.
- All open areas, including borrow and spoil areas must be stabilized.
- Plan a permanent top soil, seed, sod, mulch, riprap or other stabilization practices in the remaining disturbed areas as appropriate.
- Stabilization must be undertaken no later than 14 days after construction activity has ceased except as noted in the GP-0-25-001.
- Remove the temporary control measures.

PLEASE NOTE: A CONSTRUCTION SEQUENCE IS INCLUDED IN THE EROSION AND SEDIMENT CONTROL PLAN (SEE BELOW). OWNER/OPERATOR TO INSERT DETAILED CONSTRUCTION SCHEDULE AND SEQUENCE IN THIS SECTION OF THE SWPPP. THE DETAILED CONSTRUCTION SEQUENCE WILL BE PROVIDED WITH THE FINAL SWPPP REPORT, PRIOR TO BUILDING PERMIT APPROVAL. ANTICIPATED CONSTRUCTION START DATE IS SPRING, 2025 AND ANTICIPATED END DATE IS SUMMER 2026.

Construction Sequence from Erosion and Sediment Control Plan:

1. THE SITE CONTRACTOR SHALL BE FULLY RESPONSIBLE TO CONTROL CONSTRUCTION SUCH THAT SEDIMENTATION SHALL NOT AFFECT ROADS/HIGHWAYS AND THEIR DRAINAGE SYSTEM, NEIGHBORING PROPERTIES, AND REGULATORY PROTECTED AREAS, WHETHER SUCH SEDIMENTATION IS CAUSED BY WATER, WIND, OR DIRECT DEPOSIT. PRIOR TO CONSTRUCTION, THE APPLICANT SHALL PROVIDE THE TOWN OF AMENIA, NEW YORK WITH THE NAME OF CONTACT AND 24-HOUR CONTACT INFORMATION.

2. CONTRACTOR SHALL ADHERE TO NEW YORK STATE STANDARDS AND SPECIFICATIONS FOR EROSION AND SEDIMENT CONTROL (BLUE BOOK).

3. FLAG THE LIMITS OF CONSTRUCTION NECESSARY TO FACILITATE THE PRE-CONSTRUCTION MEETING.

4. HOLD PRECONSTRUCTION MEETING. (REMEMBER TO CALL "DIG SAFELY NEW YORK" 1-800-962-7962 OR 811).

5. NOTIFY THE TOWN OF AMENIA, NEW YORK AGENT, ZONING ENFORCEMENT OFFICER AND ENGINEERING DEPARTMENT, 48 HOURS PRIOR TO COMMENCEMENT OF ANY CONSTRUCTION ACTIVITY.

6. INSTALL STABILIZED VEHICLE CONSTRUCTION EXIT.

7. INSTALL EROSION AND SEDIMENT CONTROLS IN ACCORDANCE WITH THE E&S PLAN FOR THE SITE INCLUDING SILT FENCE BARRIERS AND SILT SACKS.

8. COMPLETE DEMOLITION.

9. ESTABLISH ROUGH GRADE ON THE SITE.

10. CONSTRUCT BUILDINGS AND UNDERGROUND UTILITIES. INSTALL SILT SACK SEDIMENT TRAPS IN ALL NEW CATCH BASINS.

11. INSTALL PAVEMENT BASE & FIRST COURSE OF BITUMINOUS CONCRETE.

12. INSTALL LANDSCAPING & LOAM AND SEED ALL DISTURBED AREAS.

13. AFTER SITE IS STABILIZED REMOVE TEMPORARY EROSION AND SEDIMENT CONTROLS.

14. LOAM AND SEED ALL DISTURBED AREAS.

15. WHEN ALL OTHER WORK HAS BEEN COMPLETED, REPAIR AND SWEEP ALL PAVED AREAS FOR THE FINAL COURSE OF PAVING. INSPECT THE DRAINAGE SYSTEM AND CLEAN AS NEEDED.

16. INSTALL FINAL COURSE OF PAVEMENT.

17. UPON COMPLETION OF CONSTRUCITON AND ESTABLISHMENT OF PERMANENT GROUND COVER, CONTRACTOR SHALL REMOVE AND DISPOSE OF EROSION CONTROL MEASURES AND CLEAN/ JET-VAC SEDIMENT AND DEBRIS FROM ENTIRE DRAINAGE AND SEWER SYSTEMS.

6.

Required Erosion and Sedimentation Control

The Owner/Operator will be responsible for ensuring that the specified stormwater pollution control measures are installed, maintained, relocated and added to as necessary. Details of recommended stormwater pollution control techniques are provided below.

Erosion and Sedimentation Controls

The purpose of an erosion and sedimentation control program is to minimize temporary impacts to down gradient natural resources during the construction phase of the project by retaining sediment on site to the maximum extent practicable. The program incorporates BMPs specified in guidelines developed by the DEC[1] and complies with the requirements of the SPDES General Permit for Storm Water Discharges from Construction Activities. All erosion and sediment control practices and all post-construction water quality and water quantity control practices are to be installed, inspected, and maintained as per the NYSDEC Storm Water Management Design Manual (2024) and the NYSDEC Standards and Specifications for Erosion and Sediment Control Practices (2016).

Proper implementation of the erosion and sedimentation control program will:

- minimize exposed soil areas through temporary seeding and construction sequencing;
- place structures to manage stormwater runoff and erosion; and
- establish a permanent vegetative cover or other forms of stabilization as soon as practicable.

All manufactured control measures must be installed and maintained in accordance with the manufacturer's specifications. The following sections describe the erosion

1 New York State Department of Environmental Conservation (DEC). *New York Storm Water Management Design Manual*, January 2015 and *New York Standards and Specifications for Erosion and Sediment Control*, November 2016.

and sedimentation controls that will be used on this site. The Owner/Operator will implement and add to these site conditions, when required.

Temporary Erosion Control Practices

During construction, the contractor is required to install and maintain temporary erosion and sediment control measures to prevent sediment and debris from washing into the drainage systems and/or leaving the site. At such time that all the restoration of the construction area is completed, and the areas of disturbance are permanently stabilized, the contractor will then be permitted to remove the temporary erosion and sediment control devices.

The temporary erosion and sediment control devices will be installed prior to the start of any disturbance of the existing ground surface and will remain in place until all disturbed areas are properly stabilized. In addition to the temporary erosion and sediment control devices indicated on the Erosion and Sediment Control Details plan, the contractor shall be responsible to install any additional measures that may be needed. These additional erosion preventative measures will be installed in accordance with the "New York State Standards and Specifications for Erosion and Sediment Control."

Stabilization Practices (Vegetative Measures)

Stabilization practices that may be used on this site are listed below. Stabilization practices will be initiated as soon as practicable in portions of the site where construction activities have temporarily or permanently ceased. The project has been designed to preserve existing vegetation where possible.

Vegetative Slope Stabilization

Stabilization of open soil surfaces will be implemented within 14 days after grading or construction activities have temporarily or permanently ceased, unless there is sufficient snow cover to prohibit implementation. Vegetative slope stabilization will be used to minimize erosion on slopes of 3:1 or flatter. Annual grasses, such as annual rye, will be used to ensure rapid germination and production of root mass. Permanent stabilization will be completed with the planting of perennial grasses or legumes. Establishment of temporary and permanent vegetative cover may be established by hydro-seeding or sodding. A suitable topsoil, good seedbed preparation, and adequate lime, fertilizer and water will be provided for effective establishment of these vegetative stabilization methods. Mulch will also be used after permanent seeding to protect soil from the impact of falling rain and to increase the capacity of the soil to absorb water.

Mulching

Straw mulching will be employed on all inactive and disturbed areas that will remain un-stabilized for more than the allotted completion time referenced above (fourteen (14) calendar days for projects disturbing less than five (5) acres; seven (7) calendar days for projects disturbing over five (5) acres). Mulch materials will be spread uniformly by hand or machine at a rate of approximately ninety (90) pounds per one thousand (1,000) square feet. Mulch will be spread such that at least 90 percent of the ground surface is covered. The mulch shall be anchored with wood fiber mulch (hydromulch) at 500-750 lbs./acre. The wood fiber mulch must be applied through a hydroseeder immediately after mulching. Mulching may be used with temporary or permanent seeding, or with slope stabilization techniques. Hydromulch may also be used for temporary soil stabilization.

Temporary Seeding

A temporary vegetative cover will be established on areas of exposed soils (including stockpiles) that remain inactive and un-stabilized for a period of more than fourteen (14) days for slope stabilization in projects disturbing under five (5) acres, and seven (7) days for slope stabilization in projects disturbing over five (5) acres. The seeded surfaces will be covered with a layer of straw mulch or hydro mulch as described above.

Permanent Seeding

Upon completion of final grading, any areas not covered by pavement, other forms of stabilization, or other methods of landscaping will be seeded with an erosion control seed mix. On slopes 4:1 and greater, loamed and seeded areas will be mulched with hay to prevent erosion prior to germination of the seed.

Structural Practices

Structural erosion and sedimentation controls to be used on the site include the following:

Straw Bale Barriers and Silt Fencing

Prior to any ground disturbance, a professional engineer or land surveyor will certify that a barrier of staked straw bales and silt fence is in place at the downgradient limit of work in accordance with the plan (see relevant plans). When necessary, additional straw bale and silt fence barriers will be installed immediately downgradient of erosion-prone areas, such as the base of steep exposed slopes and around the base of stockpiles, throughout the construction phase of the project.

The erosion control barriers will be inspected weekly and after every storm event. Any sediment that collects behind the barriers will be removed and will be either reused at the site or disposed of at a suitable offsite location. Any damaged sections of silt fence or straw bales will be repaired or replaced.

Catch Basin Protection

The inlets of proposed catch basins will be protected from sediment inflow during the work period through the installation of Siltsacks™, or by surrounding them with a barrier of staked straw bales. In the latter case, a layer of filter fabric will be installed beneath the grates of the catch basins. The inlets of existing catch basins will be protected by Siltsacks™. These protection measures will be inspected after every storm event greater than 0.5 inches and will be routinely maintained until the drainage area tributary to each inlet has been vegetatively stabilized and/or covered by pavement. Any sediment that collects behind the barrier or in the sacks will be removed and will be either reused onsite or disposed of at a suitable off-site location.

Stabilized Construction Exits

Stone anti-tracking pads will be installed at each access point to the work area to prevent the off-site transport of sediment by construction vehicles. The stabilized construction exits will be at least fifty feet long and will consist of a 6-inch thick layer of crushed stone (1.5 to 2.5 inches in diameter). The stone will be placed over a layer of non-woven filter fabric. The anti-tracking pads will remain in place until a binder coat of pavement has been established in areas to be paved.

Concrete Washout

Concrete washout shall be located a minimum of 50 feet from any drainage inlet or concentrated flow. Once concrete waste has been washed in the washout area and allowed to harden, the concrete shall be broken up and removed from the site. The contractor shall remove washed out concrete on a regular basis. Plastic linings shall be a minimum of 10 mil, polyethylene sheeting and shall be free of holes and tears and cleaned out once 75% capacity is reached. Straw bales may be substituted for alternate securing measures such as concrete blocks.

Erosion Control Blanket

Anchored stabilization mats are required for seeded earthen slopes steeper than 3:1, in vegetated channels where the velocity of the design flow exceeds the allowable velocity for vegetation alone, and in areas where wind prevents standard mulching with straw. The soil is to be prepared prior to installing matting by smoothing the surface, removing debris and large stone, applying lime, fertilizer and seed (refer to manufacturers installation details). Anchor the mat in a 6" deep x 6" wide trench and backfill and compact the trench after stapling. Stapling and anchoring shall be done in accordance with the manufacturer's recommendations. Roll mats down a slope with minimum 4" overlap. Do not stretch blankets. Blankets shall have good,

continuous contact with the underlying soil throughout its entire length. Mats shall be placed end over end (shingle style) with a 6" overlap, use a double row of staggered staples 4" apart to secure mats. Blankets shall be inspected weekly and after each runoff event until perennial vegetation is established to a minimum uniform 80% coverage throughout the blanketed area. Damaged or displaced blankets shall be restored or replaced within 2 calendar days.

Temporary Sediment Trap

The temporary sediment trap is to intercept sediment-laden runoff and trap the sediment in order to protect drainage ways, properties, and rights-of-way below the sediment trap from sedimentation. Sediment traps shall be located so that they can be installed prior to grading or filling in the drainage area they are to protect. Traps must not be located any closer than 20 feet from a proposed building foundation if the trap is to function during building construction. Sediment shall be removed, and the trap restored to the original dimensions when the sediment has accumulated to half of the design depth of the trap. Sediment removed from the trap shall be deposited in a protected area and in such a manner that it will not erode.

Additional Erosion Control Measures (If Applicable)

The following controls may be implemented if directed by the Licensed Engineer/Landscape Architect, or NYSDEC Certified Inspector.

Interior Site Erosion Controls

Additional erosion controls may be used in the central portions of the site in the event that excessive erosion occurs. Placement of temporary silt fence, straw bales or earthen berms may be used to control the movement of material within the site. If such controls are deemed necessary for adequate protection, they will be installed perpendicular to the flow direction to contain sediment. These measures will be installed to prevent perimeter erosion controls and diversion swales from becoming compromised.

The following steps will be followed to ensure that the controls are installed correctly and will be effective.

Interior Site Erosion Controls

Additional erosion controls may be used in the central portions of the site in the event that excessive erosion occurs. Placement of temporary silt fence, straw bales or earthen berms may be used to control the movement of material within the site. If such controls are deemed necessary for adequate protection, they will be installed

perpendicular to the flow direction to contain sediment. These measures will be installed to prevent perimeter erosion controls and diversion swales from becoming compromised.

Dust Control

Fugitive dust from large areas of unstabilized soil can be a problem during construction. On dry and windy days when dust generation is a concern, a water truck will traverse the site and spray water as necessary to prevent dust from forming. Calcium chloride may also be applied to the ground in granular form to attract atmospheric moisture, dampening the ground and preventing fugitive dust.

Stabilized Construction Exit

- Establish a temporary construction entrance to capture mud and debris from construction vehicles before they enter the public roadway.
- Stabilize bare areas (entrances, construction routes, equipment parking areas) immediately as work takes place. Top these areas with gravel or maintain vegetative cover.
- Provide wash down facilities where necessary.
- Remove sediment tracked onto public streets on a daily basis.

A description of the Stabilized Construction Exit is included in this Section and detailed on the plans located in Attachment B.

Soil Stockpiles

- Stockpile existing topsoil and other soils for future use on site if not contaminated.
- Stockpiles should be protected, stabilized and sited in a location away from the storm drains and waterbodies that is dry and stable with the surrounding area sloped at a minimum of two (2) percent away from the stockpile.
- Side slopes of the stockpile shall not exceed 2H:1V.
- Upon completion of soil stockpiling, each pile shall be surrounded with silt fencing (refer to description of silt fence for details).
- Stockpile may be relocated throughout the duration of construction in order to accommodate phasing as necessary.
- Stockpile shall be covered or temporary seeded when construction ceases for more than fourteen (14) calendar days for projects disturbing less than five (5) acres. Stockpile shall be covered or temporary seeded when construction ceases for more than seven (7) calendar days for projects disturbing over five (5) acres.

Perimeter Sediment Controls

- Silt fence material and installation must comply with the NYSDEC standard drawings and specifications. They shall also comply with the Erosion and Sedimentation Control Plan.
- Silt fencing and straw bale barriers will be entrenched to eliminate sediment underflow.
- Silt fences will be installed based on appropriate spacing intervals. This interval will decrease as the slope increases. Silt fence should be placed on or parallel to contours where there is no concentration of water flowing to the silt fence and where erosion occurs in the form of sheet erosion. On sloped areas, the area below the final silt fence shall be undisturbed ground.
- Principal sediment basins, if utilized, will be installed after construction site is assessed.
- Additional sediment traps and barriers will be installed as needed during grading.
- Erosion control blankets will be stapled and/or staked into place on slopes 3:1 or greater after disturbing area.
- The erosion control barriers will be inspected and maintained routinely throughout the duration of the project.

Runoff Control

- Install runoff control after sediment traps are installed and before land grading starts.
- Control the runoff in each small drainage area before flow reaches runoff from entire site.
- Divert offsite or clean runoff from disturbed areas.
- Convey surface flows from highly erodible soil and steep slopes to more suitable stable areas.
- Redirect runoff from existing or proposed cut and fill slopes to reduce water velocity without causing erosion.
- Design final site drainage to prevent erosion, concentrated flows to adjacent properties, uncontrolled overflow and ponding.

Runoff Conveyance System

- Stabilize conveyance system.
- Seed channels and streambanks at the outlet points, if exists.
- Install check dams to slow down the velocity of concentrated flow.
- Protect existing natural drainage systems and streams by maintaining vegetative buffers and by implementing other appropriate practices.

Groundwater Recharge Measures

- Install practices to infiltrate the runoff on the site as much as possible.
- Provide groundwater recharge to maintain the hydrologic regime of the downstream water bodies and simulate predevelopment hydrology.

- Use infiltration practices to prevent concentrated flows.

Construction Stage

The construction of the buildings, parking lot, and site appurtenances will occur during this stage. Temporary sediment traps consisting of swales and berms with stone outlet points will be constructed and maintained throughout construction as needed, in order to retain runoff on site during the construction process.

Grading

- Limit the initial clearing and earth disturbance to that necessary to install sediment control measures. Excavation for footings, clearing, or other earth disturbance may only take place after the sediment and erosion controls are installed.
- Stockpile the existing topsoil and other soils for future use on site. The stockpiles should be protected, stabilized and sited in a location away from the storm drains and waterbodies. It should be saved on site for reuse if not contaminated. The stockpile shall be covered or temporary seeded when construction ceases for more than fourteen (14) calendar days for projects disturbing less than five (5) acres, and seven (7) calendar days for projects disturbing over five (5) acres.
- Changes in grade or removal of vegetation should not disturb established buffers and should not be allowed within any regulated distance from wetlands, the high water line of a body of water affected by tidal action, or other such protected zones.
- Avoid disturbance of steep slopes.
- Maintain undisturbed buffer to control runoff from steep slopes within sensitive areas.
- Proposed grading should not impair existing surface drainage resulting in a potential erosion hazard impacting adjacent land or waterbodies.

Permanent Structural Practices

Permanent structural erosion and sedimentation controls to be used on the site include the following:

Land Grading

The site shall be graded in accordance with the proposed grading and drainage plan and specification to provide for erosion control and vegetative establishment on disturbed, reshaped areas. The grading plan should be based upon the incorporation of building designs and street layouts that fit and utilize existing topography and desirable natural surroundings to avoid extreme grade modifications. Land grading is used to direct stormwater runoff to the proposed catch basins for collection and discharge into the municipal stormwater system.

Retaining Wall

Retaining walls are used to prevent soil movement by retaining soil in place and preventing slope failures and movement of material down steep slopes. Selection of materials and type of wall should be based on hazard potential, load conditions, soil parameters, groundwater conditions, site constraints, and aesthetics. Retaining walls should be designed by a licensed professional engineer.

Permanent Seeding

Upon completion of final grading, any areas not covered by pavement, other forms of stabilization, or other methods of landscaping will be seeded with an erosion control seed mix. On slopes 4:1 and greater, loamed and seeded areas will be mulched with hay to prevent erosion prior to germination of the seed.

Permanent Drainage Construction

- Install all proposed drainage structures.
- Install inlet protection at the newly installed drainage structures.
- Maintain the inlets free of any debris or sediment build up.

Erosion Control (Stabilization)

- Implement erosion control practices to keep the soil in place.
- Complete stabilization for the surface of all perimeter controls and perimeter slopes.
- When activities temporarily or permanetly cease during construction, soil stockpiles and exposed soil should be stabilized by seed, mulch or other appropriate measures. The areas where soil distubance temporarily ceased, the soil stazblization 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.
- Apply temporary or permanent stabilization measures immediately on all disturbed areas where work is delayed or completed.
- Where the initiation of stabilization measures by the seventh day after construction activity temporarily or permanently ceased is precluded by snow cover or frozen ground conditions, stabilization measures shall be initiated as soon as practicable.
- For projects disturbing less than five (5) acres, where construction activity on a portion of the site is temporarily ceased, for a period of longer than fourteen (14) calendar days, temporary stabilization measures shall be provided to ensure continued stabilization. For projects disturbing over five (5) acres, where construction activity on a portion of the site is temporarily ceased, for a period of longer than seven (7) calendar days, temporary stabilization measures shall be provided to ensure continued stabilization.
- Consult the local Soil and Water Conservation District for proper timing and application rate of seed and mulch.

Sediment Control

- At any location where surface runoff from disturbed or graded areas may flow off the construction area, sediment control measures must be installed to prevent sediment from being transported off site. No grading, filling or other disturbance is allowed within existing drainage swales.
- Swales or other areas that transport concentrated flow should be appropriately stabilized.
- Downspout or sump pump discharges must have acceptable outfalls that are protected by splash blocks, sod, or piping as required by site conditions (i.e., no concentrated flow directed over fill slopes).

Final Grading and Stabilization Stage

Finalize Grading & Landscaping

- Final grading and stabilization as per the construction documents.
- All open areas, including borrow and spoil areas must be stabilized as per construction plans.
- Plan to install permanent top soil, seed, sod, mulch, riprap or other stabilization practices in the remaining disturbed areas as appropriate.
- For projects disturbing under five (5) acres at one time, stabilization must be initiated by the end of the next business day and completed within fourteen (14) calendar days from the date the current soil disturbance activity ceased; for projects disturbing over five (5) acres at one time, stabilization must be initiated by the end of the next business day and completed within seven (7) calendar days from the date the current soil disturbance activity ceased, except as noted in the GP-0-25-001.
- Remove the temporary control measures.
- Drywells and catch basins to be properly cleaned of sedimentation from construction activities.

Post-construction Controls

- Catch basins, drywells and drain basins shall be cleaned on a regular basis to maintain the design infiltration rates.
- Identify the permanent structural or non-structural practices that will remain on the site as described in the Permanent Erosion Control Measures section above.
- Ensure that the permanent structural or non-structural practices utilized during construction are properly designed to suit the post-construction site conditions.
- In finalizing the plan, evaluate the post-construction runoff condition on the site.
- Minimize the risk of concentrated flow and erosion.

On-site runoff controls help reduce the risk of increased runoff velocity, erosion and point source discharge. In addition to the standard runoff and erosion control practices identified in NY Standards for Erosion and Sediment Control, some of the techniques discussed under on-site runoff control in the discussion of Site Preparation may be applied.

The details for the above meaures and for any additional measures that may be required can be located in the NYSDEC Specifications book.

7.

Project Stormwater Management Practices

The Owner/Operator, under the supervision of a Licensed Engineer, Landscape Architect or NYSDEC Certified Inspector, will be responsible for ensuring that the specified water quality and water quantity control measures are installed and maintained as necessary. Details of recommended storm water pollution control techniques are provided below.

6-Step Storm Water Site Planning Process

As per the latest New York State Stormwater Management Design Manual, Planners and Designers must apply runoff reduction techniques as part of a comprehensive storm water management planning process. This process is intended to help maintain the pre-construction hydrologic conditions of the site using green infrastructure practices to reduce the post construction runoff from the site and reduce the need for treatment.

The proposed project has been designed to improve the existing site conditions such that total runoff potential within the designated area of disturbance is reduced. The existing drainage systems within the disturbed area are to be removed and replaced as shown in the plan set included in Attachment B such that it is assumed that overbank flood (10-year storm) and extreme flood (100-year storm) requirements will be reduced in post development conditions.

The following constitutes the six-step planning process detailed in the New York Stage Stormwater Management Design Manual.

Step 1 – Site Planning to Preserve Natural Features and Reduce Impervious Cover

During the site planning process of this project, consideration was given to reducing the impervious cover and preservation of buffers. The site will be improved with landscaped areas, and it is the intent of this project to install standard SMP's to ensure that the storm water is contained and treated within the site as described

throughout this report both during and post development.

Step 2 – Determine Water Quality Treatment Volume (WQv)

The proposed drainage systems for the area within the limits of the proposed work have been designed to comply with state and local storm water management requirements. The New York State DEC Stormwater Management Design Manual requires the project to store the water quality volume (WQv) which is defined as the volume of runoff generated from the entire 90% rainfall event (Figure 4.1 – Attachment E). As such, the proposed storm water practices shall be sized to meet or exceed the volume of the 90%, or 24-hour rain event. The 90% rainfall event for this region is 1.3 inches. Following that guidance, the required water quality volume (WQv) compared to storage provided in each drainage area are as follows:

Drainage Area	Prop. Conditions Required WQv (CF)	Storage Provided (CF)
Site Runoff (contributing to Swale 1S)	3,947	4,126

The calculations for WQv are provided in the Water Quality spreadsheets located in Attachment E of this report.

According to Part II.C.2.c.ii of GP-0-25-001, Channel Protection Volume (CPv) is not required if there is 0% change to hydrology that increases the discharge rate and volume from the project site. This project entails a decrease in flow and volume for all storm events to the Design Point, as well as an increase in the provided WQv within the area of disturbance as displayed above, therefore CPv calculation is not required.

As previously noted, and as demonstrated in the above table, the proposed drainage systems are sufficient to provide enough storage to capture and infiltrate the water quality volume for the project area.

Step 3 – Apply Runoff Reduction Techniques and Standard SMP's with RRv Capacity to Reduce Total WQv

During the design phase, this project considered the use of reuse and recycle of stormwater runoff as well as infiltration of 100% of the post-development water quality volume.

The RRv capacity of the site is shown in the New York State Water Quality and Quantity spreadsheet found in Attachment E.

Step 4 – Determine the Minimum RRv Required

As shown on the calculations in Attachment E, the proposed drainage systems achieve the Runoff Reduction Volume (RRv) requirements with storage and infiltration, which exceeds the required WQv.

Under proposed conditions, due to diverting Area 1A, this large area of the site is now conveyed and stored for reuse/ recycle in the Retention Pond 4P for irrigation of the nearby golf course and gardens.

- The required RRv = 0.232-acft.
- The 90th percentile volume runoff volume (1.3" storm event) produced from Area 1A = 0.249-acft (diverted for reuse/ recycle as irrigation, therefore the diversion satisfies the requirement).

Step 5 – Apply Standard Storm Water Management Practices to Address Remaining Water Quality Volume

This step is not applicable since the proposed drainage system provides storage for runoff in excess of the RRv (See Step 2-4 above).

Step 6 – Apply Volume and Peak Rate Control Practices if Still Needed to Meet Requirements

An analysis of the post-development hydrology for the subject property was performed in order to demonstrate the functionality of the proposed storm water system during the Overbank Flood and the Extreme Storm conditions (10-year and 100-year storms). Analytical results are outlined in the below section.

Hydrologic Analysis Results

In order to demonstrate that the proposed storm water management system for the project is capable of accommodating post-development runoff for the Overbank Flood and Extreme Storm conditions (10-year and 100-year storm events), a model was developed using HydroCAD software to analyze the Extreme Storm condition. It

is noted that because a large majority of site runoff (Area 1A) is being diverted and stored on-site, in conjunction with several small onsite stormwater detention basins, our analysis shows that the stormwater runoff for all storm events are reduced in flow and volume to the offsite Design Point 1.

In accordance with the NYSDEC requirements, the HydroCAD model uses the TR-20 methodology to calculate peak runoff rates for a specific design area. The program is then used to model storage over time.

All of the results of the above analysis are summarized in Section 4 under the "Proposed Development" narrative above, and located in Attachment E of this report for reference.

In conclusion, although the overall impervious area on the site will increase as a result of the development, the peak runoff rates post-development will decrease due to the BMPs utilized.

The following summarizes the results of the analysis:

- The total Runoff Reduction Volume is achieved via reuse/ recycle of stormwater to the onsite Retention Pond (Pond 4P). Moreover, an onsite infiltration basin (underground chambers) is proposed to treat the water quality volume from the Site development.
- Stormwater runoff from all storm events is reduced from existing to proposed conditions.

In light of the data described above, we conclude that the model provided confirms that the proposed system within the designated disturbed area is sized appropriately to accommodate up to a 100-year storm.

Water Quality Controls

Water quality control measures are designed to minimize impact to receiving waterbodies from stormwater pollution. As stormwater runoff travels across impervious surfaces, it collects pollutants such as sediments, oil, and trash and carries them to a receiving waterbody. Properly installed and maintained stormwater management practices (SMPs) can capture these pollutants and reduce the impact that the proposed development has on the environment. The SMPs selected for this project were designed based on guidelines developed in the New York State Stormwater Management Design Manual[2].

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2 New York State Department of Environmental Conservation (DEC). *New York Storm Water Management Design Manual*, January 2015

Proper implementation of the water quality control measures will:

- reduce post-construction sediment impacts
- promote infiltration of storm water to maintain pre-construction hydrology

All manufactured control measures must be installed and maintained in accordance with the manufacturer's specifications. The following sections describe the water quality controls that will be used on this site. The Owner/Operator will implement and add to these site conditions, when required.

Non-structural Practices

Pavement Sweeping

The sweeping program will remove sediments and contaminants directly from paved surfaces before their release into stormwater runoff. Pavement sweeping has been demonstrated to be an effective initial treatment for reducing pollutant loading into stormwater[3].

Snow Management

As much as possible, snow will be allowed to melt on pavement where debris and sand may be deposited and swept up for disposal and snow melt can enter the stormwater management system where it will receive proper treatment. Ample snow storage area is provided between the front parking field and the front driveway, to the southwest of the rear driveway, on the embankment directly behind the building, and in the landscaped area to the east of the building. If required during heavy snow events, snow will be removed from the site via truck hauling.

Landscaping

Wherever possible, existing vegetation is maintained on the site. Landscape materials installed in new planting beds and lawn areas shall be planted with native and drought-tolerant species that do not require intensive applications of fertilizer or water. When required, fertilizer and pesticide applications will be managed to prevent stormwater runoff from coming in contact with these products.

Structural Practices

Structural water quality controls to be used on the site include the following:

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3 U.S. Environmental Protection Agency, 1979. *Demonstration of Nonpoint Pollution Abatement Through Improved Street Cleaning Practices.*

Catch Basins

Sediments and other contaminants that are not removed by pavement sweeping are transported by storm water runoff to the site's catch basin systems. Once in the catch basin, they settle to the bottom of the system. This material will be removed on a regular basis to prevent contaminants from migrating out of the drainage system during high flow events or reducing the infiltration capacity of the devices.

Water Quality Unit

A hydrodynamic separator water quality unit is proposed to be installed just prior to the underground infiltration system to provide additional pre-treatment and sediment/ floatable removal for stormwater runoff. This will help ensure coarse sediment and TSS is removed prior to entering the underground infiltration system, preserving the longevity of the underground system.

Underground Infiltration System

The underground infiltration system is proposed to be ±4' height Stormtrap MC3500 chamber system with 9" of stone below and 12" of stone above. Infiltration is proposed on this area of the site. As discussed previously, the underground chambers will function as an off-line system, providing infiltration and treatment for 100% of the required water quality volume and allowing bypass for larger storm events. An "isolator row" will provide pre-treatment for the first flush of volume into the chambers. This row is wrapped with filter fabric, allowing capture of coarse sediment and other floatables.

Stormwater Retention Basin

There is one (1) large stormwater retention basins north of the proposed development that is to be used to reuse/ recycle rainwater for irrigation. As described previously, under proposed conditions, stormwater from Area 1A is diverted to the retention pond for reuse. The pond is lined and will not infiltrate stormwater.

Climate Change Consideration

Per Part III.A.2. of GP-0-25-001, the SWPPP must demonstrate consideration in narrative format of the future physical risks due to climate change pursuant to the Community Risk and Resiliency Act (CRRA), 6 NYCRR Part 490, and associated guidance.

The proposed stormwater management system considers climate change by utilizing the large Retention Pond 4P. This lined pond will serve as a storage basin for the

reuse of rainwater for onsite irrigation. The pond size is such that it can accept up to a 1000-yr storm event. The pond's water elevation can vary depending on need for irrigation, increasing its capacity as needed by pumping out any accumulated stormwater already stored and using that stormwater for irrigation.

8.

Maintenance, Inspections and Project Documentation

The SPDES Construction General Permit requires that the Owner/Operator be responsible for implementing, inspecting and maintaining each of the stormwater controls described in the plan. In addition, the Owner/Operator must document compliance with the Permit throughout construction.

Inspections

Prior to the commencement of construction activity, the Owner/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 storm water management practices included in the SWPPP. Per Part III.A.6 of the General Permit, the Owner/Operator shall have each of the Contractor(s) and Subcontractor(s) 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/Operator shall ensure that at least one Trained Contractor is on site daily when soil disturbance activities are being performed.

The Owner/Operator shall have each of the Contractors and Subcontractors identified above sign a copy of the Certification of Project Construction Contractors, enclosed in the Forms section of this Manual.

As described in Part IV of the Permit, the operator shall have a qualified professional conduct and assessment of the site prior to the commencement of construction and certify in an inspection report that the appropriate erosion and sediment controls described in the SWPPP and required by Part IV of this permit have been adequately installed or implemented to ensure overall preparedness of the site for the commencement of construction.

Following the commencement of construction, for construction sites where soil disturbance activities are on-going, the Qualified Professional (Inspector) shall conduct a site inspection at least once every seven (7) calendar days. During each

inspection, the qualified professional shall record the information required by Part IV of the Permit.

Inspections shall include all areas of the site disturbed by construction activity and areas used for materials storage that are exposed to precipitation. The Inspector must look for evidence of, or the potential for, pollutants entering the storm water system, inspect the BMPs installed as part of the Plan, inspect the site drainage outfalls and inspect the site egress points for tracking. If, in the course of the inspection, the inspector identifies an eroded area or an area impacted by sedimentation, additional erosion and sedimentation controls will be implemented, and the SWPPP will be revised to include these changes.

For each inspection, the Inspector must complete a written inspection report in accordance with the Permit. A sample inspection form has been included in Attachment A. The operator shall maintain a record of all inspection reports in a site log book. The site log book shall be maintained on site and be made available to the permitting authority upon request. Prior to the commencement of construction, the operator shall certify in the site log book that the SWPPP, prepared in accordance with Part IV of this permit, meets all Federal, State and local erosion and sediment control requirements. The operator shall post at the site, in a publicly-accessible location, a summary of the site inspection activities on a monthly basis.

The completed forms become part of the Owner/Operator's SWPPP and should be maintained for three years after the filing of the Notice of Termination. Prior to filing of the Notice of Termination or the end of permit term, the operator shall have the qualified professional perform a final site inspection. The qualified professional shall certify that the site has undergone final stabilization using either vegetative or structural stabilization methods and that all temporary erosion and sediment controls (such as silt fencing) not needed for long-term erosion control have been removed.

Maintenance

All erosion and sedimentation controls and other protective measures identified in the SWPPP must be maintained in effective operating condition. If site inspections identify BMPs that are not operating effectively, maintenance, modification or replacement with an alternative or additional BMPs must be performed as soon as possible, and before the next storm event whenever practicable. If implementation before the next storm event is impracticable, the situation must be documented in the SWPPP and alternative BMPs must be implemented as soon as possible.

The following maintenance program is proposed to ensure the effectiveness of the structural controls during the construction phase of this project:

- The on-site representative will inspect all sediment and erosion control structures and records of the inspections will be prepared and maintained on-site by the Owner/Operator.

- Silt shall be removed from behind barriers if greater than 6-inches deep or as needed.
- Paved areas of the site will be swept on an as needed basis during the site construction.
- Damaged or deteriorated items will be repaired immediately after identification.
- The underside of straw bales should be kept in close contact with the earth and reset as necessary.
- Sediment from sediment traps or sedimentation ponds must be removed when design capacity has been reduced by 50 percent.
- Sediment that is collected in structures shall be disposed of properly and covered if stored on-site.
- Erosion control structures shall remain in place until all disturbed earth has been securely stabilized. After removal of structures, disturbed areas shall be re-graded and stabilized as necessary.

If, in the course of the inspection, the inspector identifies an eroded area or an area impacted by sedimentation, additional erosion and sedimentation controls will be implemented, and the SWPPP will be revised to include these changes.

Documentation

The following records must be maintained as part of the Owner/Operator's SWPPP:

- Dates when major grading activities occur;
- Dates when construction activities temporarily or permanently cease on a portion of the site;
- Dates when stabilization measures are initiated;
- Inspection dates and processes.

In addition, a written summary of activities performed in conjunction with the SWPPP shall be reported monthly for the period during which coverage exists under this permit. The summary should address the status of achieving each component of the SWPPP.

The forms included in Attachment A have been prepared by NYS DEC to collect information from Construction Stormwater Inspections and to report Monthly Summary SWPPP Status with Permit Compliance.

9.

Long Term Stormwater Operation and Maintenance Measures

Long Term Stormwater Maintenance Measures –

The following maintenance program is proposed to ensure the continued effectiveness of the structural water quality controls previously described.

Pavement Systems

Standard Asphalt Pavement

- Sweep or vacuum standard asphalt pavement areas at least twice per year with a commercial cleaning unit and properly dispose of removed material.
- Check loading area and dumpster areas frequently for spillage and/or pavement staining and clean as necessary.

Structural Stormwater Management Devices

Catch Basins

- All catch basins shall be inspected and cleaned a minimum of at least twice per year.
- Sediment (if more than six inches deep) and/or floatable pollutants shall be pumped from the basin and disposed of at an approved offsite facility in accordance with all applicable regulations.
- Any structural damage or other indication of malfunction will be reported to the site manager and repaired as necessary
- During colder periods, the catch basin grates must be kept free of snow and ice.
- During warmer periods, the catch basin grates must be kept free of leaves, litter, sand, and debris.

Underground Infiltration System

- The underground infiltration system will be inspected at least once each year by removing the manhole/access port covers.
- If sediment or leaf debris is more than six inches deep, it must be suspended via flushing with clean water and removed using a jet-vac.
- Review the Manufacturer's specifications and instructions for cleaning the system.
- Emergency overflow pipes will be examined at least once each year and verified that no blockage has occurred.
- System manholes will be observed after rainfalls to see if it is properly draining.

Roof Drain Leaders

- Perform routine roof inspections quarterly.
- Keep roofs clean and free of debris.
- Keep roof drainage systems clear.
- Keep roof access limited to authorized personnel.
- Clean inlets once per year as necessary.

Stormwater Retention Basin

- The retention basin will be inspected at least once per year.
- Exposed liner will be inspected for punctures, tares, or other form of deterioration. If the liner is found to be damaged, the liner will be patched and/or repaired immediately, as needed.
- Large trees, or small trees that could potentially grow into large trees, should be removed within the vicinity of the liner to prevent root damage to the liner.

Vegetation Management

Vegetated Areas Maintenance

Although not a structural component of the drainage system, the maintenance of vegetated areas may affect the functioning of stormwater management practices. This includes the health/density of vegetative cover and activities such as the application and disposal of lawn and garden care products, disposal of leaves and yard trimmings.

- Inspect planted areas on a semi-annual basis and remove any litter.
- Maintain planted areas adjacent to pavement to prevent soil washout.
- Immediately clean any soil deposited on pavement.
- Re-seed bare areas; install appropriate erosion control measures when native soil is exposed or erosion channels are forming.
- Plant alternative mixture of grass species in the event of unsuccessful establishment.

- The grass vegetation should be cut to a height between three and four inches.
- Pesticide/Herbicide Usage – No pesticides are to be used unless a single spot treatment is required for a specific control application.
- Fertilizer usage should be avoided. If deemed necessary, slow release fertilizer should be used. Fertilizer may be used to begin the establishment of vegetation in bare or damaged areas, but should not be applied on a regular basis unless necessary.

10.

Spill Prevention Plan and Response Procedures

All construction personnel will be instructed regarding spill prevention practices and procedures. Notices stating these practices will be posted in the office trailer, and the site construction supervisor will be responsible for seeing that these procedures are followed.

Material Management Practices

The following material management practices will be used to reduce the risk of spills or other accidental exposure of materials and substances to stormwater runoff. These include good housekeeping practices and guidelines for the handling of hazardous products.

The following good housekeeping practices will be followed on-site during the construction period.

- An effort will be made to store only enough product required to do the job.
- All materials stored on-site will be stored in a neat, orderly manner in their appropriate containers, and (if possible) under a roof or other enclosure.
- Products will be kept in their original containers with the original manufacturer's label.
- Substances will not be mixed with one another unless recommended by the manufacturer.
- Whenever possible, all of a product will be used before disposing of the container.
- Manufacturer's recommendations for proper use and disposal will be followed.
- The site superintendent will inspect the storage area daily to ensure proper use and disposal of materials on-site.

The following practices will reduce the risks associated with hazardous materials (e.g., petroleum products, solvents):

A copy of all Material Safety Data Sheets (MSDS) for materials or products used during construction will be kept in the office trailer.

Products will be kept in original containers unless they are not re-sealable.

Original labels and material safety data (MSD sheets) will be retained; they contain important product information.

If surplus product must be disposed, manufacturer's or local- and state-recommended methods for proper disposal will be followed.

Product-Specific Practices

The following product-specific practices will be followed on-site. Recommendations are provided for petroleum products, fertilizers, solvents, paints, and other hazardous substances, and concrete.

Petroleum Products

All on-site vehicles will be monitored for leaks and will receive regular preventive maintenance to reduce the chance of leakage. No vehicle maintenance or handling of petroleum products will occur within 100 feet of a wetland or waterway. Petroleum products will be stored in tightly sealed containers that are clearly labeled. Any asphalt substances used on-site will be applied according to manufacturer's recommendations. No petroleum-based or asphalt substances will be stored within 100 feet of a wetland or waterway.

Fertilizers

Fertilizers will be applied only in the minimum amounts recommended by the manufacturer. Once applied, the fertilizer will be worked into the soil to limit exposure to stormwater. Storage will be in a covered shed; and the contents of any partially used bags will be transferred to a sealable, plastic bin to avoid spills. No fertilizer storage will occur within 100 feet of a wetland or waterway.

Solvents, Paints, and other Hazardous Substances

All containers will be tightly sealed and stored when not required for use. Excess materials will not be discharged to the storm sewer system, but will be properly disposed according to manufacturer's instructions or state and local regulations. No storage will occur within 100 feet of a wetland or waterway.

Concrete Trucks

Concrete trucks will not be allowed to wash out or discharge surplus concrete or drum wash water within 100 feet of wetland resources or into catch basins that are already in place.

Concrete Truck Washout

A temporary designated concrete washout area shall be provided where concrete truck mixers and equipment can be washed after their loads have been discharged, to prevent highly alkaline runoff from entering storm drainage systems or leaching into the soil. These areas shall be either excavated or above ground construction pits. Under no circumstances will wash water from these operations be allowed to infiltrate into the soil or enter surface waters.

The washout facility shall be sized to contain solids, wash water and rainfall and must also allow for the evaporation of wash water and rainfall. Wash water shall be estimated at 7 gallons per chute and 50 gallons per hopper of the concrete pump truck and/or discharging drum. The minimum size shall be 8 feet by 8 feet at the bottom and 2 feet deep. If excavated, the sides shall be 2 feet horizontal to 1 vertical.

The facility shall be located a minimum of 100 feet from drainage swales, storm drain inlets, wetlands, streams and other surface waters. Surface water shall be prevented from entering the facility except through the access road. An appropriate gravel access road will be provided and will be sloped down to the structure. All washout facilities shall be lined to prevent leaching of liquids into the ground. The liner shall be plastic sheeting with a minimum thickness of 10 mils with no holes or tears and shall be anchored beyond the top of the pit with an earthen berm, sandbags, stone, or other structural appurtenance except at the access point. If prefabricated washouts are used, they must ensure the capture and containment of the concrete wash and be sized based on the expected frequency of concrete pours.

All concrete washout facilities shall be inspected daily. Damaged or leaking facilities shall be deactivated and repaired or replaced immediately. Excess rainwater that has accumulated over hardened concrete should be pumped to a stabilized area, such as a grass filter strip. Accumulated hard material shall be removed when 75% of the storage capacity of the structure is filled. Any excess wash water shall be pumped into a containment vessel and properly disposed of off-site. Hardened material shall be disposed of off-site in a construction/demolition landfill. The plastic liner shall be replaced with each cleaning of the washout facility. The site is to be inspected frequently to ensure that no concrete discharges are taking place in non-designated areas.

Spill Control/Notification Practices

In addition to the good housekeeping and material management practices discussed above, the following practices will be followed for spill control, notification and cleanup.

- Manufacturer's recommended methods for spill cleanup will be clearly posted and site personnel will be informed of the procedures and the location of the information and cleanup supplies.
- Materials and equipment necessary for spill cleanup will be kept in the material storage area on-site. Equipment and materials will include, but will not be limited to, shovels, wheelbarrows, brooms, dustpans, mops, rags, gloves, goggles, kitty litter or Speedi-Dry, sand, sawdust, and plastic and metal trash containers specifically designated for this purpose.
- All spills will be cleaned up immediately after discovery.
- The spill area will be kept well ventilated and personnel will wear protective clothing to prevent injury from contact with a hazardous substance.
- Spills of toxic or hazardous material in excess of reportable quantities, as established by the New York State Department of Environmental Conservation (NYSDEC), will be reported to the NYSDEC Spill Hotline: 1-800-457-7362 (within NYS) or 1-518 457-7362 (from outside NYS) or to the National Response Center: 1-800-424-8802. The Emergency Spill Response Procedure is attached.
- The construction superintendent responsible for the daily operations will be the spill prevention and cleanup coordinator. He will designate at least three other site personnel to receive spill prevention and cleanup training. The names of the responsible spill personnel will be posted in the material storage area and in the on-site office trailer.

Source Control

Trash removal, designated trash storage areas, pavement sweeping and the controlled use of fertilizer and deicing agents on the site will reduce the pollutant load in the site's stormwater management system.

Dust Control

Fugitive dust from large areas of unstabilized soil can be a problem during construction. On dry and windy days when dust generation is a concern or when construction activities have the potential to produce dust, a water truck will traverse the site and spray water as necessary to prevent dust from forming. Vegetative cover will also be implemented for disturbed areas that are not subject to traffic.

Construction Trash Removal

Daily loose trash removal will prevent litter, construction debris, and construction chemicals exposed to stormwater from becoming a pollutant source for stormwater discharges. All loose trash will be placed in appropriate storage containers until disposed of properly off-site.

Covered Trash/Storage Areas

Areas to be used for storing dumpsters, compactors or other raw or waste materials will be covered to prevent contact with stormwater.

Pavement Sweeping

Pavement sweeping may be required daily or even more frequently during construction where sediment tracking from construction equipment is a problem.

Fertilizer

Only slow-release organic fertilizers will be used in landscaped areas. This will limit the amount of nutrients that could enter the stormwater and wetland systems. Fertilizer use will be reduced once the proposed landscaping is established.

Waste Disposal

All waste materials will be collected and stored in securely lidded metal dumpsters leased from a licensed solid waste management company and the dumpster will be emptied as necessary. Trash will be hauled by a licensed contractor and disposed in accordance with federal, state, and local environmental regulations. No trash or construction waste will be buried on-site, and all personnel will be instructed regarding the correct procedure for waste disposal. Notices stating these practices will be posted in the office trailer and the site construction supervisor will be responsible for seeing that these procedures are followed.

Hazardous Waste

All hazardous waste materials (e.g., petroleum products, solvents) will be disposed in the manner specified by local and state regulation, or by the manufacturer. Site personnel will be instructed in these practices, and the site construction supervisor will be responsible for seeing that these procedures are followed.

Sanitary Waste

All sanitary waste will be collected from the portable units by a licensed contractor a minimum of three times weekly and disposed in compliance with state and local regulation.

Spill Response Procedure

Initial Notification

In the event of a spill, the facility and/or construction manager or supervisor will be notified immediately.

Facility Manager: (name) _____

(phone) _____

Construction Manager: (name) _____

(phone) _____

Assessment - Initial Containment

The supervisor or manager will assess the incident and initiate containment control measures with the appropriate spill containment equipment included in the spill kit kept on-site. The supervisor will first contact the Town of Amenia Fire Department and then notify the Dutchess County Sheriff and Dutchess County Department of Behavioral & Community Health. The fire department is ultimately responsible for matters of public health and safety and should be notified immediately.

Fire Department:	911 or (845) 373-8467
Dutchess County Sheriff:	(845) 486-3800
Dutchess County Department of Behavioral & Community Health:	(845) 486-3400

Further Notification

Based on the assessment from the Fire Chief, additional notification to a cleanup contractor may be made. The New York Department of Environmental Conservation and the EPA may be notified depending upon the nature and severity of the spill. The Fire Chief will be responsible for determining the level of cleanup and notification required. The attached list of emergency phone numbers shall be posted in the main construction/facility office and readily accessible to all employees.

NYSDEC Spill Hotline: 1-800-457-7362 (within NYS)

National Response Center: 1-800-424-8802 / (518) 457-7362 (outside NYS)

For further information, contact:

New York State Department of Environmental Conservation

Division of Environmental Remediation

Spill Response Program

625 Broadway – 11th Floor

Albany, NY 12233-7020

(518) 402-9543

HAZARDOUS WASTE / OIL SPILL REPORT

Date____/____/____ Time_____ AM / PM

Exact location (Transformer #)_____

Type of equipment_____ Make_____ Size_____

S / N_____ Weather Conditions_____

On or near water ☐ Yes If yes, name of body of water_____

☐ No

Type of chemical / oil spilled_____

Amount of chemical / oil spilled_____

Cause of spill_____

Measures taken to contain or clean up spill_____

Amount of chemical / oil recovered_____ Method_____

Material collected as a result of clean up

_____drums containing_____

_____drums containing_____

_____drums containing_____

Location and method of debris disposal_____

Name and address of any person, firm, or corporation suffering damages_____

Procedures, method, and precautions instituted to prevent a similar occurrence from recurring____

Spill reported to General Office by_____ Time_____ AM / PM

Spill reported to DEC / National Response Center by_____

DEC Date____/____/____ Time_____ AM / PM Inspector_____

NRC Date____/____/____ Time_____ AM / PM Inspector_____

Additional comments_____

EMERGENCY RESPONSE EQUIPMENT
INVENTORY

The following equipment and materials shall be maintained at all times and stored in a secure area for construction activities emergency response need.

--	SORBENT PADS	5 PADS
--	SAND BAGS (empty)	10
--	SPEEDI-DRI ABSORBENT	5 40# BAGS
--	SHOVEL	1
--	PICK	1
--	PRY BAR	1

The following items shall be placed in a convenient, readily accessible location on site.

--	STRAW BALES & GRADE STAKES	10
--	SAND	2 CUBIC YARDS

EMERGENCY NOTIFICATION PHONE NUMBERS

1. SUPERVISOR/MANAGER
   NAME: _____ BEEPER: _____
   PHONE: _____ HOME PHONE: _____

   ALTERNATE:
   NAME: _____ BEEPER: _____
   PHONE: _____ HOME PHONE: _____

2. TOWN OF AMENIA FIRE DEPARTMENT
   EMERGENCY: 911
   BUSINESS: (845) 373-8467

   DUTCHESS COUNTY SHERIFF'S DEPARTMENT
   GENERAL NUMBER: (845) 486-3800

3. CLEANUP CONTRACTOR: _____
   ADDRESS: _____
   PHONE: _____

4. NEW YORK DEPARTMENT OF ENVIRONMENTAL CONSERVATION
   EMERGENCY: 1-800-457-7362
   OUTSIDE NEW YORK: 1-518 457-7362

5. NATIONAL RESPONSE CENTER
   PHONE: 1-800-424-8802

   ALTERNATE: U.S. ENVIRONMENTAL PROTECTION AGENCY
   BUSINESS: 1-212-637-3660

6. DUTCHESS COUNTY DEPARTMENT OF BEHAVIORAL & COMMUNITY HEALTH
   PHONE: (845) 486-3400

11.

Electronic Notice of Termination (eNOT) Submittal

An Owner/Operator must terminate coverage under the SPDES permit by submitting a completed electronic Notice of Termination (eNOT). Per Part V.A the eNOT may be filed if one or more of the following applies:

- Total project completion
    - All construction activities identified in the SWPPP have been completed
    - All areas of disturbance have achieved final stabilization
    - All temporary, structural erosion and sediment control measures have been removed
    - All SMPs have been constructed in conformance with the SWPPP and are operational
    - An as-built drawing has been prepared
- Planned shutdown with partial project completion
    - All soil disturbance activities have ceased
    - All areas disturbed as of the project shutdown date have achieved final stabilization
    - All temporary, structural erosion and sediment control measures have been removed
    - All SMPs required for the completed portion of the project have been constructed in conformance with the SWPPP and are operational
    - An as-built drawing will be prepared
- Change of Owner or Operator
- The owner or operator has obtained coverage under an alternative general SPDES permit or an individual SPDES permit.

The owner or operator must have the qualified inspector perform a final site inspection prior to submitting the eNOT. The qualified inspector must certify all the requirements have been achieved by signing the "Final Stabilization" and Post-Construction Stormwater Management Practice(s) statements. A regulated traditional land use control MS4 is required to sign the MS4 Acceptance Statement on the eNOT Form, if applicable.

If there are any post-construction storm water management practices (SMPs), the Owner/Operator must, prior to submitting the eNOT, ensure one of the following:

- SMPs that were constructed by a private entity, but will be owned, operated, and maintained by a public entity, the SMPs and any right-of-way needed to operate and maintain such practices have been deeded to the municipality in which the practice is located
- SMPs that are privately owned, but will be operated and maintained by a public entity, an executed operation and maintenance agreement is in place with the municipality that will operate and maintain the SMPs
- SMPs that are privately owned, the owner or operator has a mechanism in place that requires operation and maintenance of the practices in accordance with the operation and maintenance plan, such as a deed covenant in the owners or operators deed of record
- SMPs 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 policies and procedures in place that ensure operation and maintenance of the practices in accordance with the operation and maintenance plan.

Owner or operator that has met the requirements must request termination of coverage under this permit by submitting a completed Notice of Termination form electronically. The owners or operators' coverage is terminated as of the termination date indicated in the Letter of Termination (LOT), which is sent by the NYSDEC after a complete eNOT is submitted.

12.

New York State Department of Environmental Conservation SPDES General Permit for Stormwater Discharges from Construction Activity Permit No. GP-0-25-001 & Fact Sheet

FACT SHEET

For

NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL
CONSERVATION (NYSDEC)

SPDES GENERAL PERMIT
FOR STORMWATER DISCHARGES

From

CONSTRUCTION ACTIVITY

Permit No. GP-0-25-001

Construction General Permit (CGP)

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

Issuance Date: January 29, 2025
Effective Date: January 29, 2025
Expiration Date: January 28, 2030

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INTRODUCTION

The New York State Department of Environmental Conservation (NYSDEC) renewed the SPDES Construction General Permit (CGP) for Stormwater Discharges from Construction Activity as GP-0-25-001. Upon its effective date, GP-0-25-001 replaced the previous general permit, GP-0-20-001, which expired on January 28, 2025.

Pursuant to Section 402 of the Clean Water Act (CWA), and 40 CFR 122.26(b)(14)(x), (15)(i), and (15)(ii), stormwater discharges from certain construction activities (including discharges through a municipal separate storm sewer system) are unlawful unless they are authorized by a National Pollutant Discharge Elimination System (NPDES) permit or by a state permit program. New York's State Pollutant Discharge Elimination System (SPDES) is a NPDES-approved program with permits issued in accordance with the Environmental Conservation Law (ECL). An owner or operator of a construction activity must operate under an effective individual SPDES permit, which addresses the stormwater discharges, or obtain coverage under the SPDES General Permit for Stormwater Discharges from Construction Activity (here, GP-0-25-001). The authority for GP-0-25-001 is Article 17, Titles 7, 8 and Article 70 of the New York State Environmental Conservation Law, as well as 6 NYCRR Parts 621 and 750.

SUMMARY OF CHANGES

Numerous changes were made throughout GP-0-25-001 compared to GP-0-20-001, as detailed below, to increase clarity resulting in better understanding of GP-0-25-001 and, therefore, improved compliance and overall water quality protection.

Table of Contents

- GP-0-25-001 was restructured, and edits made, for a more logical reading of the permit from start to finish, to improve consistency within the broader NYSDEC SPDES program, and to eliminate redundancies.

    - Changes to the Table of Contents between GP-0-20-001 and GP-0-25-001 are indicated in the following chart. Note that the table only summarizes the relocation of contents of the permit; substantive changes are described in this Fact Sheet below.

GP-0-20-001	GP-0-25-001
Part I.A.	Part I.A.1.
Part I.B.	Part II.B.
Part I.B.1.e.	Part I.C.
Part I.C.	Part II.C.
Part I.D.	Part II.A.
Part I.E.	Part I.A.,B.,C.
Part I.F.	Part I.A.
Part II.A.	Part I.D.
Part II.B.	Part I.D.
Part II.C.	Part I.A.,D.,E.
Part II.D.	Part I.E.
Part II.E.	Part I.F.
Part II.F.	Part I.G.
Part VII.A.	Part I.E.7., Part VII.A.
Part VII.B.	Part VII.I.
Part VII.D.	Part VII.B.
Part VII.E.	Part VII.F.
Part VII.F.	Part I.E.10., Part VII.H.
Part VII.G.	Part I.E.9.
Part VII.H.	Part VII.J.
Part VII.I.	Part VII.O.
Part VII.J.	Part VII.R.
Part VII.K.	Part VII.G.
Part VII.L.	*[deleted]*
Part VII.M.	Part VII.K.
Part VII.N.	Part VII.A.
Part VII.O.	*[deleted]*
Part VII.P.	Part VII.E.
Part VII.Q.	Part VII.D.
Part VII.R.	Part VII.M.
[none]	Part VII.L.
[none]	Part VII.N.
[none]	Part VII.P.
[none]	Part VII.Q.
[none]	Part VII.S.
Appendix D	*[deleted]*
Appendix E	Appendix D
Appendix F	Appendix E
[none]	Appendix F, G, H, and I

- Although not required, Parts I. and II. in GP-0-25-001 were reorganized, and edits made, to be more consistent with the structure and content of EPA's 2022 National Pollutant Discharge Elimination System (NPDES) Construction General Permit (CGP) for Stormwater Discharges from Construction Activities (EPA's CGP). These changes make reading and understanding GP-0-25-001 easier. For example, the restructuring better organized the requirements in order of how to obtain, maintain, and terminate coverage under the permit.

Part I

- Part I. in GP-0-25-001 is the introduction to eligibility and how to obtain permit coverage. The substantive requirements follow.

Eligibility Requirements

- Part I.A.1. in GP-0-25-001 was simplified and reformatted.
    - Adding regulatory references to the definition of "Construction Activity(ies)" in Appendix A eliminated the need to cite "40 CFR 122.26(b)(14)(x), 122.26(b)(15)(i) and 122.26(b)(15)(ii)" in Part I.A.1. in GP-0-25-001.
    - Adding the exclusion of routine maintenance activity to the definition of "Construction Activity(ides)" in Appendix A eliminated the need to include the same exclusion in Part I.A.1. in GP-0-25-001. See the "Definitions – Appendix A" section of this Fact Sheet.
    - The phrase "and groundwaters" was deleted in Part I.A.1. in GP-0-25-001 since the CGP only authorizes discharges to surface waters of New York State pursuant to CFR 122.26(b)(14)(x), 122.26(b)(15)(i) and 122.26(b)(15)(ii).
    - In GP-0-20-001, Part I.E.1. was essentially redundant of Part I.A in that permit. Therefore, Part I.E.1. was removed in GP-0-25-001.
    - For clarity, Part I.A.1.a. and b. in GP-0-25-001 separate into two items what was formerly one paragraph. In GP-0-25-001, the first item is "one or more acres" and the second item is "less than one acre which are part of a common plan of development or sale that will ultimately disturb one or more acres." Having both items in one paragraph made it difficult to understand that there were two different disturbance thresholds of construction activities that are eligible for coverage under the CGP.

- Part I.A.1.c.ii., iii.,. and iv. in GP-0-25-001 are new in GP-0-25-001. GP-0-25-001 clearly identifies soil disturbance thresholds within the municipal boundaries of the City of New York (NYC) of: 1) 20,000 square feet or more, but less than one acre; 2) less than 20,000 square feet that are part of a common plan of development or sale that will ultimately disturb 20,000 square feet or more, but less than one acre, or 3) 5,000 square feet or more of impervious area created.

    - NYC is the only large Municipal Separate Storm Sewer System (MS4) within New York State (NYS) subject to the Phase I Stormwater Permitting requirements of the CWA. As the only large MS4 in NYS, the 2015 NYC MS4 Permit was developed by consulting the NYSDEC SPDES General Permit for Stormwater Discharges from MS4s (GP-0-10-002); the MS4 Improvement Guide (EPA Publication 833-R-10-001); and Individual MS4 permit programs from other Phase I MS4s such as Philadelphia, Los Angeles, Chicago, Houston, and District of Columbia. The NYC MS4 Permit only applies to stormwater discharges going to the NYC MS4. Part IV.F.4. of the 2015 NYC MS4 Permit required NYC to complete a study to determine the appropriate soil disturbance threshold for stormwater regulation of construction activities, within the NYC municipal boundaries, that discharge to NYC's MS4. That study evaluated different soil disturbance threshold sizes ranging from 5,000 square feet to 1 acre, to assess potential costs to NYC and developers and the anticipated water quality benefits associated with each soil disturbance threshold size. The study recommended the adoption of a 20,000 square foot soil disturbance threshold, as documented in NYC Stormwater Management Program, 2020 Revision, Appendix 6.1 Lot Size Soil Disturbance Threshold Study for Construction and Post-Construction Stormwater Management. The approved Stormwater Management Program (SWMP), and 2020 NYC MS4 Permit, incorporated the study's recommendations to lower the soil disturbance threshold to 20,000 square feet. Further, the 2020 NYC MS4 Permit incorporated a 5,000 square foot threshold for the creation of impervious surfaces consistent with the NYC Unified Stormwater Rule (see the NYC Environmental Protection webpage: https://www.nyc.gov/site/dep/water/unified-stormwater-rule.page). It would be difficult to create new impervious area without soil disturbance. Therefore, CGP coverage is appropriate within the municipal boundaries of NYC at the same soil disturbance thresholds identified in the 2020 NYC MS4 Permit in accordance with 40 CFR 122.26(b)(15)(ii), and 6 NYCRR 750-1.5(a)(10) as NYSDEC concurs those lower soil disturbance thresholds are a significant contributor of pollution to waters surrounding NYC.

        - This approach provides additional protections to the quality of receiving waters and ensures a uniform soil-disturbance threshold for construction and post-construction activities in New York City, thereby eliminating any chance of confusion of rules between the jurisdictions of NYSDEC and NYCDEP.

        - GP-0-25-001 authorizes discharges to surface waters of the State either directly or through separate storm sewer systems (e.g. MS4).

- Part I.A.2. in GP-0-25-001 was expanded consistent with EPA's CGP language.

- For clarity, Part I.A.3.a. and b. in GP-0-25-001 separate into two items what was formerly one paragraph. In GP-0-25-001, the first item is "permit issued pursuant to 6 NYCRR Part 182 for the project" and the second item is "letter issued by NYSDEC of non-jurisdiction for the project." Having both items in one paragraph made it difficult to understand that there were two different ways to be eligible for coverage under the CGP, with respect to endangered or threatened species.

- Part I.A.6. in GP-0-25-001 was added to complement Part I.A.5. This complement was needed to address construction activities that are not subject to SEQR but are subject to the equivalent from another New York State or federal agency. For example, the equivalent from another New York State agency could be Certificates of Environmental Compatibility and Public Need from the Department of Public Service.

- For clarity, Part I.A.7.a. and b. in GP-0-25-001 separate into two items what was formerly one paragraph. In GP-0-25-001, the first item is "obtain all such necessary permits" and the second item is "receive notification from NYSDEC pursuant to 6 NYCRR 621.3(a)(4) excepting Part I.A.7.a." Having both items in one paragraph made it difficult to understand that there were two different ways to be eligible for coverage under the CGP, with respect to UPA permits.

- Part I.A.8. in GP-0-25-001 maintains the substance of Part I.F.6. and 7. in GP-0-20-001 but was reordered and reformatted for clarity.

    - Part I.A.8.a. is applicable to linear transportation projects and linear utility projects from Part I.F.7. in GP-0-20-001.

    - Part I.A.8.b. is applicable to all other project types, including residential, commercial, and institutional project types, clarifying the original intent from Part I.F.6. in GP-0-20-001.

    - In GP-0-20-001, there was confusion about the phrase "tributary to" in Part I.F.6. and 7. To eliminate that confusion, the language in GP-0-25-001 Part

I.A.8.a. and b. clarifies that construction activities, "within the watershed of surface waters of the State classified as AA or AA-S," are not eligible. As the Stormwater Interactive Map is the only available tool to determine if a construction site is within the watershed of surface waters of the State classified as AA or AA-S, use of the Stormwater Interactive Map is required in Part I.A.8.a.i. and Part I.A.8.b.i. The Stormwater Interactive Map contains a GIS layer "Class AA AAs Watersheds."

Types of Discharges Authorized

- In GP-0-20-001, Part I.F.2. was redundant of Part I.E.3. With reorganizing GP-0-25-001, the same substantive requirements are located in Part I.B.2.

Electronic Notice of Intent (eNOI) Submittal

- Part I.D. in GP-0-25-001 provides a narrative explanation of what the eNOI contains so that owners or operators clearly understand what information they must provide.

- Part I.D.1. in GP-0-25-001 is new. An eNOI may only be submitted for one of the four options (Part I.D.1.a., b., c., or d.). If a project does not fit one of those four options, it cannot obtain coverage under GP-0-25-001.

  Part I.D.1.a., b., and c. build on the new definition for "phase" added to Appendix A of GP-0-25-001. For more information, see the definition of "phase" in the section "Appendix A – Definitions" of this Fact Sheet below, including the diagrams.

  - Part I.D.1.a. in GP-0-25-001 does not change the substance from GP-0-20-001 but more clearly identifies what is acceptable to submit as an eNOI.

  - Part I.D.1.b. in GP-0-25-001 does not change the substance from GP-0-20-001 but more clearly identifies what is acceptable to submit as an eNOI.

  - Part I.D.1.c. in GP-0-25-001 does not change the substance from GP-0-20-001 but more clearly identifies what is acceptable to submit as an eNOI so long as the three requirements are met, Part I.D.1.c.i., ii., and iii.

    - Part I.D.1.c.i. was added to ensure that all phases of the common plan of development or sale are reviewed collectively under SEQR, or the equivalent, and not segmented.

    - Part I.D.1.c.ii. was added to ensure that the separate phase of a common plan of development or sale, on its own, is otherwise eligible for coverage under GP-0-25-001.

- Part I.D.1.c.iii. was included to ensure implementation of the post-construction stormwater management practices (SMPs) reflect the common plan of development or sale, not separate phase(s), in instances where a phase by itself might be categorized differently in accordance with Part III.C.

- Part I.D.1.d. in GP-0-25-001 was included to balance the protection of certain threatened and endangered bat species with the need to timely construct projects in furtherance of NYS climate mandates under the Climate Leadership and Community Protection Act (CLCPA). Specifically, this provision allows certain instances of tree clearing before development of the entire Stormwater Pollution Prevention Plan (SWPPP) for renewable energy projects (i.e. generation, transmission, or storage), in order to meet stringent construction schedules related to climate mandates and reliability of the electric grid.

  In order to meet these aggressive mandates, renewable energy projects must be constructed in an expedited timeframe. Part I.D.1.d. in GP-0-25-001 is limited to renewable energy projects because those projects will help timely meet NYS climate mandates under the CLCPA.

  For the protection of these endangered bat species, tree clearing in most areas of the State should occur between November 1st and March 31st. By tree clearing within this time period, an owner or operator will comply with 6 NYCRR Part 182. This does not apply to NYSDEC Region 1 because that area of the State has such a prevalence of these endangered bat species that tree clearing during any time of year would result in impacts to these species. See also the U.S. Fish and Wildlife Service (USFWS) guidance document "Northern long-eared bat Interim Consultation Framework Reinitiation Memorandum," publication date November 22, 2024.

  To minimize the potential for irreparable harm, in cases where tree clearing would occur and a project is then not ultimately certified, this provision is applicable only when the owner or operator is at a certain point in its underlying certification process (Part I.D.1.d. and Part I.D.1.d.i. in draft GP-0-25-001).

  The pre-development condition is the existing site conditions before the tree clearing sequence occurred. This applies when using the Design Manual to perform pre- and post-development hydrologic modeling for the renewable project after the tree clearing sequence has been completed.

- Part I.D.2. in GP-0-25-001 is modeled after EPA's CGP and groups together the prerequisites for submitting an eNOI in logical order.

- Under GP-0-20-001, NYSDEC received questions about different scenarios and whether a Traditional Land Use Control MS4 Operator was required to review the SWPPP and sign the MS4 SWPPP Acceptance Form or not. Therefore, Part I.D.2.b.ii.1. in GP-0-25-001 was added to list the situations when a Traditional Land Use Control MS4 Operator does not have review authority.

    - Part I.D.2.b.ii.1.a. in GP-0-25-001 maintains where the Traditional Land Use Control MS4 Operator did not have review authority under GP-0-20-001.

    - Part I.D.2.b.ii.1.b. and c. in GP-0-25-001 were added to implement the Legal Memorandum LU14 listed in Part I.D.2.b.ii.1.c. within the context of this permit. The difference between Part I.D.2.b.ii.1.b. and c. is the existence of an applicable statute or not. The New York State Department of State can answer questions about the analysis outlined in that legal memorandum. Part I.D.2.b.ii.1.b. and c add clarification for situations when the owner or operator is a different government entity undertaking construction activity within the municipal boundary of a Traditional Land Use Control MS4 Operator.

- Part I.D.2.b.ii.2. and 3. in GP-0-25-001 were added to specify what documentation the owner or operator must obtain from a Traditional Land Use Control MS4 Operator to support the conclusion in Part I.D.2.b.ii.1.

    - Part I.D.2.b.ii.2.a. in GP-0-25-001 maintains the MS4 SWPPP Acceptance Form (see also Appendix G in GP-0-25-001) used under GP-0-20-001.

    - Part I.D.2.b.ii.2.b. in GP-0-25-001 added the City of New York Department of Environmental Protection (NYCDEP) SWPPP Acceptance/Approval Form (see also Appendix H in GP-0-25-001) for eNOIs including construction activities within the municipal boundaries of NYC that will discharge to the MS4. This form was used under GP-0-20-001 but is now clearly identified and required in GP-0-25-001.

    - Part I.D.2.b.ii.3. in GP-0-25-001 added the MS4 No Jurisdiction Form (see also Appendix H in GP-0-25-001) to make it clear to NYSDEC, during the review process of eNOIs for completeness, that the Traditional Land Use Control MS4 Operator(s) do not have review authority.

- Part I.D.3.a. in GP-0-25-001 is consistent with EPA's 2015 NPDES Electronic Reporting Rule (40 CFR Part 127). Prior to December 21, 2020, electronic submission of a Notice of Intent (NOI) was optional under Part II.B.1. in GP-0-20-001. In accordance with 40 CFR 127.16(a) and 6 NYCRR 750-2.5(e)(1), Part I.D.3.a. requires that owners or operators submit the Notice of Intent form electronically, which is the format acceptable to NYSDEC. This is consistent with the requirements of Part II.B.2. in GP-0-20-001, which applied after December 21, 2020. The ability to submit a waiver has been included in GP-0-25-001, and the process follows the federal regulations at 40 CFR 127.15.

- Part I.D.3.b. in GP-0-25-001 replaces the former process from Part II.C. in GP-0-20-001. Under Part II.C. in GP-0-20-001, receipt of the NOI Letter of Acknowledgement was not required for authorization to discharge. NYSDEC simply sent out the NOI Letter of Acknowledgement as a courtesy documenting NYSDEC's receipt of a complete eNOI. To eliminate confusion as to when an owner or operator is authorized to discharge, Part I.D.3.b. in GP-0-25-001 states that the controlling authorization date is indicated in the LOA.

    - Under Part II.C. of GP-0-20-001, an owner or operator could receive an NOI Letter of Acknowledgment but not be authorized to discharge until project review pursuant to the State Environmental Quality Review Act (SEQR) had been satisfied, when applicable, and not until all necessary NYSDEC permits subject to the Uniform Procedures Act (UPA) (see 6 NYCRR Part 621) had been obtained, where required. To execute this process-change in Part I.D.3.b. of GP-0-25-001, what were formerly additional authorization requirements in Parts II.C.2.a. and b. of GP-0-20-001 (SEQR and UPA) have been moved to be eligibility requirements in Part I.A. in GP-0-25-001.

    - Part II.C.3. in GP-0-20-001 included timelines for authorization to discharge of five business days or 60 business days after receipt of a complete NOI, depending on the situation. Now, in Part I.D.3.b. of GP-0-25-001, the controlling authorization date is indicated in the LOA.

        - GP-0-25-001 now requires submission of an eNOI in accordance with Part I.D.3.a., which allows NYSDEC to automate LOA issuance electronically, therefore eliminating the need for the five-business day timeline. Obtaining coverage under GP-0-25-001, like GP-0-20-001, is a self-certifying process. A false certification would not provide authorization to discharge even if NYSDEC issues a LOA based on the false certification. The technology platform used to receive eNOIs for GP-0-25-001 will only allow "complete eNOIs" to be submitted with certification from the owner or operator asserting that all requirements of GP-0-25-001 have been met. Further, owners or operators may use

the technology platform to view the status of submitted eNOIs and access copies of LOAs at any time.

- Part I.D.3.b.i. in GP-0-25-001 maintains the 60 business day authorization timeline for owners or operators if both of the following apply: 1) where there is deviation from the New York State Standards and Specifications for Erosion and Sediment Control, dated November 2016 (Blue Book) and/or the New York State Stormwater Management Design Manual, dated July 31, 2024 (2024 Design Manual), the SWPPP demonstrates equivalence in accordance with Part III.B.1.a.ii. or Part III.B.2.b.ii. and 2) a Traditional Land Use Control MS4 Operator does not have review authority in accordance with Part I.D.2.b.ii.1.

  The 60-business day timeline is still in place to provide NYSDEC time to review a SWPPP demonstrating equivalence when a Traditional Land Use Control MS4 Operator does not have review authority. When a Traditional Land Use Control MS4 Operator has review authority, the Traditional Land Use Control MS4 Operator will review all SWPPPs, so an extended timeline is not necessary in this case.

General Requirements for Owners or Operators with Permit Coverage

- Part II.D.4. in GP-0-20-001 was redundant of Part VII.K. in GP-0-20-001 and, therefore, deleted in GP-0-25-001. The substance of Part VII.K. in GP-0-20-001 is maintained in Part VII.G. in GP-0-25-001.

- Part I.E.1. was added in GP-0-25-001 to clarify the timing of when the owner or operator must make the eNOI and SWPPP available for review in accordance with Part VII.H. In GP-0-20-001, there was no timing attached to that requirement. GP-0-25-001 clarifies that “As of the date the LOA is received” is when that requirement applies, consistent with the process change described in the paragraphs above about Part I.D.3.b. in GP-0-25-001.

- For clarity, Part I.E.2.a. and b. in GP-0-25-001 separate into two items what was formerly one paragraph as Part II.D.1. in GP-0-20-001. The first item is “all areas of disturbance have achieved final stabilization” and the second item is “the owner’s or operator’s coverage under this permit is terminated in accordance with Part V.A.5.” Having both items in one paragraph made it difficult to understand that there were two different requirements to be met prior to the owner’s or operator’s responsibility to ensure compliance with all requirements of the permit, and provisions of the SWPPP, ceased.

- Part I.E.3. and 4. in GP-0-25-001 maintain the substance and intent of Part II.D.2. in GP-0-20-001 but was reordered and reformatted for clarity.

- Part I.E.5. in GP-0-25-001 clarifies that, copies of documentation necessary to demonstrate eligibility with the permit required to be maintained at the construction site, must be paper documents unless electronic documents are accessible to the inspector during an inspection to the same extent as a paper copy stored at the site would be. This clarification is consistent with the EPA's Construction General Permit (CGP) Frequent Questions webpage, https://www.epa.gov/npdes/construction-general-permit-cgp-frequent-questions, accessed on May 14, 2024, which states that "SWPPPs, inspection reports, and corrective action reports may be prepared, signed, and kept electronically if the records are: (a) in a format that can be read in a similar manner as a paper record; (b) legally dependable with no less evidentiary value than their paper equivalent; and (c) accessible to the inspector during an inspection to the same extent as a paper copy stored at the site would be, if the records were stored in paper form."

- Part I.E.6. in GP-0-25-001 added the process to obtain authorization to disturb greater than five acres of soil at any one time. This was needed to standardize the process that was not articulated in GP-0-20-001.

  Like GP-0-20-001, a project that has obtained coverage under GP-0-25-001 may commence construction activities that include soil disturbance of less than five acres at any one time without an Authorization Letter to Disturb Greater Than Five Acres (Part I.E.6.c.). For example, a project could disturb four acres of soil, then achieve final stabilization for those first four acres of soil disturbance. Then, the project could continue with an additional three acres of soil disturbance, then achieve final stabilization for the addition three acres, and thus disturbing a collective seven acres of soil without submitting a Request to Disturb Greater Than Five Acres and without receiving an Authorization Letter to Disturb Greater Than Five Acres. The key with this example is that less than five acres of soil were disturbed at any one time.

  If an owner or operator cannot feasibly stagger the soil disturbance such that less than five acres are disturbed at any one time, they must meet the requirements in Part I.E.6. after obtaining coverage under GP-0-25-001 as Part I.E. is General Requirements for Owners or Operators with Permit Coverage.

  - Part I.E.6.a. in GP-0-25-001 identifies who to submit the Request to Disturb Greater Than Five Acres to, considering varying review authorities.

  - Part I.E.6.b. in GP-0-25-001 more clearly identifies what such a request must include.

  - Part I.E.6.c. in GP-0-25-001 imposes a requirement for the owner or operator to receive an Authorization Letter to Disturb Greater Than Five Acres similar

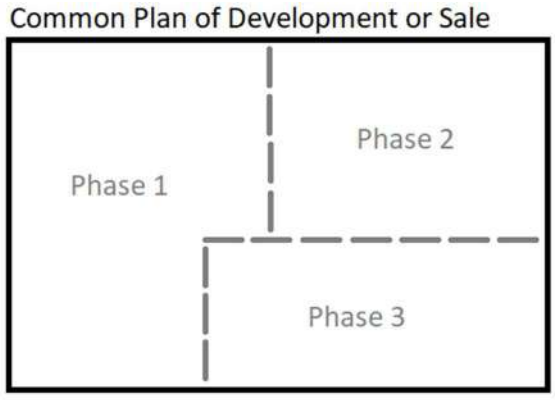
to the process of receiving a LOA.

- Part I.E.8. in GP-0-25-001, which specifically addresses human remains or archaeological remains encountered during excavation, is information specific to construction activity and, therefore, is more appropriately located in Part I.E., General Requirements for Owners or Operators with Permit Coverage, than in Part VII., Standard Permit Requirements.

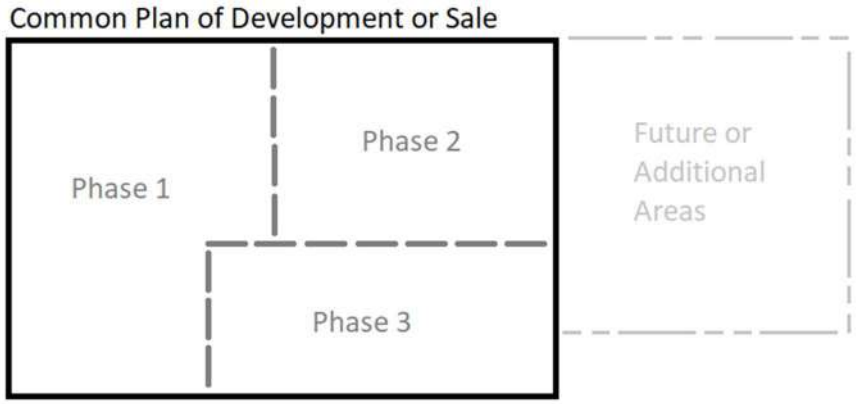
- Part I.E.9. describes the administrative process for updating the eNOI when any information previously submitted in the eNOI changes. This includes but is not limited to: (1) increasing area of soil disturbance, (2) substantive revisions to the SWPPP, and (3) changing the SMP component of the SWPPP.

    - Diagrams A, B, and C below are examples (i.e. not an exhaustive list) that illustrate the process to receive authorization to disturb soil not yet authorized for a common plan of development or sale. Diagrams A, B, and C assume the original eNOI submission was for an entire common plan of development or sale. However, the same process also applies regardless of whether the original eNOI was submitted for an entire common plan of development or sale or not. See also the section for Appendix A in this Fact Sheet below to understand the concept of phases within a common plan of development or sale compared to a project with only one phase.

    - Diagram A – original eNOI submission was for the following:



    - Diagram B – the future or additional area depicted did not meet the definition of common plan of development or sale when the original eNOI was submitted; the owner or operator intends to now include the future or additional area as part of the common plan of development or sale following the process in Part I.E.9.:



- Diagram C – after the SWPPP and eNOI have been amended following the process in Part I.E.9., they now reflect the following:

Permit Coverage for Discharges Authorized Under GP-0-20-001

- Part I.F. in GP-0-25-001 is a new process. GP-0-20-001, and all previous renewals of the CGP, provided automatic continuation of coverage for owners or operators with coverage under the previous version of the CGP. The automatic continuation of coverage under renewals of the CGP did not adequately ensure ongoing compliance with the permit and led to confusion for SPDES permit fees with respect to inactive sites.

    - Part I.F. in GP-0-25-001 requires that owners or operators with coverage under GP-0-20-001 must submit an electronic Request to Continue Coverage (Part I.F.2.) within 30 calendar days of the effective date of GP-0-25-001. Since the CGP has been in place for over 20 years, this new requirement to submit confirmation to NYSDEC is important to clean up administrative records and to verify where coverage is still needed.

- The Request to Continue Coverage form in Part I.F.2. in GP-0-25-001 is necessary to inform NYSDEC that the SMP component acceptable under GP-0-20-001 will continue to be implemented and the owner or operator will comply with the non-design requirements of GP-0-25-001. In practicality, this means that an owner or operator with coverage under GP-0-20-001 seeking to obtain continued coverage under GP-0-25-001 does not need to redesign the SWPPP that was implemented under GP-0-20-001, including not needing to add the GP-0-25-001 Part III.A.2. climate change consideration, a potentially costly, time-consuming redesign process. GP-0-20-001 allowed continued authorization for projects covered under GP-0-15-002, which allowed continued authorization for projects covered under the previous iteration of the NYSDEC CGP, and so on. Therefore, the phrase "in place at the time of initial project authorization" captures all of those scenarios.

    - Part I.F.3. identifies what information the Request to Continue Coverage form requires from the owner or operator with coverage under GP-0-20-001. The form requires a minimal amount of information, including confirmation of continued eligibility, so as not to burden the regulated community in accomplishing NYSDEC's goal.

    - In accordance with Part I.F.4. in GP-0-25-001, if the Request to Continue Coverage form is complete, the owner or operator will receive authorization under GP-0-25-001, via the Letter of Continued Coverage (LOCC) from NYSDEC. This new process is similar to the new LOA process and necessary because of the reasons explained in the Fact Sheet above addressing Part I.D.3.b. in GP-0-25-001.

    - Obtaining coverage under GP-0-25-001 is a self-certifying process. The technology platform used to receive Request to Continue Coverage forms for GP-0-25-001 will only allow "complete" Request to Continue Coverage forms to be submitted with certification from the owner or operator asserting that all requirements of GP-0-25-001 have been met. Therefore, electronic LOCCs will be automatically generated and sent immediately by the technology platform in response to Request to Continue Coverage submissions.

- Part I.F.1. in GP-0-25-001 provides owners or operators, with coverage under GP-0-20-001, with 45 calendar days of interim coverage under GP-0-25-001. The 45 calendar days of interim coverage are necessary to avoid a lapse in

permit coverage while the owner or operator prepares and submits the Request to Continue Coverage. If an owner or operator does not transfer coverage from GP-0-20-001 to GP-0-25-001 in accordance with Part I.F.2. and 4., and Part I.F.5. is followed instead, there will be a lapse in permit coverage.

Change of Owner or Operator

- Part I.G. in GP-0-25-001 made changes to more clearly address the different scenarios of either a partial transfer of ownership or a full transfer of ownership.
    - Part I.G.1.f. in GP-0-25-001 requires an original owner or operator to amend their eNOI if the scenario is a partial transfer. This is a new administrative requirement needed to confirm with NYSDEC what extent of the project remains under the original owner's or operator's control as opposed to what extent of the project will now be under the new owner's or operator's control.
    - Part I.G.1.e. in GP-0-25-001 requires an original owner or operator to submit an eNOT to terminate their coverage, if the scenario is a full transfer. This is a new administrative requirement needed to confirm with NYSDEC that the original owner or operator no longer has operational control over any portion of the project.
    - For both scenarios, whether a partial or full transfer, Part I.G.1.a., b., c., and d. require that the new owner or operator follow the eNOI submittal process because of the reasons explained in the Fact Sheet above addressing Part I.D. in GP-0-25-001. This includes obtaining MS4 SWPPP Acceptance Form certification from a Traditional Land Use Control MS4 Operator when appropriate. Part II.A.3. in GP-0-20-001 was deleted in GP-0-25-001, which exempted the need for the MS4 SWPPP Acceptance form in such scenarios).

Part II

Post-construction Stormwater Management Practice Requirements

- As NYSDEC issued the revised New York State Stormwater Management Design Manual, dated July 31, 2024 (2024 Design Manual), references to the Design Manual throughout GP-0-25-001 have been updated to the 2024 Design Manual, when applicable, instead of the New York State Stormwater Management Design Manual, dated January 2015 (2015 Design Manual). The 2015 Design Manual is still applicable to Part III.B.2.b.iii. and Part III.B.2.d. (see the paragraphs in the Fact Sheet below discussing those sections).

- Part II.B.1.b. in GP-0-25-001 was edited to clarify that the requirement to complete the stabilization is calculated in “calendar” days.

Part III

General SWPPP Requirements

- Part III.A.2. in GP-0-25-001:

  NYSDEC posted an Advanced Notice of Proposed Permit (ANPP) in the Environmental News Bulletin (ENB) on April 3, 2024 soliciting stakeholder input regarding potential changes to the CGP and the Design Manual to address climate change impacts in New York State. Input received by NYSDEC in response to the ANPP provided varied perspectives and recommended additional research. NYSDEC is pursuing that recommendation and seeking further research and data.

  However, as a first step and consistent with the NYSDEC ECL SPDES General Permit for Concentrated Animal Feeding Operations (CAFOs), Permit No. GP-0-22-001, and the NYSDEC SPDES Multi-Sector General Permit for Stormwater Discharges Associated with Industrial Activity, Permit No. GP-0-23-001, Part III.A.2. in GP-0-25-001 was added in accordance with the Community Risk and Resiliency Act (CRRA), 6 NYCRR Part 490, and associated guidance. Associated guidance may include “Using Natural Measures to Reduce the Risk of Flooding and Erosion,” “State Flood Risk Management Guidance,” “Estimating Guideline Elevations,” and “Tidal Wetlands Guidance: Living Shoreline Techniques in the Marine District of New York State.”

  Pursuant to Section 17-a of CRRA, Chapter 355 of the Laws of 2014 (as amended by Section 9 of the CLCPA, Chapter 106 of the Laws of 2019), NYSDEC must identify “the most significant climate-related risks” and promote “measures that could mitigate significant climate-related risks.” Pursuant to Section 17-b of CRRA, Chapter 355 of the Laws of 2014 (as amended by Section 9 of the CLCPA, Chapter 106 of the Laws of 2019), activities covered by major permits for regulatory programs subject to the Uniform Procedures Act, including GP-0-25-001, are required to demonstrate that future physical climate risk has been considered. Moreover, NYSDEC can require activities covered by a major permit to mitigate significant risks to natural resources in the vicinity of the activity. To implement those requirements, GP-0-25-001 requires the owner or operator to demonstrate, in narrative format in the SWPPP, consideration of future physical risks due to climate change, identified in Part III.2.a.i. of GP-0-25-001.

  Further guidance on CRRA and CLCPA can be found on NYSDEC’s website at https://dec.ny.gov/environmental-protection/climate-change/new-york-response/crra. Additionally, mapping guidance on guideline elevations can be found at

https://services.nyserda.ny.gov/SLR_Viewer/ and https://www.coast.noaa.gov/llv/.

- Part III.A.5.d. in GP-0-25-001 added “in an as-built drawing” at the end of the sentence to clarify the format which must be used to meet the requirement. Consistent with Part III.A.5. in GP-0-25-001 requiring that construction drawings must be kept current in the SWPPP, if the site was built according to the SWPPP design drawing, that design drawing may be used to create the as-built drawing.

- Part III.A.7. in GP-0-20-001 required owners or operators to submit a copy of the SWPPP or inspection reports to NYSDEC within a specified timeframe and in a specified format in response to NYSDEC requests. This information was mostly redundant of Part VII.F. in GP-0-20-001 and, therefore, Part III.A.7 in GP-0-20-001 was deleted in GP-0-25-001. The same substantive requirements of Part VII.F. in GP-0-20-001 are maintained in Part VII.H. in GP-0-25-001.

Required SWPPP Contents

- For clarity, Part III.B.1.a.i. and ii. in GP-0-25-001 separate into two items what was formerly in one paragraph. The first item is “in conformance with the New York State Standards and Specifications for Erosion and Sediment Control (BB), dated November 2016” and the second item is “equivalent to the BB if deviating from Part III.B.1.a.i.” Having both items in one paragraph made it difficult to understand that there were two different options when designing erosion and sediment control practices. Similarly, Part III.B.1.b. was also separated to make it clear that if option Part III.B.1.a.ii. is chosen, the SWPPP must include a demonstration of equivalence to the BB. Further, Part III.B.1.c. was separated from the paragraph as well, to make it clear what the erosion and sediment control component of the SWPPP must include, regardless of which option is chosen between Part III.B.1.a.i. or ii. All these changes maintain the requirements of GP-0-20-001 but present the requirements in formatting that is easier to understand.

- Part III.B.1.c.ii. in GP-0-25-001 added “with north arrows” and “and receiving surface water(s)” to the requirement. Spelling out this detailed requirement will help the owner or operator with site planning and construction, and it will help inspectors and reviewers with compliance actions.

- Part III.B.1.c.iv. in GP-0-25-001 maintains the term “phasing plan” but changed “sequence of operations” to “sequencing plan.” To explain these terms better, GP-0-25-001 contains detailed requirements of what the phasing plan must include (Part III.B.1.c.iv.1.) and detailed requirements of what the sequencing plan must include (Part III.B.1.c.iv.2.). Spelling out these detailed requirements will help the owner or operator with site planning and construction, and it will help inspectors and reviewers with compliance actions and with the Disturb Greater Than Five Acres Request.

- Part III.B.2. in GP-0-25-001 was edited to be a list format instead of paragraph form to present the requirements more clearly, but maintain requirements of GP-0-20-001. These changes also address the DOW New York State Stormwater Management Design Manual 2024 Update Transition Policy (Transition Policy).

    - Part III.B.2.a. in GP-0-25-001 was separated to make it clear that the sizing criteria is required regardless of which option is chosen between Part III.B.2.b.i., ii., or iii.

    - Part III.B.2.b.i. and ii. in GP-0-25-001 separate into two items what was formerly in one paragraph. The first item is “in the DM” and the second item is “equivalent to the DM if deviating from Part III.B.2.b.i.” Having both items in one paragraph made it difficult to understand that there were two different options when designing SMPs.

    - Part III.B.2.b.iii. in GP-0-25-001 was added because a transition period for construction activities is needed to mitigate the economic impact to certain construction activities that already started the planning, design, and review process with another review authority, and for government entities’ construction activities that already started the planning, design, and review process when not subject to other governmental review and approval. NYSDEC considered the cost and environmental benefit provided by the 2015 Design Manual, and consistency with past application of other new permitting requirements. NYSDEC determined that two years is a reasonable amount of time to complete such a review process.

    - Part III.B.2.c. in GP-0-25-001 was separated to make it clear that if option Part III.B.2.b.ii. in GP-0-25-001 is chosen, the SWPPP must include a demonstration of equivalence to the DM.

    - Part III.B.2.d. in GP-0-25-001 was added to include the criteria in Part III.B.2.b.iii. explained above.

    - Part III.B.2.e. in GP-0-25-001 was separated to make it clear what the SMP component of the SWPPP must include, regardless of which option is chosen between Part III.B.2.b.i., ii., or iii.

- Part III.B.2.b.iii. was added to allow additional performance criteria to apply. This provides the pathway for an owner or operator of a construction activity, seeking coverage under GP-0-25-001, to continue to use a SWPPP that was designed in conformance with the 2015 Design Manual or its equivalent, instead of the 2024 Design Manual or its equivalent.

- Part III.B.2.d. was added to require owners or operators following Part III.B.2.b.iii. to document in the SWPPP that Part III.B.2.b.iii.1.a. or b. apply. Such documentation could be in the form of planning board meeting minutes, letters acknowledging receipt of the SWPPP by the governmental entity, or other correspondence by the governmental entity providing comments on the SWPPP.

Part IV

Qualified Inspector Inspection Requirements

- Part IV.B.1. in GP-0-25-001 was changed to require the completion of corrective actions in specified timeframes, based on the necessity to engineer a design or not. It is less likely that a corrective action requiring engineering design could be completed in five business days.

- Part IV.C.2.c. in GP-0-25-001 added “and again by hard copy or email prior to re-commencing construction” to the existing requirement to notify either the Division of Water (SPDES) Program contact at the Regional Office or the Traditional Land Use Control MS4 Operator in writing prior to re-commencing construction and resuming the normal inspection frequency. This addition was needed to inform DOW contacts and Traditional Land Use Control MS4 Operators of changes in inspection frequency related to temporary stabilization. This will ensure greater compliance with inspection conditions in GP-0-25-001.

- Part IV.C.2.d. in GP-0-25-001 was edited to be more concise but maintains the same substantive requirements as in GP-0-20-001. However, it includes an additional notification requirement, that the DOW contact or the Traditional Land Use Control MS4 Operator(s) must be notified in writing “and prior to resuming construction activity.” This addition was needed to inform DOW contacts and Traditional Land Use Control MS4 Operators of changes in inspection frequency related to shut down with partial project completion. This will ensure greater compliance with inspections conditions in GP-0-25-001.

- Part IV.C.4. in GP-0-25-001 was edited to include “a. Permit identification number”, “d. …including the temperature at the time of the inspection”, “i. …(map)”, and “j. Estimates, in square feet or acres, of the following areas.” These additions were made to the inspection report to provide easy access for both compliance inspectors and the owner or operator. Either can use the information to determine potential for runoff, the effectiveness of practices, and overall compliance. Also, Part IV.C.4.k. in GP-0-25-001 was edited with minor language changes, including replacing “phase” with “stage” for consistency with the new definitions in Appendix A, including for the word “phase.”

- Part IV.C.4.j. in GP-0-25-001 was reformatted and updated to provide additional clarity to qualified inspector requirements.
  "Estimates" was added to Part IV.C.4.j. to clarify that use of a surveyor or surveying equipment is not required to meet this requirement. Instead, a qualified inspector may meet the requirement of Part IV.C.4.j. by estimating to the best of their ability the areas listed, based on comparisons of site observations and photos with approved project plans. While not required, a qualified inspector may certainly use some form of GPS to capture rough area calculations, such as with a mobile device.
  The phrase "in square feet or acres" was added to give flexibility to the qualified inspector to estimate the areas in either units of measurement case-by-case based on the given areas of disturbance.
  By requiring the specific total areas listed in Part IV.C.4.j.i., ii., iii., and iv., the owner or operator and regulatory authorities can determine what actions need to be taken, more easily assess progress each week, and identify the potential to exceed five acres of soil disturbance at any one time.

- Part IV.C.5. in GP-0-25-001 was changed to require the completion of corrective actions in specified timeframes based on the necessity to engineer a design or not. It is less likely that a corrective action requiring engineering design could be completed in five business days.

Part V

Notice of Termination (NOT) Submittal

- Part V. in GP-0-25-001 was reorganized to read more logically by moving Part V.A.1. in GP-0-20-001 to be Part V.A.5. in GP-0-25-001 and updating references accordingly throughout Part V.

  - Part V.A.1. in GP-0-25-001 was edited to be a list format instead of paragraph form to present the requirements more clearly. Also, Part V.A.1.a.v. and Part V.A.1.b.b. were added to clarify that "an as-built drawing" must be prepared prior to termination, consistent with the explanation in this Fact Sheet above for Part III.A.5.d. in GP-0-25-001.

  - Part V.A.2. in GP-0-25-001 was edited to include "require qualified inspector inspections in accordance with Part IV.C.1. and." This change clarifies that the signature from the qualified inspector on the eNOT form is only required when the qualified inspector inspection requirements are triggered in Part IV.C.1.

  - Part V.A.3. in GP-0-25-001 was edited to reference the new section added to GP-0-25-001 addressing Traditional Land Use Control MS4 Operator review

authority. See this Fact Sheet above for Part I.D.2.b.ii.1. Otherwise, Part V.A.3. maintains the same substantive requirements as in GP-0-20-001.

- Part V.A.4.a. and b. in GP-0-25-001 were edited to clearly delineate the difference, or lack of difference, between ownership and operation/maintenance of SMPs. This will allow more clear application of Part V.A.4.a., b., c., and d.

- Part V.A.5. in GP-0-25-001, in accordance with 40 CFR 127.16(a) and 6 NYCRR 750-2.5(e)(1), requires that owners or operators submit the NOT form electronically, which is the format acceptable to NYSDEC. This differs from the previous requirement under GP-0-20-001, which allowed paper or email PDF submission. This new requirement in GP-0-25-001 is expected to make both submission and processing of NOTs more efficient. The ability to submit a waiver has been included in GP-0-25-001, and the process follows the federal regulations at 40 CFR 127.15.

Part VI

- Part VI was renamed “Record Retention and Reporting” instead of “Reporting and Retention Records” but maintains the same substantive requirements as in GP-0-20-001.

Record Retention

- Part VI.A. in GP-0-25-001 was edited to be more concise but maintains the same substantive requirements as in GP-0-20-001.

Reporting

- Part VI.B. in GP-0-25-001 was renamed “Reporting” instead of “Addresses.” It was also edited to be more concise but maintains the same substantive requirements as in GP-0-20-001.

Part VII

Standard Permit Requirements

- Part VII. in GP-0-25-001, Standard Permit Requirements, was reorganized and edited for consistency with the Standard Permit Conditions in other NYSDEC SPDES General Permits. GP-0-25-001 Part VII. contains standard regulatory language that applies to all SPDES permits. These permit provisions, based largely upon 40 CFR 122 subpart C, ECL Art 17, and 6 NYCRR Part 750, include

requirements pertaining to monitoring, recording, reporting, and compliance responsibilities.

- In GP-0-20-001, Part VII.L., Proper Operation and Maintenance, was redundant of operation and maintenance requirements in Part III.B.1.h., Part III.B.2.f., and Part V.A.5., and, therefore, deleted in GP-0-25-001. In GP-0-25-001, the same substantive operation and maintenance requirements are collectively in Part III.B.1.c.vii., Part III.B.2.d.vi., and Part V.A.4.

- In GP-0-20-001, Part VII.O., Definitions, was redundant of the purpose of the Table of Contents. It did not include any requirements but merely referenced the definitions in Appendix A. Part VII.O. in GP-0-20-001 was deleted in GP-0-25-001. However, GP-0-25-001 maintains the definitions in Appendix A.

- Part VII.G.1. in GP-0-25-001 is pursuant to 6 NYCRR 750-1.21.

- Part VII.H. in GP-0-25-001 has three paragraphs. The requirement in the first paragraph is pursuant to 6 NYCRR 750-2.1(i). The requirement in the second paragraph is pursuant to 6 NYCRR 750-2.5(c)(4). The requirement in the third paragraph is pursuant to 6 NYCRR 750-2.1(f).

Appendix A

- Appendix A of GP-0-20-001 was named “Acronyms and Definitions” but has been renamed in GP-0-25-001 as “Abbreviations and Definitions.” It is accurate to rename this section “Abbreviations” since that term is inclusive of both acronyms and initialisms, two different types of abbreviations that are included in the list. “BB,” “DM,” “NYCDEP,” “NYSDEC,” “RR,” and “SMP” were added to the list of abbreviations in GP-0-25-001. Throughout the body of the permit, these additional abbreviations were used to replace the full phrases.

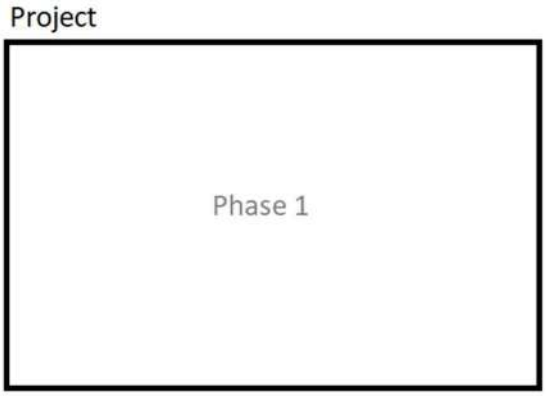
- The following changes were made to existing definitions to assist project owners and their design professionals with SWPPP development and implementation.

    - Common Plan of Development or Sale – although not required to be consistent with EPA’s CGP definition, the word “Larger” was dropped from this term. Additionally, the definition now includes reference to “phase” to complement the changes made to the eNOI submittal section allowing a separate eNOI for a “phase” of a “common plan of development or sale.” The second paragraph was rephrased for clarity, but the intent remains the same as it was in GP-0-20-001.

    - Construction Activity(ies) – The phrase “identified within 40 CFR 122.26(b)(14)(x), 122.26(b)(15)(i) and 122.26(b)(15)(ii)” was added to the

definition, thereby eliminating the need to include these regulatory references in the body of the permit. In GP-0-25-001, the definition for “Construction Activity” was modified to specifically exclude “Routine Maintenance,” which allows the permit to reference “Construction Activity” without repeating exclusions.

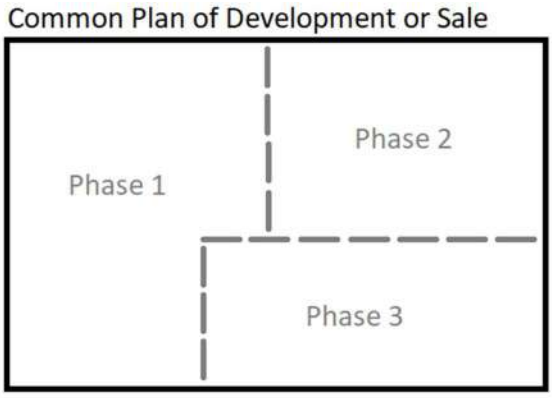
- The following were removed from the list of definitions because they were either essentially abbreviations or otherwise unnecessary to explain:
    - Endangered or Threatened Species
    - General SPDES Permit
    - National Pollutant Discharge Elimination System (NPDES)
    - NOI Acknowledgment Letter
    - State Pollutant Discharge Elimination System (SPDES)
    - Uniform Procedures Act (UPA) Permit
- Definitions of the following terms were added for clarification. These edits support the changes to the eNOI Submittal section, which identify more clearly the different circumstances when eNOIs may be submitted (see the eNOI Submittal section in this Fact Sheet above):
    - Renewable Energy, consistent with PSL 66-p(1)(b).
    - Tree Clearing
    - Phase
        - Example 1: A project that is not a common plan of development or sale proposes to develop 12 acres total. The first, and only, phase is the 12 acres of disturbance to complete the project. See the diagram below that illustrates the concept.
            - Example 1 Diagram:



Note: Example 1 applies to GP-0-25-001 Part I.D.1.a.

- Example 2: A project that is a common plan of development or sale proposes to develop 12 acres total. Phase 1 is five acres of the total 12 acres. Phase 2 is an additional four acres of the total 12 acres. Phase 3 is the remaining three acres of the total 12 acres. See the diagram below that illustrates the concept.

    - Example 2 Diagram:



Note: Example 2 applies to GP-0-25-001 Part I.D.1.b. or c.

- The definition for “Stormwater” was added to help with understanding and implementation of the permit.

- The definition of Combined Sewer System was edited for consistency with 6 NYCRR 750-1.2(a)(21).

- The definition of Steep Slope was edited with “or description” to clarify that Soil Slope Phase D qualifies as steep slope if either the map unit name or the description is inclusive of slopes greater than 25%.

- The term “natural surface waterbodies” was replaced by “surface waters of the State” since that is a defined term in Appendix A. These edits were made for consistency and clarity.

Required SWPPP Components by Project Type – Appendix B

- Tables 1 and 2 of Appendix B of GP-0-25-001 were edited to more clearly identify which types of construction activity correlate to the required SWPPP components. The clarifications were based on questions NYSDEC received over the last permit term from owners or operators, design professionals, and SWPPP reviewers.
    - Table 1 (Erosion and Sediment Controls Only):
        - Edited the “Structural agricultural conservation practices…” bullet with current and accurate information related to the referenced document.
        - Edited “Temporary access roads…or other temporary impervious areas…” by adding “(in this context, “temporary” means the impervious area will be in place for two years or less)”.
        - Added “Dam Rehabilitation (the structure of the dam itself)”.
        - Added “Solar array field areas that have tables elevated off the ground, spaced one table width apart, do not alter hydrology from pre- to post-development conditions, and address water quality volume and runoff reduction volume by maintaining sheet flow on slopes less than 8%.” Meeting these factors allows stormwater to flow off the down gradient side of the tables and continue as sheet flow across the ground surface (maximum 8% slope) in accordance with the 2024 Design Manual Section 5.3.2 Sheet Flow to Filter Strips, Section 5.3.2.4.1 Design Criteria, Table 5.7, Maximum Filter Overall Slope.
        - Added “Other construction activities that do not include the construction or reconstruction of impervious area, and do not alter hydrology from pre to post development conditions, and are not listed in Table 2.”
        - Added “and mountain biking trails, including a de minimis parking lot (maximum 10 spaces total, sized for passenger cars) with 35 feet minimum preservation of undisturbed area downgradient from the parking lot.”

- Table 2 (Post-Construction Stormwater Management Practices also):
    - Edited the “Structural agricultural conservation practices…” bullet with current and accurate information related to the referenced document.
    - Edited the “Landfills” bullet with “including creation of landfills or capping landfills”.
    - Added “Single-family residential subdivisions that involve soil disturbances of between 20,000 square feet and one (1) acre of land within the municipal boundaries of NYC with greater than 25% impervious cover at total site build-out.”
    - Added “Creation of 5,000 square feet or more of impervious area in the municipal boundaries of NYC.”
    - Added “Permanent laydown yards and equipment storage lots.”
    - Added “Solar array field area on slopes less than 8% that will alter the hydrology from pre- to post-development conditions.”
    - Added “Solar array field area on slopes greater than 8% that cannot maintain sheet flow using management practices identified in the BB or the DM.”
    - Added “Solar array field areas with tables that are not elevated high enough to achieve final stabilization beneath the tables.”

Appendix D – Impaired Waterbodies (by Construction Related Pollutants)

- Appendix D in GP-0-20-001, Watersheds with Lower Disturbance Threshold, has been deleted in GP-0-25-001. Appendix D in GP-0-20-001 was redundant information—it identified Appendix C Figure 1: Entire New York City Watershed located east of the Hudson River. The few places in GP-0-20-001 that referenced Appendix D of GP-0-20-001 have been updated in GP-0-25-001 to reference instead Appendix C Figure 1 (see GP-0-25-001 Part I.A.1.d., Part IV.C.1.d., and Appendix B Table 1).

- Appendix D in GP-0-25-001 maintains the list of waterbodies impaired by pollutants related to construction activity in table format. The list has been updated based on “The Final New York State 2018 Section 303(d) List of Impaired Waters Requiring a TMDL” dated June 2020 (NYS 2018 Section 303(d) List).

- GP-0-20-001 used the NYS 2016 Section 303(d) List, in which silt, sediment, or nutrients were listed as pollutants, but these pollutant names have been updated to be turbidity, silt/sediment, and nutrients (e.g. nitrogen, phosphorus) in GP-0-25-001 in accordance with the naming convention used in the NYS 2018 Section 303(d) List. These pollutants were used to develop the subset of the NYS 2018 Section 303(d) List included in Appendix D because construction activities could cause or contribute to further degradation of the waterbodies with these pollutants.

- The "Segment ID" has been added as parenthetical information with the waterbody name in the table also consistent with the NYS 2018 Section 303(d) List. Using the Segment ID, an owner or operator may utilize the Stormwater Interactive Map on NYSDEC's website as a tool to more easily determine if a construction site will directly discharge to one of the 303(d) segments listed in Appendix D. Note that if discrepancy exists between the Stormwater Interactive Map and Appendix D in GP-0-25-001, Appendix D in GP-0-25-001 controls.

Appendix E

- Addresses and telephone numbers were updated as needed in the list of NYS DEC Regional Offices.

Appendices F, G, H, I, and J

- Appendices F, G, H, I, and J were added to GP-0-25-001 to include the certification forms required with eNOI submissions.

NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL
CONSERVATION (NYSDEC)

SPDES GENERAL PERMIT
FOR STORMWATER DISCHARGES

From

CONSTRUCTION ACTIVITY

Permit No. GP-0-25-001

Construction General Permit (CGP)

Issued Pursuant to Article 17, Titles 7, 8 and Article 70

of the Environmental Conservation Law

Effective Date: January 29, 2025 Expiration Date: January 28, 2030

Scott E. Sheeley

Chief Permit Administrator

Scott E. Sheeley JAN. 29, 2025

Authorized Signature Date

Address: NYSDEC
Division of Environmental Permits
625 Broadway, 4th Floor
Albany, N.Y. 12233-1750

PREFACE

Pursuant to Section 402 of the Clean Water Act (CWA), and 40 CFR 122.26(b)(14)(x), (15)(i), and (15)(ii), *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 State 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 and 8, and Article 70, as well as 6 NYCRR Parts 621 and 750.

C*onstruction activities* constitute construction of a *point source* and, therefore, pursuant to ECL sections 17-0505, 17-0701, and 17-0803, the *owner or operator* must have coverage under a SPDES permit prior to *commencement of construction activities*. 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 CONSTRUCTION GENERAL PERMIT (CGP) GP-0-25-001
FOR STORMWATER DISCHARGES FROM CONSTRUCTION ACTIVITIES

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Part I. How to Obtain Coverage and General Requirements

To be covered under this permit, the *owner or operator* must meet all eligibility requirements in Part I.A. and follow the requirements for obtaining permit coverage in Part I.D., F., or G.

A. Eligibility Requirements

For a *common plan of development or sale*, the *phase(s)* that meet the eligibility requirements in Part I.A. may obtain coverage under this permit even if other *phase(s)* of the same *common plan of development or sale* do not meet the eligibility requirements and require an individual SPDES permit.

1. The *owner's or operator's construction activities* involve soil disturbances of:

    a. one or more acres; or

    b. less than one acre which are part of a *common plan of development or sale* that will ultimately disturb one or more acres; or

    c. less than one acre where NYSDEC 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*.

        i. 5,000 square feet or more, but less than one acre, and are in the New York City Watershed located east of the Hudson River, Appendix C Figure 1; or

        ii. 20,000 square feet or more, but less than one acre, within the municipal boundaries of the City of New York (NYC); or

        iii. less than 20,000 square feet which are part of a *common plan of development or sale* that will ultimately disturb 20,000 square feet or more, but less than one acre, within the municipal boundaries of NYC; or

        iv. that creates 5,000 square feet or more of *impervious area* within the municipal boundaries of NYC.

2. *Discharges* from the *owner's or operator's construction activities* are/were not:

    a. already covered by a different SPDES permit; or

    b. covered under a different SPDES permit that was denied, terminated, or revoked; or

    c. identified in an expired individual SPDES permit that was not renewed; or

    d. required to obtain an individual SPDES permit or another general SPDES permit in accordance with Part VII.K.

3. If *construction activities* may adversely affect a species that is endangered or threatened, the *owner or operator* must obtain a:

    a. permit issued pursuant to 6 NYCRR Part 182 for the project; or

    b. letter issued by NYSDEC of non-jurisdiction pursuant to 6 NYCRR Part 182 for the project.

4. If *construction activities* have the potential to affect an *historic property*, the *owner or operator* must obtain one of the following:

    a. documentation that the *construction activity* is not within an archeological buffer 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:

        i. 1-5 acres of disturbance - 20 feet; or

        ii. 5-20 acres of disturbance - 50 feet; or

iii. 20+ acres of disturbance - 100 feet.

b. NYSDEC consultation form sent to OPRHP,[1] and copied to NYSDEC's Agency Historic Preservation Officer (APO), and

i. the State Environmental Quality Review Act (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 or 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).

c. documentation of satisfactory compliance with Section 106 of the National Historic Preservation Act for a coterminous project area:

i. No Affect; or

ii. No Adverse Affect; or

iii. Executed Memorandum of Agreement.

d. documentation that SHPA Section 14.09 has been completed by NYSDEC or another state agency.

5. If *construction activities* are subject to SEQR, the *owner or operator* must obtain documentation that SEQR has been satisfied.

6. If *construction activities* are not subject to SEQR, but subject to the equivalent environmental review from another New York State or federal agency, the

[1] The consultation form can be submitted, along with other project information, through OPRHP's Cultural Resource Information System (CRIS) portal. If submitted through CRIS, paper copies of the consultation form need not be mailed.

owner or operator must obtain documentation that project review, pursuant to a process equivalent to SEQR from another New York State or federal agency, has been satisfied.

7. If *construction activities* require Uniform Procedures Act (UPA) Permits (see 6 NYCRR Part 621) from NYSDEC, or the equivalent from another New York State or federal agency, the *owner or operator* must:

    a. obtain all such necessary permits; or

    b. receive notification from NYSDEC pursuant to 6 NYCRR 621.3(a)(4) excepting Part I.A.7.a.

8. *Construction activities* are not eligible if they meet the following criteria in Part I.A.8.a. or b.:

    a. For linear transportation and linear utility project types, the *construction activities*:

        i. are within the watershed of *surface waters of the State* classified as AA or AA-S identified utilizing the Stormwater Interactive Map on NYSDEC's website; and

        ii. are undertaken on land with no existing *impervious cover*; and

        iii. disturb two or more acres of *steep slope*.

    b. For all other project types, the *construction activities*:

        i. are within the watershed of *surface waters of the State* classified as AA or AA-S identified utilizing the Stormwater Interactive Map on NYSDEC's website; and

        ii. are undertaken on land with no existing *impervious cover*; and

        iii. disturb one or more acres of *steep slope*.

B. Types of *Discharges* Authorized

1. The following *stormwater discharges* are authorized under this permit:

   a. *Stormwater discharges*, including *stormwater* runoff, snowmelt runoff, and surface runoff and drainage, associated with *construction activity*, are authorized under this permit provided that appropriate *stormwater* controls are designed, installed, and maintained in accordance with Part II. and Part III.

   b. *Stormwater discharges* from construction support activities at the *construction site* (including concrete or asphalt batch plants, equipment staging yards, material storage areas, excavated material disposal areas, and borrow areas) if the following requirements are met:

      i. The support activity is directly related to the *construction site* required to have permit coverage for *stormwater discharges*; and

      ii. The support activity is not a commercial operation, nor does it serve multiple unrelated *construction sites*; and

      iii. The support activity does not continue to operate beyond the completion of the *construction activity* at the site it supports; and

      iv. *Stormwater* controls are implemented in accordance with Part II. and Part III. for *discharges* from the support activity areas.

2. The following non-*stormwater discharges* associated with *construction activity* are authorized under this permit:

   a. Non-*stormwater discharges* 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"; and

   b. Non-*stormwater discharges* of waters to which other components have not been added that are used in accordance with the *SWPPP* to control dust or irrigate vegetation in stabilized areas; and

   c. Uncontaminated *discharges* from *dewatering* operations

3. Authorized *discharges* of *stormwater* or authorized *discharges* of non-*stormwater*, commingled with a *discharge* authorized by a different SPDES permit and/or a *discharge* that does not require SPDES permit authorization, are also authorized under this permit.

C. Prohibited *Discharges*

1. Non-*stormwater discharges* prohibited under this permit include but are not limited to:

    a. Wastewater from washout of concrete; and

    b. Wastewater from washout and cleanout of stucco, paint, form release oils, curing compounds, and other construction materials; and

    c. Fuels, oils, or other *pollutants* used in vehicle and equipment operation and maintenance; and

    d. Soaps, solvents, or detergents used in vehicle and equipment washing or external building washdown; and

    e. Toxic or hazardous substances from a spill or other release.

D. Electronic Notice of Intent (eNOI) Submittal

To receive authorization in accordance with Part I.D.3.b., the *owner or operator* must submit a complete eNOI in accordance with the requirements in Part I.D. The eNOI contains questions to: ensure eligibility requirements in Part I.A. have been met; obtain *owner or operator* contact information; obtain the total area to be disturbed and the existing/future *impervious areas* (rounded to the nearest tenth of an acre); confirm *Traditional Land Use Control MS4 Operator* jurisdiction over construction projects; satisfy the EPA eRule requirements; confirm that the Water Quality-Based Effluent Limitations in Part II. have been met; demonstrate consideration of the future risks due to climate change in accordance with Part III.A.2.; and confirm that the other *Stormwater Pollution Prevention Plan (SWPPP)* requirements in Part III. have been met.

1. An eNOI may be submitted for:

    a. *construction activities* that are not part of a *common plan of development or sale*; or

b. an entire *common plan of development or sale*; or

c. separate *phase(s)* of a *common plan of development or sale* if the following requirements are met:

    i. the *common plan of development or sale* meets the eligibility requirements of Part I.A.5. or 6.; and

    ii. the *phase(s)* meet(s) all other eligibility requirements of Part I.A.; and

    iii. Part III.C. Required *SWPPP* Components by Project Type is based on the *common plan of development or sale*, not the *phase(s)*; or

d. *tree clearing* that is associated with, or will support, a *renewable energy* generation, transmission, or storage project that meets Part I.A.5. and 6., if the *tree clearing*:

    i. meets all other eligibility requirements of Part I.A.; and

    ii. will occur in NYSDEC's Regions 3-9; and

    iii. is not within ¼ mile of a bat hibernaculum protected pursuant to 6 NYCRR Part 182; and

    iv. will occur between November 1st and March 31st.

2. As prerequisites for submitting an eNOI, the *owner or operator* must:

    a. prepare a *SWPPP* for Part I.D.1.a., b., c., or d. in accordance with Part III.; and

    b. based on the following criteria, upload the following signature forms signed in accordance with Part VII.J. to the eNOI prior to submission:

        i. for all eNOIs:

            1. the SWPPP Preparer Certification Form, Appendix F, signed by the *SWPPP* preparer; and

2. the Owner/Operator Certification Form, Appendix J, signed by the *owner or operator*; and

ii. if an eNOI includes *construction activities* within the municipal boundary(ies) of *Traditional Land Use Control MS4 Operator(s)* that will *discharge* to the *MS4(s)*:

1. determine if the *Traditional Land Use Control MS4 Operator(s)* have review authority. A *Traditional Land Use Control MS4 Operator* does not have review authority where:

a. the *owner or operator* of the *construction activities* in Part I.D.2.b.ii. is the same entity as the *Traditional Land Use Control MS4 Operator* identified in Part I.D.2.b.ii.; or

b. there is a statute exempting the *owner or operator* from zoning review by the *Traditional Land Use Control MS4 Operator*; or

c. there is no such statute per Part I.D.2.b.ii.1.b., the *Traditional Land Use Control MS4 Operator* concludes, after public hearing, that it does not have zoning review authority in accordance with Legal Memorandum LU14 Updated January 2020 “Governmental Immunity from Zoning and Other Legislation”; and

2. if the *Traditional Land Use Control MS4 Operator(s)* have review authority, submit the *SWPPP* to the *Traditional Land Use Control MS4 Operator(s)* for review and have:

a. if outside the municipal boundaries of NYC: the MS4 SWPPP Acceptance Form, Appendix G, signed by the principal executive officer or ranking elected official from the *Traditional Land Use Control MS4 Operator,* or by a duly authorized representative of that person in accordance with Part VII.J.2.; or

b. if within the municipal boundaries of NYC: The City of New York Department of Environmental Protection (NYCDEP) SWPPP Acceptance/Approval Form, Appendix H, signed by the principal executive officer or ranking elected official from the Traditional Land Use Control MS4 Operator, or by a duly authorized representative of that person in accordance with Part VII.J.2.; and

3. if the *Traditional Land Use Control MS4 Operator* does not have review authority, have the MS4 No Jurisdiction Form, Appendix I, signed by the principal executive officer or ranking elected official from the *Traditional Land Use Control MS4 Operator,* or by a duly authorized representative of that person in accordance with Part VII.J.2.

3. Submitting an eNOI:

a. The *owner or operator* must submit a complete Notice of Intent electronically using a NYSDEC approved form.[2]

b. The *owner or operator* is authorized to *commence construction activity* as of the authorization date indicated in the Letter of Authorization (LOA), which is sent by NYSDEC after a complete eNOI is submitted.

i. If an eNOI is received for a *SWPPP* that deviates from one of the technical standards but demonstrates *equivalence* in accordance with Part III.B.1.a.ii. or Part III.B.2.b.ii., if the *SWPPP* includes *construction activities* that are not within the municipal boundary(ies) of *Traditional Land Use Control MS4 Operator(s)*, and/or if the *SWPPP* includes *construction activities* within the municipal boundary(ies) of *Traditional Land Use Control MS4 Operator(s)* that do not have review authority in accordance with Part I.D.2.b.ii.1., the authorization date indicated in the LOA will be 60 business days after the eNOI submission date.

[2] Unless NYSDEC grants a waiver in accordance with 40 CFR 127.15(c) or (d). All waiver requests must be submitted to Stormwater_info@dec.ny.gov or NYSDEC, Bureau of Water Permits, 625 Broadway, 4th Floor, Albany, New York 12233-3505.

c. If *Traditional Land Use Control MS4 Operator(s)* have review authority in accordance with Part I.D.2.b.ii.2., the *owner or operator* must, within five business days of receipt of the LOA, send an electronic copy of the LOA to the *Traditional Land Use Control MS4 Operator(s)* with review authority.

E. General Requirements for *Owners or Operators* with Permit Coverage

1. As of the date the LOA is received, the *owner or operator* must make the eNOI, *SWPPP*, and LOA available for review and copying in accordance with the requirements in Part VII.H. When applicable, as of the date an updated LOA is received, the *owner or operator* must make the updated LOA available for review and copying in accordance with the requirements in Part VII.H.

2. The *owner or operator* must ensure compliance with all requirements of this permit and that the provisions of the *SWPPP*, including any changes made to the *SWPPP* in accordance with Part III.A.5., are properly implemented and maintained from the *commencement of construction activity* until:

   a. all areas of disturbance have achieved *final stabilization;* and

   b. the owner's or operator's coverage under this permit is terminated in accordance with Part V.A.5.a.

3. As of the date of the *commencement of construction activities* until Part I.E.2.a. and b. have been met, the *owner or operator* must maintain at the *construction site*, a copy of:

   a. all documentation necessary to demonstrate eligibility with this permit; and

   b. this permit; and

   c. the *SWPPP*; and

   d. the signed SWPPP Preparer Certification Form; and

   e. the signed MS4 SWPPP Acceptance Form or signed NYCDEP SWPPP Acceptance/Approval Form or signed MS4 No Jurisdiction Form (when applicable); and

   f. the signed Owner/Operator Certification Form; and

g. the eNOI; and

h. the LOA; and

i. the LOA transmittal to the Traditional Land Use Control MS4 Operator in accordance with Part I.D.3.c. (when applicable).

4. The *owner or operator* must maintain at the *construction site*, until Part I.E.2.a. and b. have been met, as of the date the documents become final or are received, a copy of the:

   a. responsible contractor's or subcontractor's certification statement(s) in accordance with Part III.A.7.; and

   b. inspection reports in accordance with Part IV.C.4. and 6.; and

   c. Request to Disturb Greater Than Five Acres and the Authorization Letter to Disturb Greater Than Five Acres in accordance with Part I.E.6. (when applicable); and

   d. Request to Continue Coverage and the Letter of Continued Coverage (LOCC) in accordance with Part I.F.2. and 4. (when applicable); and

   e. The updated LOA(s) in accordance with Part I.E.9. (when applicable).

5. The *owner or operator* must maintain the documents in Part I.E.3. and 4. 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. The documents must be paper documents unless electronic documents are accessible to the inspector during an inspection to the same extent as a paper copy stored at the site would be. If electronic documents are kept on site, the *owner or operator* must maintain functional equipment on site available to an inspector during normal hours of operation such that an inspector may view the electronic documents in a format that can be read in a similar manner as a paper record and in a legally dependable format with no less evidentiary value than their paper equivalent.

6. The *owner or operator* must meet the following requirements prior to disturbing greater than five acres of soil at any one time:

   a. The *owner or operator* must submit a written Request to Disturb Greater Than Five Acres to:

i. NYSDEC's Regional Office Division of Water staff based on the project location, Appendix E, if a *Traditional Land Use Control MS4 Operator* does not have review authority in accordance with Part I.D.2.b.ii.1.; or

ii. the *Traditional Land Use Control MS4 Operator*, if a *Traditional Land Use Control MS4 Operator* has review authority in accordance with Part I.D.2.b.ii.1.; or

iii. NYSDEC's Regional Office Division of Water staff based on the project location, Appendix E, and each involved *Traditional Land Use Control MS4 Operator*, if the project spans multiple municipalities with more than one *Traditional Land Use Control MS4 Operator* involved with review authority in accordance with Part I.D.2.b.ii.1.

b. The written Request to Disturb Greater Than Five Acres must include:

i. The SPDES permit identification number (Permit ID); and

ii. Full technical justification demonstrating why alternative methods of construction that would result in five acres of soil disturbance or less at any one time are not feasible; and

iii. The phasing plan for the project and sequencing plans for all *phases* from the *SWPPP* in accordance with Part III.B.1.d.; and

iv. Plans with locations and details of erosion and sediment control practices such that the heightened concern for erosion when disturbing greater than five acres at one time has been addressed; and

v. Acknowledgment that "the *owner or operator* will comply with the requirements in Part IV.C.2.b."; and

vi. Acknowledgment that "the *owner or operator* will comply with the requirements in Part II.B.1.b."

c. The *owner or operator* must be in receipt of an Authorization Letter to Disturb Greater Than Five Acres, which will include when the

authorization begins and ends and indicate a maximum area (acres) of soil disturbance allowed at any one time, from:

i. NYSDEC, if Part I.E.6.a.i. or iii. apply; or

ii. the *Traditional Land Use Control MS4 Operator*, if Part I.E.6.a.ii. applies.

7. Upon a finding of significant non-compliance with the practices described in the *SWPPP* or violation of this permit, NYSDEC may order an immediate stop to all *construction activity* at the site until the non-compliance is remedied. The stop work order must be in writing, describe the non-compliance in detail, and be sent to the *owner or operator*.

8. 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).[3] *Construction activity* shall not resume until written permission to do so has been received from the RWE.

9. To be authorized to implement modifications to the information previously submitted in the eNOI, the *owner or operator* must:

   a. notify NYSDEC via email at Stormwater_info@dec.ny.gov requesting access to update the eNOI; and

   b. update the eNOI to reflect the modifications and resubmit the eNOI in accordance with Part I.D.; and

   c. receive an updated LOA.

10. The eNOI, *SWPPP*, LOA, updated LOAs (when applicable), 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 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.

[3] The Regional Water Manager where a DEC Region does not have a RWE.

F. Permit Coverage for *Discharges* Authorized Under GP-0-20-001

When applicable:

1. Upon the effective date of this permit, an *owner or operator* of *a construction activity*, with coverage under GP-0-20-001, will have interim coverage under GP-0-25-001 for 45 calendar days starting on the effective date of GP-0-25-001 so long as the *owner or operator* maintains compliance with all applicable requirements of this permit.

2. Within 30 calendar days of the effective date of this permit, the *owner or operator*, with coverage under GP-0-20-001, must submit a complete Request to Continue Coverage electronically using a NYSDEC approved form,[4] which contains the information identified in Part I.F.3. below, if:

   a. the *owner or operator* continues to implement the SMP component in conformance with the technical standards in place at the time of initial project authorization; and

   b. the *owner or operator* will comply with all non-design requirements of GP-0-25-001.

3. The Request to Continue Coverage form contains questions to: ensure eligibility requirements in Part I.A. have been met; verify *owner or operator* contact information; verify the permit identification number; verify the original eNOI submission ID, if applicable; verify Part I.F.2.a. and b.; verify the version of the Design Manual that the technical/design components conform to; and receive an updated Owner/Operator Certification Form, Appendix I.

4. The *owner or operator* has obtained continued coverage under GP-0-25-001 as of the date indicated in the LOCC, which is sent by NYSDEC after a complete Request to Continue Coverage form is submitted.

5. If the owner or operator does not submit the Request to Continue Coverage form in accordance with Part I.F.2. and 3., coverage under this permit is automatically terminated after interim coverage expires.

[4] Unless NYSDEC grants a waiver in accordance with 40 CFR 127.15(c) or (d). All waiver requests must be submitted to Stormwater_info@dec.ny.gov or NYSDEC, Bureau of Water Permits, 625 Broadway, 4th Floor, Albany, New York 12233-3505.

G. Change of *Owner or Operator*

When applicable:

1. When property ownership changes, or when there is a change in operational control over the construction plans and specifications, the following process applies:

    a. The new *owner or operator* must meet the applicable prerequisites for submitting an eNOI in accordance with Part I.D.2.; and

    b. The new *owner or operator* must submit an eNOI in accordance with Part I.D.3.; and

    c. Permit coverage for the new *owner or operator* will be effective upon receipt of the LOA in accordance with Part I.D.3.b.; and

    d. The new *owner or operator*, upon receipt of their LOA, must provide their Permit ID to the original *owner or operator*; and

    e. If the original *owner or operator* will no longer be the *owner or operator* of the *construction activity* identified in the original *owner's or operator's* eNOI, the original *owner or operator*, upon receipt of the new *owner's or operator's* Permit ID in accordance with Part I.G.1.d., must submit to NYSDEC a completed eNOT in accordance with Part V. that includes the name and Permit ID of the new *owner or operator*; or

    f. If the original *owner or operator* maintains ownership of a portion of the *construction activity*, the original *owner or operator* must maintain their coverage under the permit by modifying their eNOI; modifications to the eNOI must include:

        i. the revised area of disturbance and/or *impervious area(s)*; and

        ii. the revised SMP information, if applicable; and

        iii. a narrative description of what has changed; and

        iv. the new *owner's or operator's* Permit ID for the portion of the project removed from the eNOI.

    Owners or operators must follow Part I.E.9. to modify the eNOI.

Part II. Water Quality-Based Effluent Limitations

A. Maintaining Water Quality

NYSDEC expects that compliance with the requirements of this permit will control *discharge*s necessary to meet applicable *water quality standards*. It shall be a violation of the *ECL* for any *discharge* to either cause or contribute to a violation of the following *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:

1. There must be no increase in turbidity that will cause a substantial visible contrast to natural conditions; and

2. There must be no increase in suspended, colloidal or settleable solids that will cause deposition or impair the waters for their best usages; and

3. There must be no residue from oil and floating substances, nor visible oil film, nor globules of grease.

If there is evidence indicating that the *stormwater discharge*s authorized by this permit are causing, have the reasonable potential to cause, or are contributing to a violation of the *water quality standard,* the *owner or operator* must take appropriate corrective action in accordance with Part IV.C.5. of this permit and document in accordance with Part IV.C.4. of this permit. To address the *water quality standard* violation the *owner or operator* must include and implement appropriate controls in the *SWPPP* to correct the problem or obtain an individual SPDES permit.

If, despite compliance with the requirements of this permit, it is demonstrated that the *stormwater discharge*s authorized by this permit are causing or contributing to a violation of *water quality standards*, or if NYSDEC determines that a modification of this permit is necessary to prevent a violation of *water quality standards*, the authorized *discharge*s will no longer be eligible for coverage under this permit, and the *owner or operator* must obtain an individual SPDES permit prior to further *discharges* from the *construction site*.

B. Effluent Limitations Applicable to *Discharges* from *Construction Activities*

*Discharge*s authorized by this permit must achieve, at a minimum, the effluent limitations in Part II.B.1.a., b., c., d., and e. 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 II.B.1.a., b., c., d., and e. and be in accordance with the New York State Standards and Specifications for Erosion and Sediment Control (BB), 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 *SWPPP* the reason(s) for the deviation, or alternative design, and provide information in the *SWPPP* demonstrating that the deviation or alternative design is *equivalent* to the technical standard.

    a. **Erosion and Sediment Controls.** At a minimum, erosion and sediment controls must be selected, designed, installed, implemented, and maintained to:

        i. *Minimize* soil erosion through application of runoff control and soil stabilization control measure to *minimize pollutant discharge*s; and

        ii. Control *stormwater discharge*s, including both peak flow rates and total *stormwater* volume, to *minimize* channel and *streambank* erosion and scour in the immediate vicinity of the *discharge* points; and

        iii. *Minimize* the amount of soil exposed during *construction activity*; and

        iv. *Minimize* the disturbance of *steep slope*; and

        v. *Minimize* sediment *discharge*s from the site; and

        vi. Provide and maintain *natural buffers* around surface waters, direct *stormwater* to vegetated areas and maximize *stormwater* infiltration to reduce *pollutant discharge*s, unless *infeasible*; and

        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; and

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 ceased, whether permanently or *temporarily ceased*, the application of soil stabilization measures must be initiated by the end of the next business day and completed within 14 calendar 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 D, or are located in one of the watersheds listed in Appendix C, or are authorized to disturb greater than five acres in accordance with Part I.E.5.a.viii., the application of soil stabilization measures must be initiated by the end of the next business day and completed within seven calendar days from the date the soil disturbance activity ceased.

c. **Dewatering**. *Discharge*s from *dewatering* activities, including *discharge*s from *dewatering* of trenches and excavations, must be managed by appropriate control measures.

d. **Pollution Prevention Measures**. Select, 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 selected, designed, installed, implemented, and maintained to:

i. *Minimize* the *discharge* of *pollutants* from equipment and vehicle washing, wheel wash water, and other wash waters. Soaps, detergents and solvents cannot be used; and

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. **Surface Outlets.** When discharging from basins and impoundments, the surface outlets must 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 (SMP) Requirements

1. The *owner or operator* of a *construction activity* that requires post-construction SMPs, in accordance with Part III.C., must select, design, install, implement, and maintain the SMPs to meet the *performance criteria* in the New York State Stormwater Management Design Manual, dated July 31, 2024 (DM), using sound engineering judgment. Where SMPs are not designed in conformance with the *performance criteria* in the DM, 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 SMPs in accordance with Part III.C., must design the practices to meet the applicable *sizing criteria* in Part II.C.2.a., b., c., or d.

a. Sizing Criteria for *New Development*

i. Runoff Reduction Volume (RRv) and Water Quality Volume (WQv):

1. Reduce the total WQv by application of RR techniques and standard SMPs with RRv capacity. The total WQv must be calculated in accordance with the criteria in Section 4.2 of the DM; or

2. Minimum RRv and Treatment of Remaining Total WQv: *Construction activities* that cannot meet the requirements in Part II.C.2.a.i.1. due to *site limitations* must 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 must 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 4.4 of the DM. The remaining portion of the total WQv that cannot be reduced must be treated by application of standard SMPs.

ii. Channel Protection Volume (CPv): Provide 24 hour extended detention of the post-developed 1-year, 24-hour storm event, remaining after runoff reduction. Where a CPv control orifice is provided, the minimum orifice size must be 3 inches, with acceptable external trash rack or orifice protection. 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 1-year post-development peak *discharge* is less than or equal to 2.0 cfs without detention or velocity controls; or

   3. The site *directly discharges* into a fifth order or larger water body (stream, river, or lake), or tidal waters, where the increase in smaller flows will not impact the stream bank or channel integrity. However, the point of *discharge* must be adequately protected against scour and erosion by the increased peak *discharge*.

iii. *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 *directly discharges* to tidal waters or fifth order or larger streams, or

2. A downstream analysis reveals that *overbank* control is not required.

iv. 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 *directly discharges* 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 Watersheds

i. Runoff Reduction Volume (RRv) and Water Quality Volume (WQv):

1. Reduce the 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 must be calculated in accordance with the criteria in Section 4.3 of the DM; or

2. Minimum RRv and Treatment of Remaining Total WQv: *Construction activities* that cannot meet the criteria in Part II.C.2.b.i.1. due to *site limitations* must 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 must 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 4.5 of the DM. The remaining portion of the total WQv that cannot be reduced must be treated by application of standard SMPs.

ii. Channel Protection Volume (CPv): Provide 24 hour extended detention of the post-developed 1-year, 24-hour storm event, remaining after runoff reduction. Where a CPv control orifice is provided, the minimum orifice size must be 3 inches, with acceptable external trash rack or orifice protection. 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 1-year post-development peak *discharge* is less than or equal to 2.0 cfs; or

3. The site *directly discharges* to tidal waters, or a fifth order or larger water body (stream, river, or lake) where the increase in smaller flows will not impact the stream bank or channel integrity. However, the point of *discharge* must be adequately protected against scour and erosion by the increased peak *discharge*.

iii. *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 *directly discharges* to tidal waters or fifth order or larger streams; or

2. A downstream analysis reveals that *overbank* control is not required.

iv. 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 *directly discharges* 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* must be addressed by one of the following options, as outlined in Section 9.2.1. *Redevelopment activities* located in an Enhanced Phosphorus Removal Watershed (see Part III.B.3. and Appendix C) must calculate the WQv in accordance with Section 4.3 of the DM. All other *redevelopment activities* must calculate the WQv in accordance with Section 4.2 of the DM.

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 DM must be applied to all newly created pervious areas; or

2. Capture and treat 100% of the required WQv, for a minimum of 25% of the disturbed redevelopment *impervious area*, by implementation of standard SMPs or reduced by application of runoff reduction techniques; or

3. Capture and treat 100% of the required WQv, for a minimum of 75% of the disturbed redevelopment *impervious area*, by implementation of a volume-based alternative SMP, as defined in Section 9.4 of the DM; or

4. Capture and treat 100% of the required WQv, for a minimum of 75% of the disturbed redevelopment *impervious area*, by implementation of a flow-through alternative SMP sized to treat the peak rate of runoff from the WQv design storm; or

5. Application of a combination of 1 through 4 above that provide a weighted average of at least two of the above methods. Application of this method must be in accordance with the criteria in Section 9.2.1(A)(V) of the DM; or

6. If there is an existing SMP 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 through 5 above.

ii. Channel Protection Volume (CPv) is not required if there is 0% change to hydrology that increases the *discharge* rate and volume from the project site.

iii. *Overbank* Flood Control (Qp) is not required if there is 0% change to hydrology that increases the *discharge* rate from the project site.

iv. Extreme Flood Control (Qf) is not required if there is 0% change to hydrology that increases 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*, must use SMPs that meet the *sizing criteria* calculated as an aggregate of the *sizing criteria* in Part II.C.2.a. or b. for the *new development* portion of the project and Part II.C.2.c. for the *redevelopment activity* portion of the project.

Part III. Stormwater Pollution Prevention Plan (SWPPP)

A. General *SWPPP* Requirements

1. A *SWPPP* must be prepared and implemented by the *owner or operator* of all *construction activity* covered by this permit. All authorized *discharges* must be identified in the *SWPPP*. 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 II.B. and, where applicable, the SMP requirements in Part II.C.

2. The *SWPPP* must demonstrate consideration in narrative format of the future physical risks due to climate change pursuant to the Community Risk and Resiliency Act (CRRA), 6 NYCRR Part 490, and associated guidance.

    a. The owner or operator must consider:

        i. the following physical risks due to climate change:

            (i) increasing temperature; and

            (ii) increasing precipitation; and

            (iii) increasing variability in precipitation, including chance of drought; and

            (iv) increasing frequency and severity of flooding; and

            (v) rising sea level; and

            (vi) increasing storm surge; and

            (vii) shifting ecology.

        ii. for each of the following:

            (i) overall site planning; and

            (ii) location, elevation, and sizing of:

                a. control measures and practices; and

                b. conveyance system(s); and

                c. detention system(s).

3. The *SWPPP* must describe the erosion and sediment control practices and where required, SMPs that will be used and/or constructed to reduce the *pollutants* in *stormwater discharges* and to assure compliance with the

requirements of this permit. In addition, the *SWPPP* must identify potential sources of pollution which may reasonably be expected to affect the quality of *stormwater discharges*.

4. All *SWPPPs*, that require the SMP component in accordance with Part III.B.2., must be prepared by a *qualified professional*.

5. The *owner or operator* must keep the *SWPPP* current so that, at all times, it accurately documents the erosion and sediment control practices that are being used or will be used during construction, and all SMPs that will be constructed on the site. At a minimum, the *owner or operator* must modify the *SWPPP*, including construction drawings:

   a. whenever the current provisions prove to be ineffective in *minimizing pollutants* in *stormwater discharges* from the site; and

   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*; and

   c. to address issues or deficiencies identified during an inspection by the *qualified inspector,* NYSDEC, or other regulatory authority; and

   d. to document the final construction conditions in an as-built drawing.

6. NYSDEC 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 must 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 NYSDEC, the *owner or operator* must make the required changes to the *SWPPP* and submit written notification to NYSDEC that the changes have been made. If the *owner or operator* does not respond to NYSDEC's comments in the specified time frame, NYSDEC 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.

7. 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 SMPs included in the *SWPPP*. The *owner or operator* must have each of the contractors and subcontractors identify at least one person from their company to be *trained contractor* that will be responsible for implementation of the *SWPPP*. The *owner or operator* must ensure that at least one *trained contractor* is on site daily when soil disturbance activities are being performed.

The *owner or operator* must have each of the contractors and subcontractors identified above sign a copy of the following certification statement below before the *commencement of construction activities*:

> "I hereby certify under penalty of law that I understand and agree to comply with the requirements 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 requirements of the most current version of the New York State Pollutant Discharge Elimination System (SPDES) Construction General Permit (CGP) 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* must 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 the *commencement of construction activities*, they must also sign the certification statement and provide the information listed above prior to performing *construction activities*.

B. Required *SWPPP* Contents

1. Erosion and sediment control component - The *owner or operator* must prepare a *SWPPP* that includes erosion and sediment control practices.

    a. Erosion and sediment control practices must be designed:

        i. in conformance with the BB; or

        ii. *equivalent* to the BB if deviating from Part III.B.1.a.i.

    b. If the erosion and sediment control practices are designed in conformance with Part III.B.1.a.ii., the *SWPPP* must include a demonstration of *equivalence* to the BB.

    c. At a minimum, the erosion and sediment control component of the *SWPPP* must include the following:

        i. Background information about the scope of the project, including the location, type and size of project; and

        ii. A site map/construction drawing(s) with north arrows for the project, including a general location map. At a minimum, the site map must 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) and receiving surface water(s); and

        iii. A description of the soil(s) present at the site, including an identification of the Hydrologic Soil Group (HSG); and

        iv. A phasing plan for the project and sequencing plans for all *phases*, both of which must address clearing and grubbing, excavation and grading, utility and infrastructure installation, *final stabilization*,

and any other *construction activity* at the site that will result in soil disturbance.

1. The phasing plan must include:

    a. a map delineating and labeling the limits of soil disturbance for all *phases* of a project; and

    b. a table identifying the order and intended schedule of when each *phase* will begin and end its sequencing plan. The table must identify the total disturbed area for each *phase* at any one time and the total disturbed area for the overall project at any one time all on one timeline showing all overlapping quantities of disturbed area at any one time; and

2. A sequencing plan for a specific *phase* must include:

    a. a table indicating the order and intended schedule of *construction activities* within a *phase*, and corresponding construction drawings with a description of the work to be performed; and

    b. all permanent and *temporary stabilization* measures; and

v. 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; and

vi. A site map/construction drawing(s) showing the specific location(s), size(s), and length(s) of each erosion and sediment control practice; and

vii. 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; and

viii. A maintenance inspection schedule for the contractor(s) and subcontractor(s) identified in Part III.A.7. to ensure continuous and effective operation of the erosion and sediment control practices. The maintenance inspection schedule must be in accordance with the requirements in the BB technical standard; and

ix. 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*; and

x. 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

xi. Identification of any elements of the design that are not in conformance with the design criteria in the BB technical standard. 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. SMP component – The *owner or operator* of *construction activity* identified in Table 2 of Appendix B must prepare a *SWPPP* that includes SMPs.

   a. SMPs must be designed in conformance with the applicable *sizing criteria* in Part II.C.2.a., c., or d.; and

   b. SMPs must be designed in conformance with the *performance criteria*:

      i. in the DM; or

      ii. *equivalent* to the DM if deviating from Part III.B.2.b.i.; or

      iii. in the New York State Stormwater Management Design Manual, dated January 2015 (2015 Design Manual), or *equivalent* to it, if the following criteria are met:

1. The eNOI is submitted in accordance with Part I.D. before January 29, 2027 for *construction activities* that are either:

    a. subject to governmental review and approval:

        i. where the *owner or operator* made any application to that governmental entity prior to the effective date of this permit; and

        ii. such application included a *SWPPP* developed using the 2015 Design Manual or *equivalent* to it; or

    b. not subject to governmental review and approval:

        i. where a fiscal allocation for the *construction activities* has been developed and approved by a governmental entity; and

        ii. the *SWPPP* was developed using the 2015 Design Manual or *equivalent* to it; and

c. If SMPs are designed in conformance with Part III.B.2.b.ii., the *SWPPP* must include the reason(s) for the deviation or alternative design and a demonstration of *equivalence* to the DM; and

d. If SMPs are designed in conformance with Part III.B.2.b.iii., the *SWPPP* must include supporting information or documentation demonstrating that Part III.B.2.b.iii.1.a. or b. apply; and

e. The SMP component of the *SWPPP* must include the following:

    i. Identification of all SMPs to be constructed as part of the project, including which option the SMP designs conform to, either Part III.B.2.b.i., ii., or iii. Include the dimensions, material specifications and installation details for each SMP; and

    ii. A site map/construction drawing(s) showing the specific location and size of each SMP; and

iii. 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; and

(ii) Map(s) showing post-development conditions, including watershed/subcatchments boundaries, flow paths/routing, design points and SMPs; and

(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; and

(iv) Summary table, with supporting calculations, which demonstrates that each SMP has been designed in conformance with the *sizing criteria* included in the DM; and

(v) Identification of any *sizing criteria* that is not required based on the requirements included in Part II.C.; and

(vi) Identification of any elements of the design that are not in conformance with the *performance criteria* in the DM. 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 DM.

iv. Soil testing results and locations (test pits, borings); and

v. Infiltration test results, when required in accordance with Part III.B.2.a.; and

vi. An operations and maintenance plan that includes inspection and maintenance schedules and actions to ensure continuous and effective operation of each SMP. The plan must identify the entity

that will be responsible for the long-term operation and maintenance of each practice; and

3. Enhanced Phosphorus Removal Standards - The *owner or operator* of *construction activity* identified in Table 2 of Appendix B that is located in a watershed identified in Appendix C must prepare a *SWPPP* that includes SMPs designed in conformance with the applicable *sizing criteria* in Part II.C.2.b., c., or d. and the *performance criteria* Enhanced Phosphorus Removal Standards included in the DM. At a minimum, the SMP component of the *SWPPP* must meet the requirements of Part III.B.2.

C. Required *SWPPP* Components by Project Type

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 accordance with Part III.B.1. *Owners or operators* of the *construction activities*, identified in Table 2 of Appendix B, must prepare a *SWPPP* that also includes SMPs designed in accordance with Part III.B.2 or 3.

For the entire area of disturbance, including the entire *common plan of development or sale* if applicable, the owner or operator must evaluate every bullet from Appendix B Table 1 and Table 2 separately. If bullets from both Table 1 and Table 2 apply, the *SWPPP* must include erosion and sediment control practices for all *construction activities* but SMPs for only those portions of the *construction activities* that fall under Table 2 bullet(s).

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 SMPs identified in the *SWPPP*, are inspected and maintained in accordance with Part IV.B. and C.

B. Contractor Maintenance Inspection Requirements

1. The *owner or operator* of each *construction activity*, identified in Tables 1 and 2 of Appendix B, must 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 must:

a. if the corrective action does not require engineering design:

    i. begin implementing corrective actions within one business day; and

    ii. complete the corrective actions within five business days; or

b. if the corrective action requires engineering design:

    i. begin the engineering design process within five business days; and

    ii. complete the corrective action in a reasonable time frame but no later than within 60 calendar days.

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 in accordance with Part IV.B.1. The *trained contractor* must begin conducting the maintenance inspections in accordance with Part IV.B.1. 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 in accordance with Part IV.B.1. if all areas disturbed as of the project shutdown date have achieved *final stabilization* and all SMPs required for the completed portion of the project have been constructed in conformance with the *SWPPP* and are operational.

C. *Qualified Inspector* Inspection Requirements

1. With the exception of the following *construction activities* identified in Tables 1 and 2 of Appendix B, a *qualified inspector* must conduct site inspections for all other *construction activities* identified in Tables 1 and 2 of Appendix B:

    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 or equal to 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 D; and

b. the construction of a single-family home that involves soil disturbances of one (1) or more acres but less than or equal to 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 D; and

c. construction on *agricultural property* that involves soil disturbances of one (1) or more acres but less than five (5) acres; and

d. *construction activities* located in the New York City Watershed located east of the Hudson River, see Appendix C Figure 1, that involve soil disturbances of 5,000 square feet or more, but less than one acre.

2. The *qualified inspector* must conduct site inspections in accordance with the following timetable:

   a. For *construction sites* where soil disturbance activities are on-going, the *qualified inspector* must conduct a site inspection at least once every seven (7) calendar days; or

   b. For *construction sites* where soil disturbance activities are on-going and the *owner or operator* has received authorization in accordance with Part I.E.6. to disturb greater than five (5) acres of soil at any one time, the *qualified inspector* must conduct at least two (2) site inspections every seven (7) calendar days. The two (2) inspections must be separated by a minimum of two (2) full calendar days; or

   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* must conduct a site inspection at least once every thirty (30) calendar days. The *owner or operator* must notify the DOW Water (SPDES) Program contact at the Regional Office (see contact information in Appendix E) or, in areas under the jurisdiction of a *Traditional Land Use Control MS4 Operator,* the *Traditional Land Use Control MS4 Operator* (provided the *Traditional Land Use Control MS4 Operator* is not the *owner or operator* of the *construction activity*) by hard copy or email prior to reducing the inspections to this frequency and again by hard copy or email prior to re-commencing construction; or

d. For *construction sites* where soil disturbance activities have been shut down with partial project completion, the requirement to have the *qualified inspector* conduct inspections ceases if all areas disturbed as of the project shutdown date have achieved *final stabilization* and all SMPs required for the completed portion of the project have been constructed in conformance with the *SWPPP* and are operational. The *owner or operator* must notify the DOW Water (SPDES) Program contact at the Regional Office (see contact information in Appendix E) or, in areas subject to the review authority of *Traditional Land Use Control MS4 Operator(s)* in accordance with Part I.D.2.b.ii.1., the *Traditional Land Use Control MS4 Operator(s)* (provided the *Traditional Land Use Control MS4 Operator(s)* are not the *owners or operators* of the *construction activity*) in writing prior to the shutdown and again in writing prior to resuming *construction activity*. If soil disturbance activities are not resumed within 2 years from the date of shutdown, the *owner or operator* must terminate coverage by meeting the requirements of Part V; or

e. For *construction sites* involving soil disturbance of one (1) or more acres that *directly discharge* to one of the 303(d) segments listed in Appendix D or is located in one of the watersheds listed in Appendix C, the *qualified inspector* must conduct at least two (2) site inspections every seven (7) calendar days. The two (2) inspections must be separated by a minimum of two (2) full calendar days.

3. At a minimum, the *qualified inspector* must inspect:

   a. all erosion and sediment control practices and pollution prevention measures to ensure integrity and effectiveness; and

   b. all SMPs under construction to ensure that they are constructed in conformance with the *SWPPP*; and

   c. all areas of disturbance that have not achieved *final stabilization*; and

   d. all points of *discharge* to *surface waters of the State* located within, or immediately adjacent to, the property boundaries of the *construction site*; and

   e. all points of *discharge* from the *construction site*.

4. The *qualified inspector* must prepare an inspection report subsequent to each and every inspection. At a minimum, the inspection report must include and/or address all of the following, for all *construction activities* except those listed in Part IV.C.1.:

   a. Permit identification number; and

   b. Date and time of inspection; and

   c. Name and title of person(s) performing inspection; and

   d. A description of the weather and soil conditions (e.g. dry, wet, saturated) at the time of the inspection, including the temperature at the time of the inspection; and

   e. A description of the condition of the runoff at all points of *discharge* from the *construction site*. This must 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; and

   f. A description of the condition of all *surface waters of the State* located within, or immediately adjacent to, the property boundaries of the *construction site* which receive runoff from disturbed areas. This must include identification of any *discharges* of sediment to the *surface waters of the State*; and

   g. Identification of all erosion and sediment control practices and pollution prevention measures that need repair or maintenance; and

   h. 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; and

   i. Description and sketch (map) 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; and

   j. Estimates, in square feet or acres, of the following areas:

i. Total area with active soil disturbance (not requiring either *temporary stabilization* or *final stabilization*); and

ii. Total area with inactive soil disturbance (requiring either *temporary stabilization* or *final stabilization*); and

iii. Total area that has achieved *temporary stabilization*; and

iv. Total area that has achieved *final stabilization*; and

k. Current stage of construction of all SMPs and identification of all *construction activity* on site that is not in conformance with the *SWPPP* and technical standards; and

l. 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 SMP(s); and

m. Identification and status of all corrective actions that were required by previous inspection; and

n. Digital photographs, with date stamp, that clearly show the condition of all practices that have been identified as needing corrective actions. The *qualified inspector* must attach 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* must 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* must 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* must notify the *owner or operator*, and appropriate contractor or subcontractor identified in Part III.A.7., of any corrective actions that need to be taken. The contractor or subcontractor must:

a. if the corrective action does not require engineering design:

i. begin implementing corrective actions within one business day; and

ii. complete the corrective actions within five business days; or

b. if the corrective action requires engineering design:

i. begin the engineering design process within five business days; and

ii. complete the corrective action in a reasonable time frame but no later than within 60 calendar days.

6. All inspection reports must be signed by the *qualified inspector.* In accordance with Part I.E.3., the inspection reports must be maintained on site with the *SWPPP*.

Part V. How to Terminate CGP Coverage

A. Electronic Notice of Termination (eNOT) Submittal

The eNOT contains questions to ensure requirements in Part V.A. have been met.

1. An *owner or operator* must terminate coverage when one or more of the following requirements have been met:

a. Total project completion:

i. all *construction activity* identified in the *SWPPP* has been completed; and

ii. all areas of disturbance have achieved *final stabilization*; and

iii. all temporary, structural erosion and sediment control measures have been removed; and

iv. all SMPs have been constructed in conformance with the *SWPPP* and are operational; and

v. an as-built drawing has been prepared; or

b. Planned shutdown with partial project completion:

   i. all soil disturbance activities have ceased; and

   ii. all areas disturbed as of the project shutdown date have achieved *final stabilization*; and

   iii. all temporary, structural erosion and sediment control measures have been removed; and

   iv. all SMPs required for the completed portion of the project have been constructed in conformance with the *SWPPP* and are operational; and

   v. an as-built drawing has been prepared; or

c. In accordance with Part I.G. Change of Owner or Operator; or

d. The *owner or operator* has obtained coverage under an alternative general SPDES permit or an individual SPDES permit.

2. For *construction activities* that require *qualified inspector* inspections in accordance with Part IV.C.1. and have met Part V.A.1.a. or b., the *owner or operator* must have the *qualified inspector* perform a final site inspection prior to submitting the eNOT. The *qualified inspector* must, by signing the "Final Stabilization" and "Post-Construction Stormwater Management Practice(s)" certification statements on the eNOT, certify that all the requirements in Part V.A.1.a. or b. have been achieved.

3. For *construction activities* that are subject to the review authority of *Traditional Land Use Control MS4 Operator(s)* in accordance with Part I.D.2.b.ii.1. and meet Part V.A.1.a. or b., the *owner or operator* must have the *Traditional Land Use Control MS4 Operator(s)* sign the "MS4 Acceptance" statement on the eNOT in accordance with the requirements in Part VII.J. A *Traditional Land Use Control MS4 Operator* official, by signing this statement, determined that it is acceptable for the *owner or operator* to submit the eNOT in accordance with the requirements of this Part. A *Traditional Land Use Control MS4 Operator* can make this determination by performing a final site inspection themselves or by accepting the *qualified inspector*'s final site inspection certification(s) when required in Part V.A.2.

4. For *construction activities* that require SMPs and meet Part V.A.1.a. or b., the *owner or operator* must, prior to submitting the eNOT, ensure one of the following:

    a. for SMP(s) that were constructed by a private entity, but will be owned, operated, and maintained by a public entity, the SMP(s) and any right-of-way(s) needed to operate and maintain such practice(s) have been deeded to the municipality in which the practice(s) is located; or

    b. for SMP(s) that are privately owned, but will be operated and maintained by a public entity, an executed operation and maintenance agreement is in place with the municipality that will operate and maintain the SMP(s); or

    c. for SMP(s) 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; or

    d. for SMP(s) 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 policies and procedures in place that ensure operation and maintenance of the practices in accordance with the operation and maintenance plan.

5. An *owner or operator* that has met the requirements of Part V.A.1., 2., 3., and 4. must request termination of coverage under this permit by submitting a complete Notice of Termination form electronically using a NYSDEC approved form.[5]

    a. The owner's or operator's coverage is terminated as of the termination date indicated in the Letter of Termination (LOT), which is sent by NYSDEC after a complete eNOT is submitted.

[5] Unless NYSDEC grants a waiver in accordance with 40 CFR 127.15(c) or (d). All waiver requests must be submitted to Stormwater_info@dec.ny.gov or NYSDEC, Bureau of Water Permits, 625 Broadway, 4th Floor, Albany, New York 12233-3505.

Part VI. Record Retention and Reporting

A. Record Retention

The *owner or operator* must retain a copy of the documents listed in Part I.E.3. and a copy of the LOT for a period of at least five years from the date that NYSDEC accepts a complete NOT submitted in accordance with Part V.

B. Reporting

Except for the eNOI, the signature forms associated with the eNOI, and the eNOT, all other written correspondence requested by NYSDEC, including individual permit applications, must be sent to the address of the appropriate DOW (SPDES) Program contact at the Regional Office listed in Appendix E.

Part VII. Standard Permit Requirements

For the purposes of this permit, examples of contractors and subcontractors include: third-party maintenance and construction contractors.

A. Duty to Comply

The *owner or operator*, and all contractors or subcontractors, must comply with all requirements of this permit. Any non-compliance with the requirements of this permit constitutes a violation of the New York State Environmental Conservation Law (ECL), and its implementing regulations, and is grounds for enforcement action. Filing of a request for termination of coverage under this permit, or a notification of planned changes or anticipated non-compliance, does not limit, diminish or stay compliance with any requirements of this permit.

B. Need to Halt or Reduce Activity Not a Defense

The necessity to halt or reduce the *construction activity* regulated by this permit, in order to maintain compliance with the requirements of this permit, must not be a defense in an enforcement action.

C. Penalties

There are substantial criminal, civil, and administrative penalties associated with violating the requirements of this permit. Fines of up to $37,500 per day for each

violation and imprisonment for up to 15 years may be assessed depending upon the nature and degree of the offense.

D. False Statements

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 monitoring reports or reports of compliance or noncompliance must, upon conviction, be punished in accordance with ECL §71-1933 and or New York State Penal Law Articles 175 and 210.

E. Re-Opener Clause

Upon issuance of this permit, a determination has been made on the basis of a submitted Notice of Intent, plans, or other available information, that compliance with the specified permit requirements will reasonably protect classified water use and assure compliance with applicable *water quality standards*. Satisfaction of the requirements of this permit notwithstanding, if operation pursuant to this permit causes or contributes to a condition in contravention of State *water quality standards* or guidance values, or if NYSDEC determines that a modification is necessary to prevent impairment of the best use of the waters or to assure maintenance of *water quality standards* or compliance with other provisions of ECL Article 17 or the Clean Water Act (CWA), or any regulations adopted pursuant thereto, NYSDEC may require such modification and the Commissioner may require abatement action to be taken by the *owner or operator* and may also prohibit such operation until the modification has been implemented.

F. Duty to Mitigate

The *owner or operator*, and its contractors and subcontractors, must 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.

G. Requiring Another General Permit or Individual SPDES Permit

NYSDEC may require any *owner or operator* authorized to *discharge* in accordance with this permit to apply for and obtain an individual SPDES permit or apply for authorization to *discharge* in accordance with another general SPDES permit.

1. Cases where an individual SPDES permit or authorization to discharge in accordance with another general SPDES permit may be required include, but is not limited to the following:

a. the *owner or operator* is not in compliance with the conditions of this permit or does not meet the requirements for coverage under this permit; and

b. a change has occurred in the availability of demonstrated technology or practices for the control or abatement of *pollutants* applicable to the *point source*; and

c. new effluent limitation guidelines or new source performance standards are promulgated that are applicable to *point sources* authorized to *discharge* in accordance with this permit; and

d. existing effluent limitation guidelines or new source performance standards that are applicable to *point sources* authorized to *discharge* in accordance with this permit are modified; and

e. a water quality management plan containing requirements applicable to such *point sources* is approved by NYSDEC; and

f. circumstances have changed since the time of the request to be covered so that the *owner or operator* is no longer appropriately controlled under this permit, or either a temporary or permanent reduction or elimination of the authorized *discharge* is necessary; and

g. the *discharge* is in violation of section 17-0501 of the ECL; and

h. the *discharge(s)* is a significant contributor of *pollutants*. In making this determination, NYSDEC may consider the following factors:

   i. the location of the *discharge(s)* with respect to *surface waters of the State*; and

   ii. the size of the *discharge(s)*; and

   iii. the quantity and nature of the *pollutants discharged* to *surface waters of the State*; and

   iv. other relevant factors including compliance with other provisions of ECL Article 17, or the CWA.

2. When NYSDEC requires any *owner or operator* authorized by this permit to apply for an individual SPDES permit as provided for in this subdivision, it must notify the *owner or operator* in writing that a permit application is required. This notice must include a brief statement of the reasons for this decision, an application

form, a statement setting a time for the *owner or operator* to file the application for an individual SPDES permit, and a deadline, not sooner than 180 days from the *owner's or operator's* receipt of the notification letter, whereby the authorization to *discharge* under this permit must be terminated. NYSDEC may grant additional time upon demonstration, to the satisfaction of the RWE,[6] that additional time to apply for an alternative authorization is necessary or where NYSDEC has not provided a permit determination in accordance with 6 NYCRR Part 621.

3. When an individual SPDES permit is issued to an *owner or operator* authorized to *discharge* under this permit for the same *discharge(s)*, this permit authorization for *construction activities* authorized under the individual SPDES permit is automatically terminated on the effective date of the individual SPDES permit unless termination is earlier in accordance with 6 NYCRR Part 750.

H. Duty to Provide Information

The *owner or operator* must furnish to NYSDEC, within five business days, unless otherwise set forth by NYSDEC, any information that NYSDEC may request to determine whether cause exists to determine compliance with this permit or to determine whether cause exists for requiring an individual SPDES permit in accordance with 6 NYCRR 750-1.21(e) (see Part VII.G. Requiring Another General Permit or Individual Permit).

The *owner or operator* must make available to NYSDEC, for inspection and copying, or furnish to NYSDEC within 25 business days of receipt of a NYSDEC request for such information, any information retained in accordance with this permit.

Except for Part I.D.4. and 5. and Part I.G., the following applies: where the *owner or operator* becomes aware that it failed to submit any relevant facts on the Notice of Intent, or submitted incorrect information in a Notice of Intent or in any report to NYSDEC, the *owner or operator* must submit such facts or corrected information to NYSDEC within five business days.

I. Extension

In the event a new permit is not issued and effective prior to the expiration of this permit, and this permit is extended pursuant to the State Administrative Procedure Act and 6 NYCRR Part 621, then the *owner or operator* with coverage under this permit may continue to operate and *discharge* in accordance with the requirements of this permit until a new permit is issued and effective.

[6] The Regional Water Manager where a DEC Region does not have a RWE.

J. Signatories and Certification

The Notice of Intent, Notice of Termination, and reports required by this permit must be signed as provided in 40 CFR §122.22.

1. All Notices of Intent and Notices of Termination must be signed as follows:

    a. For a corporation. 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 Notice of Intent or Notice of Termination requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures.

        Note: NYSDEC does not require specific assignments or delegations of authority to responsible corporate officers identified in 40 CFR §122.22(a)(1)(i). NYSDEC will presume that these responsible corporate officers have the requisite authority to sign the Notice of Intent or Notice of Termination unless the corporation has notified NYSDEC to the contrary. Corporate procedures governing authority to sign a Notice of Intent or Notice of Termination may provide for assignment or delegation to applicable corporate positions under 40 CFR §122.22(a)(1)(ii) rather than to specific individuals.

    b. For a partnership or sole proprietorship. By a general partner or the proprietor, respectively.

c. For a municipality, State, Federal, or other public agency. By either a principal executive officer or ranking elected official. For purposes of this section, a principal executive officer of a Federal agency includes:

    1. the chief executive officer of the agency; or

    2. 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. All reports required by this permit, and other information requested by NYSDEC, must be signed by a person described in Part VII.J.1., 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.J.1. or using the Duly Authorized Form, found on the DEC website; and

    b. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity, 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 is submitted to NYSDEC.

3. Changes to authorization. If an authorization under Part VII.J.2. is no longer accurate because a different individual or position has responsibility for the overall operation of the *construction activity*, a new authorization satisfying the requirements of Part VII.J.2. must be submitted to NYSDEC prior to or together with any reports, information, or applications to be signed by an authorized representative.

4. Certification. Any person signing a document under Part VII.J.1. or 2. must make the following certification:

    I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who

manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

5. Electronic reporting. If documents described in Part VII.J.1. or 2. are submitted electronically by or on behalf of the *construction activity* with coverage under this permit, any person providing the electronic signature for such documents must meet all relevant requirements of this section, and must ensure that all of the relevant requirements of 40 CFR Part 3 (including, in all cases, subpart D to Part 3) (Cross-Media Electronic Reporting) and 40 CFR Part 127 (NPDES Electronic Reporting Requirements) are met for that submission.

K. Inspection and Entry

The *owner or operator* must allow NYSDEC, the USEPA Regional Administrator, the applicable county health department, or any authorized representatives of those entities, 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 requirements of this permit; and

2. have access to and copy at reasonable times, any records that must be kept under the requirements of this permit, including records required to be maintained for purposes of operation and maintenance; and

3. inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices or operations regulated or required under this permit; and

4. sample or monitor at reasonable times, for the purposes of assuring general SPDES permit compliance or as otherwise authorized by the CWA or ECL, any substances or parameters at any location; and

5. enter upon the property of any contributor to the regulated facility or activity under authority of the *owner or operator*.

L. Confidentiality of Information

The following must not be held confidential: this permit, the fact sheet for this permit, the name and address of any *owner or operator*, effluent data, the Notice of Intent, and information regarding the need to obtain an individual permit or an alternative general SPDES permit. This includes information submitted on forms themselves and any attachments used to supply information required by the forms (except information submitted on usage of substances). Upon the request of the *owner or operator*, NYSDEC must make determinations of confidentiality in accordance with 6 NYCRR Part 616, except as set forth in the previous sentence. Any information accorded confidential status must be disclosed to the Regional Administrator upon his or her written request. Prior to disclosing such information to the Regional Administrator, NYSDEC will notify the Regional Administrator of the confidential status of such information.

M. Other Permits May Be Required

Nothing in this permit relieves the *owner or operator* from a requirement to obtain any other permits required by law.

N. NYSDEC Orders or Civil Decrees/Judgments

The issuance of this permit by the NYSDEC, and the coverage under this permit by the *owner or operator*, does not supersede, revoke, or rescind any existing order on consent or civil Decree/Judgment, or modification to any such documents or to any order issued by the Commissioner, or any of the terms, conditions, or requirements contained in such order or modification therefore, unless expressly noted.

O. Property Rights

Coverage under this permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of Federal, State, or local laws or regulations, nor does it obviate the necessity of obtaining the assent of any other jurisdiction as required by law for the *discharge* authorized.

P. Compliance with Interstate Standards

If the *construction activity* covered by this permit originates within the jurisdiction of an interstate water pollution control agency, then the *construction activity* must also comply with any applicable effluent standards or *water quality standards* promulgated by that interstate agency and as set forth in this permit for such *construction activities*.

Q. Oil and Hazardous Substance Liability

Coverage under this permit does not affect the imposition of responsibilities upon, or the institution of any legal action against, the *owner or operator* under section 311 of the CWA, which must be in conformance with regulations promulgated pursuant to section 311 governing the applicability of section 311 of the CWA to *discharges* from facilities with *NPDES* permits, nor must such issuance preclude the institution of any legal action or relieve the *owner or operator* from any responsibilities, liabilities, or penalties to which the *owner or operator* is or may be subject pursuant to the Comprehensive Environmental Response, Compensation and Liability Act of 1980, 42 U.S.C. section 9601 et seq. (CERCLA).

R. 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, must not be affected thereby.

S. NYSDEC Approved Forms

The *owner or operator* must provide all relevant information that is requested by NYSDEC, and required by this permit, on all NYSDEC approved forms.

APPENDIX A – Abbreviations and Definitions

Abbreviations

APO – Agency Preservation Officer
BB – New York State Standards and Specifications for Erosion and Sediment Control (Blue Book), dated November 2016
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)
DM – New York State Stormwater Management Design Manual (Design Manual), dated July 31, 2024
DOW – Division of Water
EAF – Environmental Assessment Form
ECL – chapter 43-B of the Consolidated Laws of the State of New York, entitled the 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
NYC – The City of New York
NYCDEP – The City of New York Department of Environmental Protection
NYSDEC – The New York State Department of Environmental Conservation
OPRHP – Office of Parks, Recreation and Historic Places
Qf – Extreme Flood
Qp – Overbank Flood
RR – Runoff Reduction
RRv – Runoff Reduction Volume
RWE – Regional Water Engineer
SEQR – State Environmental Quality Review Act
SHPA – State Historic Preservation Act
SMP – Post-Construction Stormwater Management Practice
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. If a word is not italicized in the permit, use its common definition.

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 – the land for construction of a barn, *agricultural building*, silo, stockyard, pen or other structural practices identified in Table II in the "Agricultural Best Management Practice Systems Catalogue" (dated June 2023).

Alter Hydrology from Pre- to Post-Development Conditions – 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 System – a sewer system which conveys sewage and *stormwater* through a single pipe system to a publicly owned treatment works.

Commence (Commencement of) Construction Activities – 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.

Common Plan of Development or Sale – a contiguous area where multiple separate and distinct *construction activities* are occurring, or may occur, under one plan. The "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 (SEQR) environmental assessment form or other documents, zoning request, computer design, etc.) or physical demarcation (including boundary signs, lot stakes, surveyor markings, etc.) indicating *construction activities* may occur on a specific plot. A *common plan of development or sale* is comprised of two or more *phases*.

Common plan of development or sale does not include separate and distinct *construction activities* that are occurring, or may occur, under one plan that are at least 1/4 mile apart provided any interconnecting road, pipeline or utility project that is part of the same "common plan" is not concurrently being disturbed.

Construction Activity(ies) – identified within 40 CFR 122.26(b)(14)(x), 122.26(b)(15)(i), and 122.26(b)(15)(ii), any clearing, grading, excavation, filling, demolition or stockpiling activities that result in soil disturbance. Clearing activities can include, but are not limited to, mechanized 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, which is excluded from the calculation of the soil disturbance for a project. Routine maintenance includes, but is not limited to:

- Re-grading of gravel roads or parking lots; and
- Cleaning and shaping of existing roadside ditches and culverts that maintains the approximate original line and grade, and maintains or improves the hydraulic capacity of the ditch; and
- Replacement of existing culverts that maintains the approximate original line and grade, and maintains or improves the hydraulic capacity of a ditch; and
- Replacement of existing bridges that maintains the approximate original line and grade, and maintains or improves the hydraulic capacity beneath the bridges; and
- 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); and
- Placement of aggregate shoulder backing that stabilizes the transition between the road shoulder and the ditch or *embankment*; and
- 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; and
- Long-term use of equipment storage areas at or near highway maintenance facilities; and
- 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*; and
- Existing use of Canal Corp owned upland disposal sites for the canal, and
- Replacement of curbs, gutters, sidewalks and guide rail posts; and
- Maintenance of ski trails including brush hog use and mowing; and
- Above ground snowmaking pipe replacement; and
- Replacement of existing utility poles; etc.

Construction Site – the land area where *construction activity(ies)* will occur. See also the definitions for "*Commence (Commencement of) Construction Activities"* and "*Common Plan of Development or Sale."*

Dewatering – the act of draining rainwater and/or groundwater from building foundations, vaults or excavations/trenches.

Directly Discharge(s)(ing) (to a specific surface waterbody) – 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)(d) – any addition of any *pollutant* to waters of the State through an outlet or *point source*.

Embankment – an earthen or rock slope that supports a road/highway.

Equivalent (Equivalence) – 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 – 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.

Historic Property – 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) – all impermeable surfaces that cannot effectively infiltrate rainfall. This includes paved, concrete and compacted gravel surfaces (i.e. parking lots, driveways, roads, runways and sidewalks); building rooftops and miscellaneous impermeable structures such as patios, pools, and sheds.

Infeasible – not technologically possible, or not economically practicable and achievable considering best industry practices.

Minimize(ing)(ation) – 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 System (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):

1. owned or operated by a State, city, town, village, 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*; and

2. designed or used for collecting or conveying *stormwater*; and

3. which is not a *combined sewer system*; and

4. which is not part of a Publicly Owned Treatment Works (POTW) as defined at 40 CFR 122.2.

Natural Buffer(s) – an undisturbed area with natural cover running along a surface water (e.g. wetland, stream, river, lake, etc.).

New Development – 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.

Nonpoint Source(s) – 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 – flow events that exceed the capacity of the stream channel and spill out into the adjacent floodplain.

Owner or Operator – 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 requirements.

Performance Criteria – the six performance criteria for each group of SMPs in Chapters 5 and 6 of the technical standard, New York State Stormwater Management Design Manual (DM), dated July 31, 2024. These include feasibility, conveyance, pretreatment, treatment, landscaping, and maintenance. It does not include the *Sizing Criteria* (i.e. WQv, RRv, CPv, Qp and Qf) in Part I.C.2. of the permit.

Phase – a defined area in which *construction activities* are occurring or will occur separate from other defined area(s).

Point Source – 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(s) – 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 – 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 NYSDEC 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 NYSDEC endorsed training in proper erosion and sediment control principles from a Soil and Water Conservation District, or other NYSDEC 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 SMPs that include structural components, such as a dam for an impoundment, shall be performed by a licensed Professional Engineer.

Qualified Professional – 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 NYSDEC endorsed individual(s). Individuals preparing *SWPPPs* that require the SMP 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) – 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.).

Renewable Energy – electricity or thermal energy generated by renewable energy systems through use of the following technologies: solar thermal, photovoltaics, on land and offshore wind, hydroelectric, geothermal electric, geothermal ground source heat, tidal energy, wave energy, ocean thermal, and fuel cells which do not utilize a fossil fuel resource in the process of generating electricity.

Site Limitations – 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 – the criteria included in Part I.C.2 of the permit that are used to size SMPs. The criteria include; Water Quality Volume (WQv), Runoff Reduction Volume (RRv), Channel Protection Volume (Cpv), *Overbank* Flood (Qp), and Extreme Flood (Qf).

Steep Slope – land area designated on the current United States Department of Agriculture (USDA) Soil Survey as Soil Slope Phase D, (provided the map unit name or description 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.

Stormwater – that portion of precipitation that, once having fallen to the ground, is in excess of the evaporative or infiltrative capacity of soils, or the retentive capacity of surface features, which flows or will flow off the land by surface runoff to waters of the State.

Streambank – 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) – 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 SMPs); and identifies procedures the *owner or operator* will implement to comply with the requirements 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 – an existing disturbed area will not be disturbed again within 14 calendar days of the previous soil disturbance.

Temporary Stabilization – 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 Load (TMDL) – the sum of the allowable loads of a single *pollutant* from all contributing point and *nonpoint source*s. It is a calculation of the maximum amount of a *pollutant* that a waterbody can receive and still meet *water quality standards*, and an allocation of that amount to the *pollutant's* sources. A TMDL stipulates Waste Load Allocations (WLA) for *point source discharges*, Load Allocations (LA) for *nonpoint source*s, and a margin of safety (MOS).

Traditional Land Use Control MS4 Operator – 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).

Trained Contractor – an employee from the contracting (construction) company, identified in Part III.A.7., that has received four (4) hours of NYSDEC endorsed training

in proper erosion and sediment control principles from a Soil and Water Conservation District, or other NYSDEC 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.7., 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 NYSDEC endorsed training in proper erosion and sediment control principles from a Soil and Water Conservation District, or other NYSDEC endorsed entity).

The *trained contractor* is responsible for the day-to-day implementation of the *SWPPP*.

Tree Clearing – *construction activities* limited to felling and removal of trees.

Tree clearing does not include hand felling and leaving the trees in place with no support from mechanized equipment, which is not considered *construction activity* requiring coverage under this permit.

Water Quality Standard – such measures of purity or quality for any waters in relation to their reasonable and necessary use as promulgated in 6 NYCRR Part 700 et seq.

APPENDIX B – Required SWPPP Components by Project Type

Table 1
CONSTRUCTION ACTIVITIES THAT REQUIRE THE PREPARATION OF A *SWPPP* THAT ONLY INCLUDES EROSION AND SEDIMENT CONTROLS

The following *construction activities* that involve soil disturbances of one (1) or more acres of land, but less than five (5) acres:

- Single-family home not located in one of the watersheds listed in Appendix C and not *directly discharging* to one of the 303(d) segments listed in Appendix D
- Single-family residential subdivisions with 25% or less *impervious cover* at total site build-out and not located in one of the watersheds listed in Appendix C and not *directly discharging* to one of the 303(d) segments listed in Appendix D
- Construction of a barn or other *agricultural building*, silo, stock yard or pen.
- Structural agricultural conservation practices as identified in Table II in the "Agricultural Best Management Practice Systems Catalogue" (dated June 2023) that include construction or reconstruction of *impervious area* or *alter hydrology from pre- to post-development* conditions.

The following *construction activities* that involve soil disturbances between five thousand (5000) square feet and one (1) acre of land:

- All construction activities located in the New York City Watershed located east of the Hudson River, see Appendix C Figure 1, that involve soil disturbances between five thousand (5,000) square feet and one (1) acre of land.

Within the municipal boundaries of NYC:

- Stand-alone road reconstruction, where the total soil disturbance from only that road construction, is less than one (1) acre of land.

The following *construction activities*:

- Installation of underground linear utilities; such as gas lines, fiber-optic cable, cable TV, electric, telephone, sewer mains, and water mains
- Environmental enhancement projects, such as wetland mitigation, *stormwater* retrofits, stream restoration, and resiliency projects that reconstruct shoreline areas to address sea level rise
- Pond construction
- Linear bike paths running through areas with vegetative cover, including bike paths surfaced with an *impervious cover*
- Cross-country ski trails, walking/hiking trails, and mountain biking trails, including a de minimis parking lot (maximum 10 spaces total, sized for passenger cars) with 35 feet minimum preservation of undisturbed area downgradient from the parking lot
- Dam rehabilitation (the structure of the dam itself)
- Sidewalks, bike paths, or walking paths, surfaced with an *impervious cover*, that are not part of residential, commercial, or institutional development;
- Sidewalks, bike paths, or walking paths, 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.

Table 1 (Continued)
CONSTRUCTION ACTIVITIES THAT REQUIRE THE PREPARATION OF A *SWPPP* THAT ONLY INCLUDES EROSION AND SEDIMENT CONTROLS

The following *construction activities*:

- Slope stabilization
- Slope flattening that changes the grade of the site, but does not significantly change the runoff characteristics
- Spoil areas that will be covered with vegetation
- Vegetated open space (i.e. recreational parks, lawns, meadows, fields, downhill ski trails) that do not *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 where vegetation will be established, and no *redevelopment activity* is planned[1]
- Installation or replacement of either an overhead electric transmission line or a ski lift tower that does not include the construction of permanent access roads or parking areas surfaced with *impervious cover*.
- Solar array field areas that have tables elevated off the ground, spaced one table width apart, do not *alter hydrology from pre- to post-development conditions*, and address water quality volume and runoff reduction volume by maintaining sheet flow on slopes less than 8%.
- Structural agricultural conservation practices as identified in Table II in the "Agricultural Best Management Practice Systems Catalogue" (dated June 2023) that do not include construction or reconstruction of *impervious area* and do not *alter hydrology from pre- to post-development* conditions.
- 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 (in this context, "temporary" means the *impervious area* will be in place for two years or less)
- Other *construction activities* that do not include the construction or reconstruction of *impervious area*, and do not *alter hydrology from pre- to post-development* conditions, and are not listed in Table 2.

1. If the site is redeveloped in the future, a new eNOI must be submitted.

Table 2
CONSTRUCTION ACTIVITIES THAT REQUIRE THE PREPARATION OF A *SWPPP* THAT INCLUDES POST-CONSTRUCTION STORMWATER MANAGEMENT PRACTICES (SMPS)

The following *construction activities*:

- 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 D
- 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 D
- 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 between 20,000 square feet and one (1) acre of land within the municipal boundaries of NYC 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 *common plan of development or sale* that will ultimately disturb five (5) or more acres of land
- Multi-family residential developments; includes duplexes, townhomes, condominiums, senior housing complexes, apartment complexes, and mobile home parks
- Creation of 5,000 square feet or more of *impervious area* in the municipal boundaries of NYC
- 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) that involves soil disturbance greater than five acres.
- Structural agricultural conservation practices as identified in Table II in the “Agricultural Best Management Practice Systems Catalogue” (dated June 2023) that involves soil disturbance greater than five acres and include the construction or reconstruction of *impervious area* or *alter hydrology from pre- to post-development* conditions.
- Facility buildings, including ski lodges, restroom buildings, pumphouses, ski lift terminals, and maintenance and groomer garages
- Institutional development; includes hospitals, prisons, schools and colleges
- Industrial facilities; includes industrial parks
- Landfills; including creation of landfills or capping landfills.
- Municipal facilities; includes highway garages, transfer stations, office buildings, POTWs, water treatment plants, and water storage tanks
- Golf courses
- Office complexes

Table 2 (Continued)

CONSTRUCTION ACTIVITIES THAT REQUIRE THE PREPARATION OF A *SWPPP* THAT INCLUDES POST-CONSTRUCTION STORMWATER MANAGEMENT PRACTICES (SMPS)

The following *construction activities*:

- Permanent laydown yards and equipment storage lots
- Playgrounds that include the construction or reconstruction of *impervious area*
- Sports complexes
- Racetracks; includes racetracks with earthen (dirt) surfaces
- Road construction or reconstruction, outside the municipal boundaries of NYC
- Road construction within the municipal boundaries of NYC
- Stand-alone road reconstruction, within the municipal boundaries of NYC where the total soil disturbance from that road reconstruction involves soil disturbance of one (1) acre or more of land
- Parking lot construction or reconstruction (as with all Table 2 bullets, this includes parking lots constructed as part of the *construction activities* listed in Table 1, unless a Table 1 bullet specifies otherwise)
- 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 overhead electric transmission line, wind-power, cell tower, oil or gas well drilling, sewer or water main, ski lift, or other linear utility project
- Sidewalks, bike paths, or walking paths, surfaced with an *impervious cover*, that are part of a residential, commercial or institutional development
- Sidewalks, bike paths, or walking paths, surfaced with an *impervious cover*, that are part of highway construction or reconstruction
- Solar array field areas on slopes greater than 8% that cannot maintain sheet flow using management practices identified in the BB or the DM
- Solar array field areas on slopes less than 8% that will *alter the hydrology from pre- to post-development* conditions
- Solar array field areas with tables that are not elevated high enough to achieve *final stabilization* beneath the tables
- Traditional *impervious areas* associated with solar development (e.g. roads, buildings, transformers)
- Utility pads surfaced with *impervious cover*, including electric vehicle charging stations
- 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 SMPs designed in conformance with the Enhanced Phosphorus Removal Standards included in the DM technical standard.

- 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

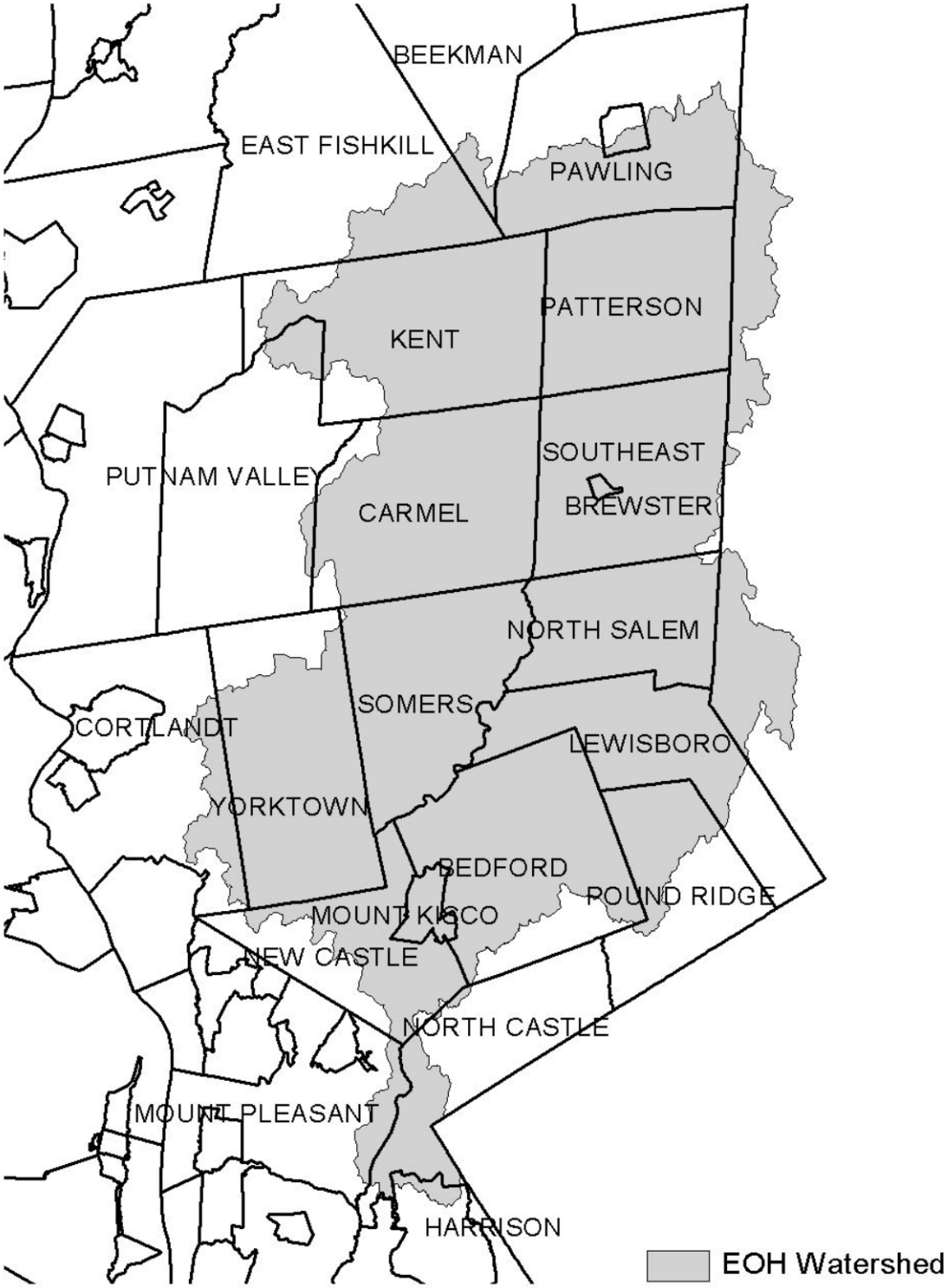


Figure 2 - Onondaga Lake Watershed

Figure 3 - Greenwood Lake Watershed

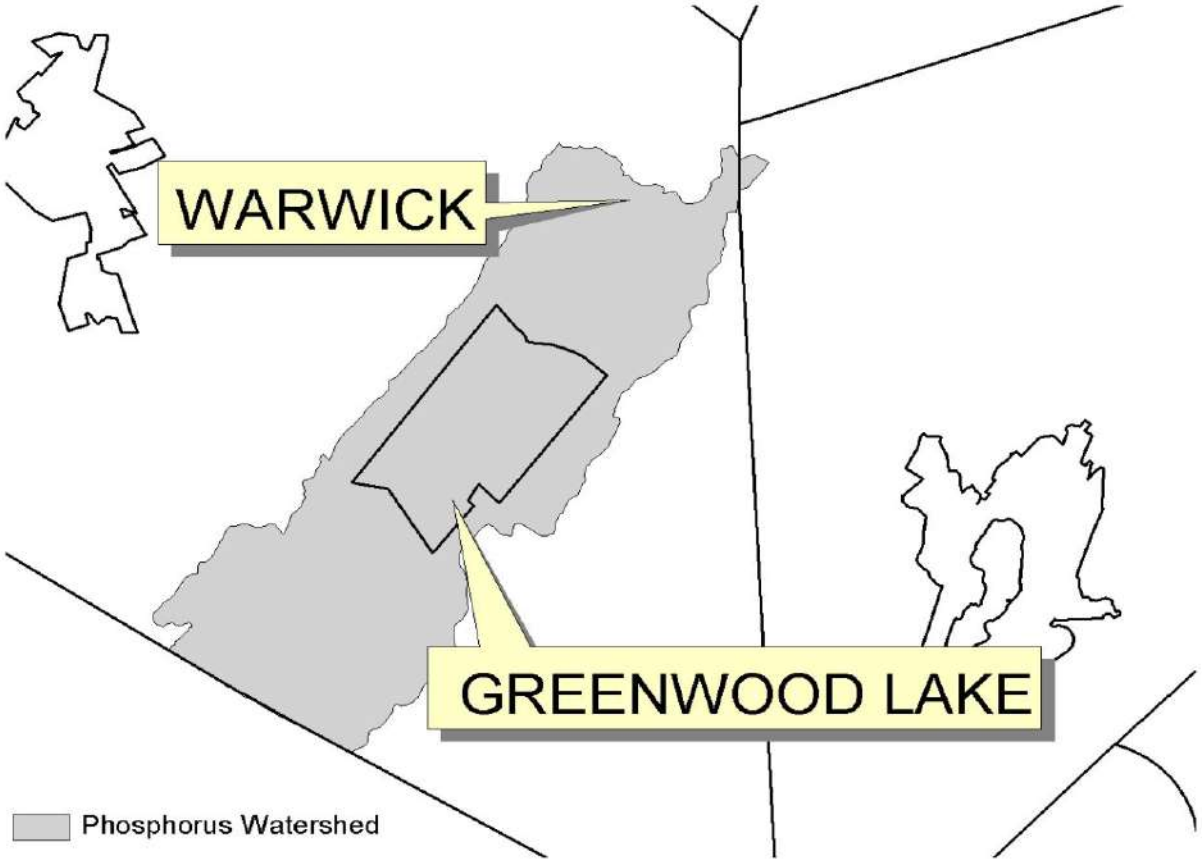


Figure 4 - Oscawana Lake Watershed

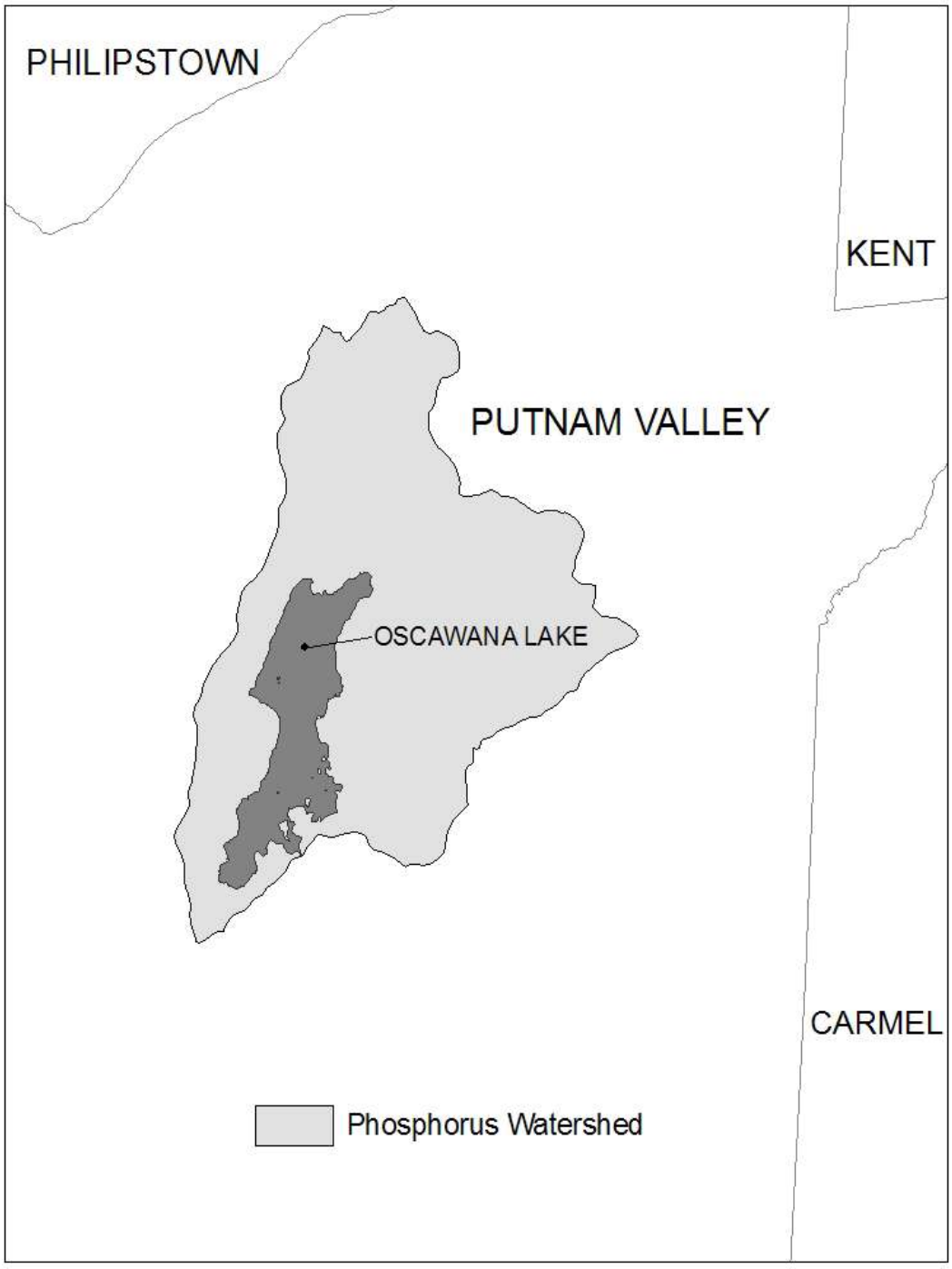
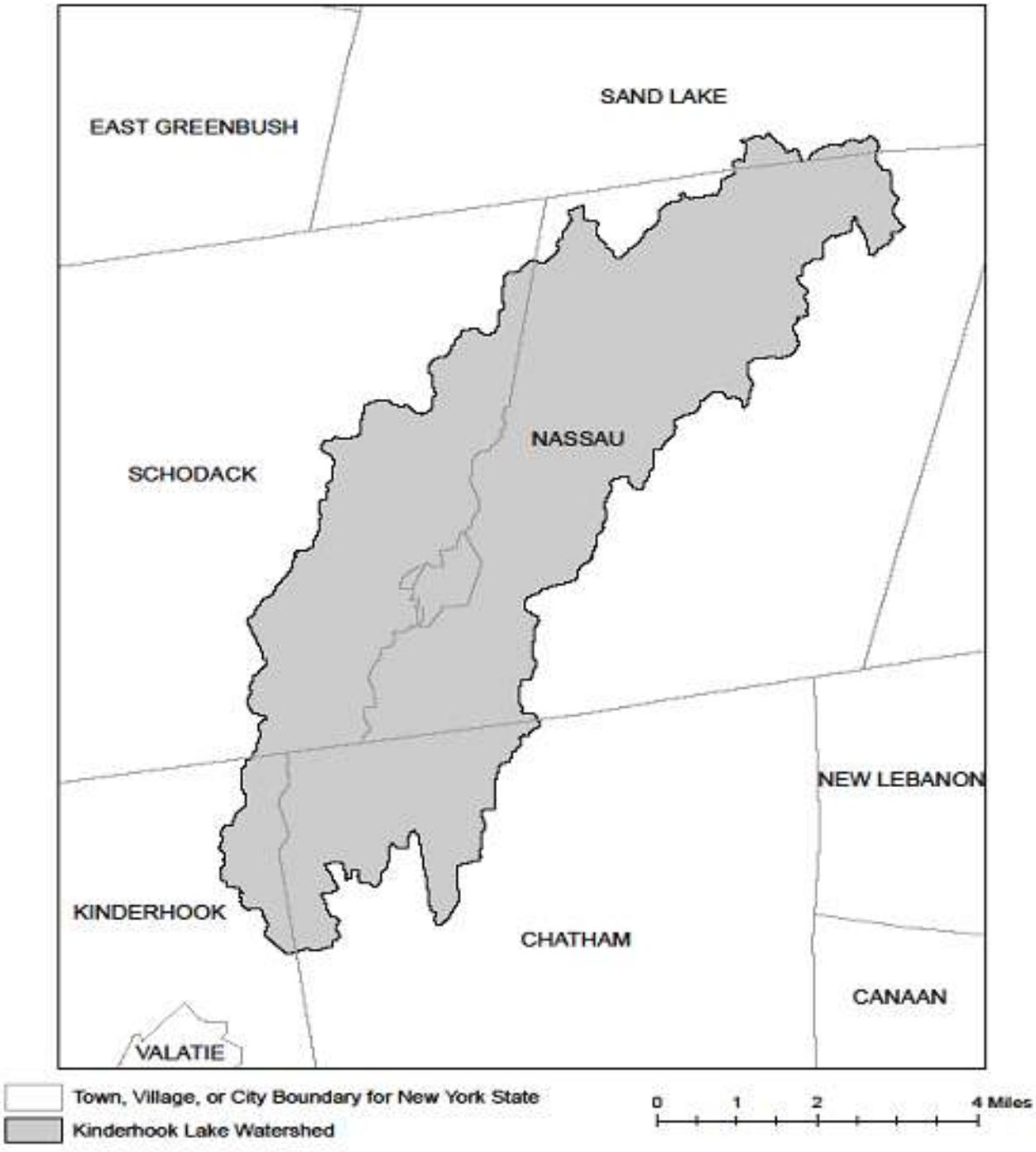


Figure 5 - Kinderhook Lake Watershed



APPENDIX D – Impaired Waterbodies (by Construction Related Pollutants)

List of waterbodies impaired by *pollutants* related to *construction activity*, including turbidity, silt/sediment, and nutrients (e.g. nitrogen, phosphorus). This list is a subset of "The Final New York State 2018 Section 303(d) List of Impaired Waters Requiring a TMDL" dated June 2020.

County	Waterbody	Pollutant
Albany	Ann Lee (Shakers) Pond, Stump Pond (1201-0096)	Phosphorus
Albany	Lawsons Lake (1301-0235)	Phosphorus
Allegany	Amity Lake, Saunders Pond (0403-0054)	Phosphorus
Allegany	Andover Pond (0403-0056)	Phosphorus
Bronx	Reservoir No.1/Lake Isle (1702-0075)	Phosphorus
Bronx	Van Cortlandt Lake (1702-0008)	Phosphorus
Broome	Blueberry, Laurel Lakes (1404-0033)	Phosphorus
Broome	Fly Pond, Deer Lake (1404-0038)	Phosphorus
Broome	Minor Tribs to Lower Susquehanna (0603-0044)	Phosphorus
Broome	Whitney Point Lake/Reservoir (0602-0004)	Phosphorus
Cattaraugus	Allegheny River/Reservoir (0201-0023)	Phosphorus
Cattaraugus	Beaver Lake/Alma Pond (0201-0073)	Phosphorus
Cattaraugus	Case Lake (0201-0020)	Phosphorus
Cattaraugus	Linlyco/Club Pond (0201-0035)	Phosphorus
Cayuga	Duck Lake (0704-0025)	Phosphorus
Cayuga	Owasco Inlet, Upper, and tribs (0706-0014)	Nutrients
Chautauqua	Chadakoin River and tribs (0202-0018)	Phosphorus
Chautauqua	Hulburt/Clymer Pond (0202-0079)	Phosphorus
Chautauqua	Middle Cassadaga Lake (0202-0002)	Phosphorus
Clinton	Great Chazy River, Lower, Main Stem (1002-0001)	Silt/Sediment
Columbia	Robinson Pond (1308-0003)	Phosphorus
Cortland	Dean Pond (0602-0077)	Phosphorus
Dutchess	Fallkill Creek (1301-0087)	Phosphorus
Dutchess	Hillside Lake (1304-0001)	Phosphorus
Dutchess	Wappingers Lake (1305-0001)	Phosphorus
Dutchess	Wappingers Lake (1305-0001)	Silt/Sediment
Erie	Beeman Creek and tribs (0102-0030)	Phosphorus
Erie	Delaware Park Pond (0101-0026)	Phosphorus
Erie	Ellicott Creek, Lower, and tribs (0102-0018)	Phosphorus
Erie	Ellicott Creek, Lower, and tribs (0102-0018)	Silt/Sediment
Erie	Green Lake (0101-0038)	Phosphorus
Erie	Little Sister Creek, Lower, and tribs (0104-0045)	Phosphorus
Erie	Murder Creek, Lower, and tribs (0102-0031)	Phosphorus

Erie	Rush Creek and tribs (0104-0018)	Phosphorus
Erie	Scajaquada Creek, Lower, and tribs (0101-0023)	Phosphorus
Erie	Scajaquada Creek, Middle, and tribs (0101-0033)	Phosphorus
Erie	Scajaquada Creek, Upper, and tribs (0101-0034)	Phosphorus
Erie	South Branch Smoke Cr, Lower, and tribs (0101-0036)	Phosphorus
Erie	South Branch Smoke Cr, Lower, and tribs (0101-0036)	Silt/Sediment
Genesee	Bigelow Creek and tribs (0402-0016)	Phosphorus
Genesee	Black Creek, Middle, and minor tribs (0402 0028)	Phosphorus
Genesee	Black Creek, Upper, and minor tribs (0402-0048)	Phosphorus
Genesee	Bowen Brook and tribs (0102-0036)	Phosphorus
Genesee	LeRoy Reservoir (0402-0003)	Phosphorus
Genesee	Mill Pond (0402-0050)	Phosphorus
Genesee	Oak Orchard Cr, Upper, and tribs (0301-0014)	Phosphorus
Genesee	Oatka Creek, Middle, and minor tribs (0402-0031)	Phosphorus
Genessee	Tonawanda Cr, Middle, Main Stem (0102-0002)	Phosphorus
Greene	Schoharie Reservoir (1202-0012)	Silt/Sediment
Greene	Sleepy Hollow Lake (1301-0059)	Silt/Sediment
Herkimer	Steele Creek tribs (1201-0197)	Phosphorus
Herkimer	Steele Creek tribs (1201-0197)	Silt/Sediment
Kings	Hendrix Creek (1701-0006) 18	Nitrogen
Kings	Prospect Park Lake (1701-0196)	Phosphorus
Lewis	Mill Creek/South Branch, and tribs (0801-0200)	Nutrients
Livingston	Christie Creek and tribs (0402-0060)	Phosphorus
Livingston	Conesus Lake (0402-0004)	Phosphorus
Livingston	Mill Creek and minor tribs (0404-0011)	Silt/Sediment
Monroe	Black Creek, Lower, and minor tribs (0402-0033)	Phosphorus
Monroe	Buck Pond (0301-0017)	Phosphorus
Monroe	Cranberry Pond (0301-0016)	Phosphorus
Monroe	Durand, Eastman Lakes (0302-0037)	Phosphorus
Monroe	Lake Ontario Shoreline, Western (0301-0069) 9	Phosphorus
Monroe	Long Pond (0301-0015)	Phosphorus
Monroe	Mill Creek and tribs (0302-0025)	Phosphorus 2
Monroe	Mill Creek/Blue Pond Outlet and tribs (0402-0049)	Phosphorus
Monroe	Minor Tribs to Irondequoit Bay (0302-0038)	Phosphorus
Monroe	Rochester Embayment - East (0302-0002) [9]	Phosphorus
Monroe	Rochester Embayment - West (0301-0068) 9	Phosphorus
Monroe	Shipbuilders Creek and tribs (0302-0026)	Phosphorus 2
Monroe	Thomas Creek/White Brook and tribs (0302-0023)	Phosphorus

Nassau	Bannister Creek/Bay (1701-0380)	Nitrogen
Nassau	Beaver Lake (1702-0152)	Phosphorus
Nassau	Browswere Bay (1701-0383)	Nitrogen
Nassau	Camaans Pond (1701-0052)	Phosphorus
Nassau	East Meadow Brook, Upper, and tribs (1701-0211)	Silt/Sediment
Nassau	East Rockaway Channel (1701-0381)	Nitrogen
Nassau	Glen Cove Creek, Lower, and tribs (1702-0146)	Silt/Sediment
Nassau	Grant Park Pond (1701-0054)	Phosphorus
Nassau	Hempstead Bay, Broad Channel (1701-0032)	Nitrogen
Nassau	Hempstead Lake (1701-0015)	Phosphorus
Nassau	Hewlett Bay (1701-0382)	Nitrogen
Nassau	Hog Island Channel (1701-0220)	Nitrogen
Nassau	Massapequa Creek, Upper, and tribs (1701-0174)	Phosphorus
Nassau	Milburn/Parsonage Creeks, Upp, and tribs (1701-0212)	Phosphorus
Nassau	Reynolds Channel, East (1701-0215) [12]	Nitrogen
Nassau	Reynolds Channel, West (1701-0216) 12	Nitrogen
Nassau	Tidal Tribs to Hempstead Bay (1701-0218)	Nitrogen
Nassau	Tribs (fresh) to East Bay (1701-0204)	Silt/Sediment
Nassau	Tribs (fresh) to East Bay (1701-0204)	Phosphorus
Nassau	Tribs to Smith Pond/Halls Pond (1701-0221)	Phosphorus
Nassau	Woodmere Channel (1701-0219)	Nitrogen
New York	Harlem Meer (1702-0103)	Phosphorus
New York	The Lake in Central Park (1702-0105)	Phosphorus
Niagara	Bergholtz Creek and tribs (0101-0004)	Phosphorus
Niagara	Hyde Park Lake (0101-0030)	Phosphorus
Niagara	Lake Ontario Shoreline, Western (0301-0053) 9	Phosphorus
Niagara	Lake Ontario Shoreline, Western (0301-0072) 9	Phosphorus
Oneida	Ballou, Nail Creeks (1201-0203)	Phosphorus
Onondaga	Ley Creek and tribs (0702-0001) 10	Nutrients (phosphorus)
Onondaga	Minor Tribs to Onondaga Lake (0702-0022) 10	Nutrients (phosphorus)
Onondaga	Minor Tribs to Onondaga Lake (0702-0022) 10	Nitrogen (NH3, NO2)
Onondaga	Onondaga Creek, Lower (0702-0023) 10	Nutrients (phosphorus)
Onondaga	Onondaga Creek, Lower, and tribs (0702-0023)	Turbidity
Onondaga	Onondaga Creek, Middle, and tribs (0702-0004)	Turbidity
Onondaga	Onondaga Creek, Upper, and tribs (0702-0024)	Turbidity
Ontario	Great Brook and minor tribs (0704-0034)	Phosphorus 2
Ontario	Great Brook and minor tribs (0704-0034)	Silt/Sediment

Ontario	Hemlock Lake Outlet and minor tribs (0402-0013)	Phosphorus
Ontario	Honeoye Lake (0402-0032)	Phosphorus
Orange	Brown Pond Reservoir (1303-0013)	Phosphorus
Orange	Lake Washington (1303-0012)	Phosphorus
Orange	Minor Tribs to Middle Wallkill (1306-0061)	Phosphorus
Orange	Monhagen Brook and tribs (1306-0074)	Phosphorus
Orange	Orange Lake (1301-0008) [16]	Phosphorus
Orange	Quaker Creek and tribs (1306-0025)	Phosphorus
Orange	Wallkill River, Middle, Main Stem (1306-0038)	Phosphorus
Orange	Wallkill River, Upper, and Minor tribs (1306-0017)	Phosphorus
Orleans	Glenvwood Lake (0301-0041)	Phosphorus
Orleans	Lake Ontario Shoreline, Western (0301-0070) 9	Phosphorus
Orleans	Lake Ontario Shoreline, Western (0301-0071) 9	Phosphorus
Oswego	Lake Neatahwanta (0701-0018)	Nutrients (phosphorus)
Oswego	Pleasant Lake (0703-0047)	Phosphorus
Putnam	Lost Lake, Putnam Lake (1302-0053)	Phosphorus
Putnam	Minor Tribs to Croton Falls Reservoir (1302-0001)	Phosphorus
Queens	Bergen Basin (1701-0009) 18	Nitrogen
Queens	Jamaica Bay, Eastern, and tribs, Queens (1701-0005) 18	Nitrogen
Queens	Kissena Lake (1702-0258)	Phosphorus
Queens	Meadow Lake (1702-0030)	Phosphorus
Queens	Shellbank Basin (1701-0001) 18	Nitrogen
Queens	Willow Lake (1702-0031)	Phosphorus
Rensselaer	Nassau Lake (1310-0001)	Phosphorus
Rensselaer	Snyders Lake (1301-0043)	Phosphorus
Richmond	Grassmere Lake/Bradys Pond (1701-0357)	Phosphorus
Rockland	Congers Lake, Swartout Lake (1501-0019)	Phosphorus
Rockland	Rockland Lake (1501-0021)	Phosphorus
Saratoga	Ballston Lake (1101-0036)	Phosphorus
Saratoga	Dwaas Kill and tribs (1101-0007)	Phosphorus
Saratoga	Dwaas Kill and tribs (1101-0007)	Silt/Sediment
Saratoga	Lake Lonely (1101-0034)	Phosphorus
Saratoga	Round Lake (1101-0060)	Phosphorus
Saratoga	Tribs to Lake Lonely (1101-0001)	Phosphorus
Schenectady	Collins Lake (1201-0077)	Phosphorus
Schenectady	Duane Lake (1311-0006)	Phosphorus
Schenectady Lake	Mariaville Lake (1201-0113)	Phosphorus
Schuyler	Cayuta Lake (0603-0005)	Phosphorus

Seneca	Reeder Creek and tribs (0705-0074)	Phosphorus
St.Lawrence	Black Lake Outlet, Black Lake (0906-0001)	Phosphorus
St.Lawrence	Fish Creek and minor tribs (0906-0026)	Phosphorus
Steuben	Smith Pond (0502-0012)	Phosphorus
Suffolk	Agawam Lake (1701-0117)	Phosphorus
Suffolk	Big/Little Fresh Ponds (1701-0125)	Phosphorus
Suffolk	Canaan Lake (1701-0018)	Phosphorus
Suffolk	Canaan Lake (1701-0018)	Silt/Sediment
Suffolk	Fresh Pond (1701-0241)	Phosphorus
Suffolk	Great South Bay, East (1701-0039)	Nitrogen
Suffolk	Great South Bay, Middle (1701-0040)	Nitrogen
Suffolk	Great South Bay, West (1701-0173)	Nitrogen
Suffolk	Lake Ronkonkoma (1701-0020)	Phosphorus
Suffolk	Mattituck/Marratooka Pond (1701-0129)	Phosphorus
Suffolk	Mill and Seven Ponds (1701-0113)	Phosphorus
Suffolk	Millers Pond (1702-0013)	Phosphorus
Suffolk	Moriches Bay, East (1701-0305)	Nitrogen
Suffolk	Moriches Bay, West (1701-0038)	Nitrogen
Suffolk	Quantuck Bay (1701-0042)	Nitrogen
Suffolk	Shinnecock Bay and Inlet (1701-0033)	Nitrogen
Suffolk	Tidal Tribs to West Moriches Bay (1701-0312)	Nitrogen
Sullivan	Bodine, Mongomery Lakes (1401-0091)	Phosphorus
Sullivan	Davies Lake (1402-0047)	Phosphorus
Sullivan	Evens Lake (1402-0004)	Phosphorus
Sullivan	Pleasure Lake (1402-0055)	Phosphorus
Sullivan	Swan Lake (1401-0063)	Phosphorus
Tompkins	Cayuga Lake, Southern End (0705-0040)	Phosphorus
Tompkins	Cayuga Lake, Southern End (0705-0040)	Silt/Sediment
Ulster	Ashokan Reservoir (1307-0004)	Silt/Sediment
Ulster	Esopus Creek, Lower, Main Stem (1307-0010) [17]	Turbidity
Ulster	Esopus Creek, Middle, Main Stem (1307-0003) 17	Turbidity
Ulster	Esopus Creek, Upper, and minor tribs (1307-0007)[3]	Silt/Sediment
Ulster	Wallkill River, Lower, Main Stem (1306-0027)	Phosphorus
Warren	Hague Brook and tribs (1006-0006)	Silt/Sediment
Warren	Huddle/Finkle Brooks and tribs (1006-0003)	Silt/Sediment
Warren	Indian Brook and tribs (1006-0002)	Silt/Sediment
Warren	Lake George (1006-0016) and tribs	Silt/Sediment
Warren	Tribs to Lake George, East Shore (1006-0020)	Silt/Sediment
Warren	Tribs to Lake George, Lk.George Village (1006-0008)	Silt/Sediment

Washington	Wood Cr/Champlain Canal and tribs (1005-0036)	Phosphorus
Westchester	Lake Katonah (1302-0136)	Phosphorus
Westchester	Lake Lincolndale (1302-0089)	Phosphorus
Westchester	Lake Meahagh (1301-0053)	Phosphorus
Westchester	Lake Mohegan (1301-0149)	Phosphorus
Westchester	Lake Shenorock (1302-0083)	Phosphorus
Westchester	Mamaroneck River, Lower (1702-0071)	Silt/Sediment
Westchester	Mamaroneck River, Upp, & minor tribs (1702-0123)	Silt/Sediment
Westchester	Saw Mill River (1301-0007)	Phosphorus
Westchester	Saw Mill River, Middle, and tribs (1301-0100)	Phosphorus
Westchester	Sheldrake River (1702-0069)	Phosphorus
Westchester	Sheldrake River (1702-0069)	Silt/Sedimnt
Westchester	Silver Lake (1702-0040)	Phosphorus
Westchester	Teatown Lake (1302-0150)	Phosphorus
Westchester	Truesdale Lake (1302-0054)	Phosphorus
Westchester	Wallace Pond (1301-0140)	Phosphorus

APPENDIX E – List of NYSDEC Regional Offices

Region	Covering the following counties:	DIVISION OF ENVIRONMENTAL PERMITS (DEP) Permit Administrators	DIVISION OF WATER (DOW) Water (SPDES) Program
1	Nassau and Suffolk	50 Circle Road Stony Brook, NY 11790 Tel. (631) 444-0365	50 Circle Road Stony Brook, NY 11790-3409 Tel. (631) 444-0405
2	Bronx, Kings, New York, Queens and Richmond	1 Hunters Point Plaza, 47-40 21st St. Long Island City, NY 11101-5407 Tel. (718) 482-4997	1 Hunters Point Plaza, 47-40 21st St. Long Island City, NY 11101-5407 Tel. (718) 482-4933
3	Dutchess, Orange, Putnam, Rockland, Sullivan, Ulster and Westchester	21 South Putt Corners Road New Paltz, NY 12561-1696 Tel. (845) 256-3059	220 White Plains Road, Suite 110 Tel. (914) 428 - 2505
4	Albany, Columbia, Delaware, Greene, Montgomery, Otsego, Rensselaer, Schenectady and Schoharie	1130 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	5786 WIDEWATERS PARKWAY SYRACUSE, NY 13214-1867 TEL. (315) 426-7438	5786 WIDEWATERS PARKWAY SYRACUSE, NY 13214-1867 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	700 DELAWARE AVENUE BUFFALO, NY 14209-2999 TEL. (716) 851-7165	700 DELAWARE AVENUE BUFFALO, NY 14209-2999 TEL. (716) 851-7070

APPENDIX F – SWPPP Preparer Certification Form

The SWPPP Preparer Certification Form required by this permit begins on the following page.

SWPPP Preparer Certification Form

SPDES General Permit for Stormwater Discharges from Construction Activity, GP-0-25-001 (CGP)

(In accordance with CGP Part I.D.2.b., the completed form must be attached to the eNOI and submitted to NYSDEC electronically.)

Project/Site Name:

eNOI Submission ID:

Owner/Operator Name:

Certification Statement – SWPPP Preparer

I hereby certify that the Stormwater Pollution Prevention Plan (SWPPP) has been prepared in accordance with the requirements of GP-0-25-001. I certify under penalty of law that the SWPPP and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

SWPPP Preparer First Name | MI | SWPPP Preparer Last Name

Signature | Date

Revised: January 2025

APPENDIX G – MS4 SWPPP Acceptance Form

The MS4 SWPPP Acceptance Form required by this permit begins on the following page.

MS4 SWPPP Acceptance Form

for construction activities seeking authorization under the

SPDES General Permit for Stormwater Discharges from Construction Activity, GP-0-25-001 (CGP)

(In accordance with CGP Part I.D.2.b., the completed form must be attached to the eNOI and submitted to NYSDEC electronically.)

I. Project Owner/Operator Information
1. Owner/Operator Name:
2. Contact Person:
3. Street Address:
4. City/State/Zip:
II. Project Site Information
5. Project/Site Name:
6. Street Address:
7. City/State/Zip:
III. Stormwater Pollution Prevention Plan (SWPPP) Review and Acceptance Information
8. SWPPP Reviewed by:
9. Title/Position:
10. Date Final SWPPP Reviewed and Accepted:
IV. Regulated MS4 Information
11. Name of MS4 Operator:
12. MS4 SPDES Permit Identification Number: NYR20A
13. Street Address:
14. City/State/Zip:
15. Telephone Number:

MS4 SWPPP Acceptance Form - continued

V. Certification Statement - MS4 Official (principal executive officer or ranking elected official) or Duly Authorized Representative

I hereby certify that the final Stormwater Pollution Prevention Plan (SWPPP) for the construction project identified in section II. of this form has been reviewed and meets the substantive requirements in the SPDES General Permit for Stormwater Discharges from Construction Activity, GP-0-25-001 (CGP). Note: The MS4 Operator, through the acceptance of the SWPPP, assumes no responsibility for the accuracy and adequacy of the design included in the SWPPP. In addition, review and acceptance of the SWPPP by the MS4 Operator does not relieve the owner/operator or their SWPPP preparer of responsibility or liability for errors or omissions in the plan.

Printed Name[1]:

Title/Position:

Signature:

Date:

VI. Additional Information

[1] Printed name of the principal executive officer or ranking elected official for the MS4 Operator or their duly authorized representative in accordance with CGP Part VII.J.2.

APPENDIX H – NYCDEP SWPPP Acceptance/Approval Form

The City of New York Department of Environmental Protection (NYCDEP) SWPPP Acceptance/Approval form required by this permit begins on the following page.

THE CITY OF NEW YORK
DEPARTMENT OF ENVIRONMENTAL PROTECTION
Bureau of Environmental Planning and Analysis
59-17 Junction Blvd., 9th Floor; Flushing, NY 11373

SWPPP Acceptance/Approval

Application Number:

I. Project Owner/Operator Information

1. Owner/Operator Name:
2. Contact Person:
3. Street Address:
4. City/State/Zip:

II. Project Site Information

5. Project/Site Name:
6. Street Address:
7. City/State/Zip:

III. Stormwater Pollution Prevention Plan (SWPPP) Review and Acceptance/Approval

8. SWPPP Reviewed by:
9. Title/Position: /
10. Date Final SWPPP Reviewed and Accepted:
11. Acceptance/Approval Expiration Date:

IV. Regulated MS4 Information for projects that require coverage under the NY State Pollution Discharge Elimination System General Permit for Stormwater Discharges from Construction Activity

12. Name of MS4: *CITY OF NEW YORK*
13. MS4 SPDES Permit Identification Number: *NY-0287890*
14. Contact Person:
15. Street Address: *59-17 Junction Blvd. 9th Floor*
16. City/State/Zip: *Flushing, NY 11373*
17. Telephone Number:

Projects in the MS4 area must submit a copy of this SWPPP Acceptance with a Notice of Intent for coverage under the NY SPDES General Permit for Stormwater Discharges from Construction Activity to: NYS Department of Environmental Conservation, Division of Water; 625 Broadway, 4th Floor; Albany, New York 12233-3505.

V. Certification Statement - MS4 Official (principal executive officer or ranking elected official) or Duly Authorized Representative

I hereby certify that the final Stormwater Pollution Prevention Plan (SWPPP) for the construction project identified in question 5 has been reviewed and meets the substantive requirements in the SPDES General Permit For Stormwater Discharges from Municipal Separate Storm Sewer Systems (MS4s).

Note: The MS4, through the acceptance of the SWPPP, assumes no responsibility for the accuracy and adequacy of the design included in the SWPPP. In addition, review and acceptance of the SWPPP by the MS4 does not relieve the owner/operator or their SWPPP preparer of responsibility or liability for errors or omissions in the plan.

Printed Name:

Title/Position:

Signature:

Date:

VI. Conditions of Acceptance/Approval and Additional Information

Projects in the MS4 area must submit a copy of this SWPPP Acceptance with a Notice of Intent for coverage under the NY SPDES General Permit for Stormwater Discharges from Construction Activity to: NYS Department of Environmental Conservation, Division of Water; 625 Broadway, 4th Floor; Albany, New York 12233-3505.

APPENDIX I – MS4 No Jurisdiction Form

The MS4 No Jurisdiction Form required by this permit begins on the following page.

MS4 No Jurisdiction Form

for construction activities seeking authorization under the

SPDES General Permit for Stormwater Discharges from Construction Activity, GP-0-25-001 (CGP)

(In accordance with CGP Part I.D.2.b., the completed form must be attached to the eNOI and submitted to NYSDEC electronically.)

I. Project Owner/Operator Information

a. Owner/Operator Name:

b. Contact Person:

c. Street Address:

d. City/State/Zip:

II. Project Site Information

a. Project/Site Name:

b. Street Address:

c. City/State/Zip:

d. eNOI Submission ID:

III. Traditional Land Use Control MS4 Operator Information

a. Name of MS4 Operator:

b. MS4 SPDES Permit ID Number: NYR20A

c. Street Address:

d. City/State/Zip:

e. Telephone Number:

IV. Certification Statement

In accordance with CGP Part I.D.2.b.ii.3., I hereby certify that the Traditional Land Use Control MS4 Operator identified in section III. of this form does not have review authority over the construction project identified in section II. of this form, which is owned/operated by the entity identified in section I. of this form. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

a. Printed name of the principal executive officer or ranking elected official for the MS4 Operator or their duly authorized representative in accordance with CGP Part VII.J.2.:

b. Title/Position:

c. Signature:

d. Date:

APPENDIX J – Owner/Operator Certification Form

The Owner/Operator Certification Form required by this permit begins on the following page.

Owner/Operator Certification Form

SPDES General Permit for Stormwater Discharges from Construction Activity, GP-0-25-001 (CGP)

(In accordance with CGP Part I.D.2.b. or Part I.F.2. and 3., the completed form must be attached to the eNOI or the Request to Continue Coverage, and submitted to NYSDEC electronically.

Project/Site Name: _____

eNOI Submission ID: _____

eNOI Submitted by: ☐ **Owner/Operator** ☐ **SWPPP Preparer** ☐ **Other**

Certification Statement - Owner/Operator

I hereby certify that I read, and will comply with, the GP-0-25-001 permit requirements. I understand that authorization to discharge under the permit for the project/site named above is dependent on receipt of a Letter of Authorization (LOA) or a Letter of Continued Coverage (LOCC) from the New York State Department of Environmental Conservation (NYSDEC) in accordance with CGP Part I.D.3.b. or Part I.F.4. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Owner/Operator First Name MI Owner/Operator Last Name

_____

Signature

_____

Date

Revised: January 2025

Attachment A
Construction SMP Inspection Checklist

APPENDIX F
CONSTRUCTION SITE INSPECTION AND MAINTENANCE LOG BOOK

STATE POLLUTANT DISCHARGE ELIMINATION SYSTEM FOR CONSTRUCTION ACTIVITIES

SAMPLE CONSTRUCTION SITE LOG BOOK

Table of Contents

I. Pre-Construction Meeting Documents
   a. Preamble to Site Assessment and Inspections
   b. Pre-Construction Site Assessment Checklist

II. Construction Duration Inspections
   a. Directions
   b. Modification to the SWPPP

I. **PRE-CONSTRUCTION MEETING DOCUMENTS**

Project Name _____

Permit No. _____ **Date of Authorization** _____

Name of Operator _____

Prime Contractor _____

a. **Preamble to Site Assessment and Inspections**

The Following Information To Be Read By All Person's Involved in The Construction of Stormwater Related Activities:

The Operator agrees to have a qualified inspector[1] conduct an assessment of the site prior to the commencement of construction[2] and certify in this inspection report that the appropriate erosion and sediment controls described in the SWPPP have been adequately installed or implemented to ensure overall preparedness of the site for the commencement of construction.

Prior to the commencement of construction, the Operator shall certify in this site logbook that the SWPPP has been prepared in accordance with the State's standards and meets all Federal, State and local erosion and sediment control requirements. A preconstruction meeting should be held to review all of the SWPPP requirements with construction personnel.

When construction starts, site inspections shall be conducted by the qualified inspector at least every 7 calendar days. The Operator shall maintain a record of all inspection reports in this site logbook. The site logbook shall be maintained on site and be made available to the permitting authorities upon request.

Prior to filing the Notice of Termination or the end of permit term, the Operator shall have a qualified inspector perform a final site inspection. The qualified inspector shall certify that the site has undergone final stabilization[3] using either vegetative or structural stabilization methods and that all temporary erosion and sediment controls (such as silt fencing) not needed for long-term erosion control have been removed. In addition, the Operator must identify and certify that all permanent structures described in the SWPPP have been constructed and provide the owner(s) with an operation and maintenance plan that ensures the structure(s) continuously functions as designed.

1 Refer to "Qualified Inspector" inspection requirements in the current SPDES General Permit for Stormwater Discharges from Construction Activity for complete list of inspection requirements.
2 "Commencement of construction" means the initial removal of vegetation and disturbance of soils associated with clearing, grading or excavating activities or other construction activities.
3 "Final stabilization" means that all soil-disturbing activities at the site have been completed and a uniform, perennial vegetative cover with a density of eighty (80) percent has been established or equivalent stabilization measures (such as the use of mulches or geotextiles) have been employed on all unpaved areas and areas not covered by permanent structures.

b. Pre-construction Site Assessment Checklist
(NOTE: Provide comments below as necessary)

1. Notice of Intent, SWPPP, and Contractors Certification:

Yes No NA

[ ] [ ] [ ] Has a Notice of Intent been filed with the NYS Department of Conservation?
[ ] [ ] [ ] Is the SWPPP on-site? Where?_____
[ ] [ ] [ ] Is the Plan current? What is the latest revision date?_____
[ ] [ ] [ ] Is a copy of the NOI (with brief description) onsite? Where?_____
[ ] [ ] [ ] Have all contractors involved with stormwater related activities signed a contractor's certification?

2. Resource Protection

Yes No NA

[ ] [ ] [ ] Are construction limits clearly flagged or fenced?
[ ] [ ] [ ] Important trees and associated rooting zones, on-site septic system absorption fields, existing vegetated areas suitable for filter strips, especially in perimeter areas, have been flagged for protection.
[ ] [ ] [ ] Creek crossings installed prior to land-disturbing activity, including clearing and blasting.

3. Surface Water Protection

Yes No NA

[ ] [ ] [ ] Clean stormwater runoff has been diverted from areas to be disturbed.
[ ] [ ] [ ] Bodies of water located either on site or in the vicinity of the site have been identified and protected.
[ ] [ ] [ ] Appropriate practices to protect on-site or downstream surface water are installed.
[ ] [ ] [ ] Are clearing and grading operations divided into areas <5 acres?

4. Stabilized Construction Access

Yes No NA

[ ] [ ] [ ] A temporary construction entrance to capture mud and debris from construction vehicles before they enter the public highway has been installed.
[ ] [ ] [ ] Other access areas (entrances, construction routes, equipment parking areas) are stabilized immediately as work takes place with gravel or other cover.
[ ] [ ] [ ] Sediment tracked onto public streets is removed or cleaned on a regular basis.

5. Sediment Controls

Yes No NA

[ ] [ ] [ ] Silt fence material and installation comply with the standard drawing and specifications.
[ ] [ ] [ ] Silt fences are installed at appropriate spacing intervals
[ ] [ ] [ ] Sediment/detention basin was installed as first land disturbing activity.
[ ] [ ] [ ] Sediment traps and barriers are installed.

6. Pollution Prevention for Waste and Hazardous Materials

Yes No NA

[ ] [ ] [ ] The Operator or designated representative has been assigned to implement the spill prevention avoidance and response plan.
[ ] [ ] [ ] The plan is contained in the SWPPP on page _____
[ ] [ ] [ ] Appropriate materials to control spills are onsite. Where? _____

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;

4) 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

Inspector (print name)	**Date of Inspection**
Qualified Inspector (print name)	**Qualified Inspector Signature**

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

Maintaining Water Quality

Yes No NA
[ ] [ ] [ ] Is there an increase in turbidity causing a substantial visible contrast to natural conditions at the outfalls?
[ ] [ ] [ ] Is there residue from oil and floating substances, visible oil film, or globules or grease at the outfalls?
[ ] [ ] [ ] 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, debris and spoils 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.

3. Stabilized Construction Access

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?

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.

Runoff Control Practices (continued)

2. Flow 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 Practices

1. Silt Fence and Linear Barriers

Yes No NA

[ ] [ ] [ ] Installed on Contour, 10 feet from toe of slope (not across conveyance channels).
[ ] [ ] [ ] Joints constructed by wrapping the two ends together for continuous support.
[ ] [ ] [ ] Fabric buried 6 inches minimum.
[ ] [ ] [ ] Posts are stable, fabric is tight and without rips or frayed areas.
Sediment accumulation is ___% of design capacity.

Sediment Control Practices (continued)

2. Storm Drain Inlet Protection (Use for Stone & Block; Filter Fabric; Curb; or, Excavated; Filter Sock or Manufactured 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.
[ ] [ ] [ ] Manufactured insert fabric is free of tears and punctures.
[ ] [ ] [ ] Filter Sock is not torn or flattened and fill material is contained within the mesh sock.

Sediment accumulation ___% of design capacity.

3. 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 trap slopes and disturbed areas are stabilized.

Sediment accumulation is ___% of design capacity.

4. 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 basin dewatering pool is dewatering at appropriate rate.

Sediment accumulation is ___% of design capacity.

Note: Not all erosion and sediment control practices are included in this listing. Add additional pages to this list as required by site specific design. All practices shall be maintained in accordance with their respective standards.

Construction inspection checklists for post-development stormwater management practices can be found in Appendix F of the New York Stormwater Management Design Manual.

CONSTRUCTION DURATION INSPECTIONS

b. Modifications to the SWPPP (To be completed as described below)

The Operator shall amend the SWPPP whenever:

1. There is a significant change in design, construction, operation, or maintenance which may have a significant effect on the potential for the discharge of pollutants to the waters of the United States and which has not otherwise been addressed in the SWPPP; or
2. The SWPPP proves to be ineffective in:
   a. Eliminating or significantly minimizing pollutants from sources identified in the SWPPP and as required by this permit; or
   b. Achieving the general objectives of controlling pollutants in stormwater discharges from permitted construction activity; and
3. Additionally, the SWPPP shall be amended to identify any new contractor or subcontractor that will implement any measure of the SWPPP.

Modification & Reason:

Attachment B
Site Plan Approval

RECEIVED
MAR 24 2022
Amenia Town Clerk

TOWN OF AMENIA

4988 Route 22, AMENIA, NY 12501
TEL: 845-373-8860, x118 FAX: 845-373-9147

TOWN OF AMENIA PLANNING BOARD

Resolution #4 for 2022

RESOLUTION GRANTING SPECIAL PERMIT AND SITE PLAN APPROVAL FOR SILAND RECREATION FACILITY

March 23, 2022

WHEREAS, the Town of Amenia Planning Board ("Planning Board") has received an application from Siland Commercial Property LLC ("Applicant") for Special Permit and Site Plan Review approval of a recreation business which includes, among other things, a field and pool house, ice-house, warming hut, and tennis, pickle ball, and paddle tennis courts, sledding area, ballfield, playground and multi-purpose fields, supported by associated parking and utilities. (the "Project"). The Project also includes a proposed 8' tall fence on an adjoining property along the Project's northern property boundary; and

WHEREAS, the Project will be constructed on a 53± acre parcel owned by the Applicant consisting of Parcel # 32000-7066-00-910219 situated at 4391 NYS Route 22 in the Town of Amenia, Dutchess County, New York (the "Site"); and

WHEREAS, the Site is located in the Office/Commercial/Industry and Rural Agricultural zoning districts under the Town of Amenia's Zoning Law (the "Zoning Law"), where the Project is a permissible use on the Site subject to the issuance of a Special Permit and Site Plan approval by the Planning Board pursuant to Article IX of the Zoning Law; and

WHEREAS, the Applicant has submitted information to the Planning Board in support of the proposed Project including, among other things: (1) a land use application; (2) site development and construction plans; (3) a stormwater pollution prevention plan; (4) a SEQRA Full Environmental Assessment Form ("FEAF"), Part 1; (5) an Operation Plan; and (6) related documents (collectively, the "Application"); and

WHEREAS, in November 2021, the Planning Board referred the Application to the Dutchess County Planning Department ("DCPD") for a recommendation as required by NYS General Municipal Law § 239-m and the DCPD has responded that the Project is a matter of local concern and provided comments which the Planning Board has considered; and

WHEREAS, in January 2022, the Planning Board referred the Application to the Town of Amenia Zoning Board of Appeals ("ZBA") pursuant to Zoning Law § 121-62(E)(4) for comments which the ZBA has provided and the Planning Board has considered; and

WHEREAS, the Project's road will run between NYS Route 22 and roads in the Silo Ridge resort project. The road has been designed to be consistent with the rural land standards applied by the Planning Board to the roads in Silo Ridge resort subdivision pursuant to the Town's subdivision regulations in Chapter 105 of the Town of Amenia Code; and

WHEREAS, easements for certain elements of the Project will be required for various purposes from Harlem Valley Landfill Corp (Parcel #7066-00-870350), as well as an access agreement with Whalen Leasing Co. (Parcel #7066-00-969308) and several third-party agreements; and

WHEREAS, Silo Ridge Homeowners Association, Inc. (as successor in interest to Silo Ridge Ventures Property A LLC) and Harlem Valley, LLC (as successor in interest to Harlem Valley Landfill Corp) have agreed to grant the Applicant use of such existing rights and easements for the benefit of the Project as the Planning Board reasonably requires as a condition of its approvals of the Project; and

WHEREAS, the Applicant proposes to install ten spruce trees on the Site and a fence on the adjoining property owned by Whalen Leasing Co. (Parcel #7066-00-969308) (the "Whalen's Land") to provide screening and buffering between the Project and Whalen's existing commercial and residential uses. On behalf of Whalen, the Applicant will apply to the ZBA for an 8' fence, which requires a setback variance based on the Zoning Law. In the event the requested variance is not granted by the ZBA, the Applicant will construct a fence on Whalen's Land that is as tall as possible within the requirements of the Zoning Law and plant twenty spruce trees on the Site to screen/buffer the Project from Whalen's Land; and

WHEREAS, the Project will not be open to the general public but the Applicant has proposed, on a limited basis, to make the uses of some Project amenities available to civic groups based on the Operations Plan developed for the Project; and

WHEREAS, the Planning Board has reviewed and considered all of the information in the Application submitted in support of the Project; and

WHEREAS, the State Environmental Quality Review Act and its implementing regulations in 6 NYCRR Part 617 (collectively, "SEQRA") require the Planning Board to evaluate the potential environmental impacts of the Project prior to taking any action on the Application; and

WHEREAS, the Planning Board determined that the Project is a Type 1 action pursuant to SEQRA and stated its intention to serve as the lead agency for purposes of conducting and coordinating the environmental review of the Project on behalf of all involved agencies; and

WHEREAS, on November 2, 2021, as required by 6 NYCRR § 617.6 of the SEQRA regulations, the Planning Board conducted a coordinated review by distributing the following documents to all potentially involved and interested agencies: (1) Notice to Designate the Planning Board as the SEQRA Lead Agency for the Project; (2) Lead Agency Consent Form; (3) Application documentation; (4) SEQRA Full Environmental Assessment Form ("FEAF"), Part 1; and (5) Site Plans; and

WHEREAS, no involved or interested agencies objected to the Planning Board serving as the SEQRA lead agency for the Project; and

WHEREAS, the Planning Board established itself as the lead agency for conducting and coordinating the environmental review of the Project under SEQRA; and

WHEREAS, on March 23, 2022, the Planning Board completed a comprehensive, coordinated review of the Project's potential environmental impacts under SEQRA and adopted a Negative Declaration concluding that the Project will not have any significant adverse impacts on the environment; and

WHEREAS, the Planning Board held a public hearing on the Application as required by the Zoning Law and the NYS Town Law. The Planning Board considered all public comments at the hearing and closed the public hearing; and

WHEREAS, pursuant to the Zoning Law, the Planning Board has reviewed the Project for compliance with the standards for Special Permit and Site Plan Review provided by Zoning Law §§ 120-63 and 120-65(D) and makes and adopts the specific findings for special permits set forth in the attached "Special Permit Findings," concluding that the Project complies with those standards.

NOW, THEREFORE, BE IT RESOLVED, that based on the Application made pursuant to Article IX of the Zoning Law and NYS Town Law §§ 274-a and 274-b, the Planning Board hereby grants Special Permit and Site Plan approval for the Project and approves the following site plans/reports/documents for the Project (the "Approved Site Plans"):

1. Proposed Recreation Facility-Siland Commercial Property LLC prepared by VHB Engineering, surveying, Landscape Architecture & Geology, P. C. dated October 2021; and
2. Cover Sheet-Site Plans-Siland Recreation Facility-prepared by VHB Engineering, Surveying, Landscape Architecture and Geology, PC, dated October 14, 2021; and
3. Cover Sheet-Site Plans-Siland Recreation Facility-prepared by VHB Engineering, Surveying, Landscape Architecture and Geology, PC, dated October 14, 2021; and
4. Drawing Sheet C1.00-Overall Site Plan-Siland Recreation Facility-prepared by VHB Engineering, Surveying, Landscape Architecture and Geology, PC, dated October 14, 2021, last revised January 5, 2022; and
5. Drawing Sheet C1.01-Legend & General Notes-Siland Recreation Facility-prepared by VHB Engineering, Surveying, Landscape Architecture and Geology, PC, dated October 14, 2021; and
6. Drawing Sheet C2.00-Overall Existing Conditions Plan-Siland Recreation Facility-prepared by VHB Engineering, Surveying, Landscape Architecture and Geology, PC, dated October 14, 2021; and

7. Drawing Sheet C2.01-Existing Conditions Plan-Siland Recreation Facility-prepared by VHB Engineering, Surveying, Landscape Architecture and Geology, PC, dated October 14, 2021; and
8. Drawing Sheet C2.02-Siland Recreation Facility-prepared by VHB Engineering, Surveying, Landscape Architecture and Geology, PC, dated October 14, 2021; and
9. Drawing Sheet C2.03-Siland Recreation Facility-prepared by VHB Engineering, Surveying, Landscape Architecture and Geology, PC, dated October 14, 2021; and
10. Drawing Sheet C2.04-Siland Recreation Facility-prepared by VHB Engineering, Surveying, Landscape Architecture and Geology, PC, dated October 14, 2021; and
11. Drawing Sheet C3.00-Overall Layout & Materials Plan-Siland Recreation Facility-prepared by VHB Engineering, Surveying, Landscape Architecture and Geology, PC, dated October 14, 2021; and
12. Drawing Sheet C3.01-Layout & Materials Plan-Siland Recreation Facility-prepared by VHB Engineering, Surveying, Landscape Architecture and Geology, PC, dated October 14, 2021; and
13. Drawing Sheet C3.02-Layout & Materials Plan-Siland Recreation Facility-prepared by VHB Engineering, Surveying, Landscape Architecture and Geology, PC, dated October 14, 2021; and
14. Drawing Sheet C3.03-Layout & Materials Plan-Siland Recreation Facility-prepared by VHB Engineering, Surveying, Landscape Architecture and Geology, PC, dated October 14, 2021; and
15. Drawing Sheet C3.04-Layout & Materials Plan-Siland Recreation Facility-prepared by VHB Engineering, Surveying, Landscape Architecture and Geology, PC, dated October 14, 2021; and
16. Drawing Sheet C4.00-Overall Grading & Drainage Plan-Siland Recreation Facility-prepared by VHB Engineering, Surveying, Landscape Architecture and Geology, PC, dated October 14, 2021; and
17. Drawing Sheet C4.01-Grading & Drainage Plan-Siland Recreation Facility-prepared by VHB Engineering, Surveying, Landscape Architecture and Geology, PC, dated October 14, 2021; and
18. Drawing Sheet C4.02-Grading & Drainage Plan-Siland Recreation Facility-prepared by VHB Engineering, Surveying, Landscape Architecture and Geology, PC, dated October 14, 2021; and
19. Drawing Sheet C4.03-Grading & Drainage Plan-Siland Recreation Facility-prepared by VHB Engineering, Surveying, Landscape Architecture and Geology, PC, dated October 14, 2021; and
20. Drawing Sheet C4.04-Grading & Drainage Plan-Siland Recreation Facility-prepared by VHB Engineering, Surveying, Landscape Architecture and Geology, PC, dated October 14, 2021; and
21. Drawing Sheet C5.00-Overall Utility Plan-Siland Recreation Facility-prepared by VHB Engineering, Surveying, Landscape Architecture and Geology, PC, dated October 14, 2021; and

22. Drawing Sheet C5.01-Utility Plan-Siland Recreation Facility-prepared by VHB Engineering Surveying, Landscape Architecture and Geology, PC, dated October 14, 2021; and
23. Drawing Sheet C5.02-Utility Plan-Siland Recreation Facility-prepared by VHB Engineering, Surveying, Landscape Architecture and Geology, PC, dated October 14, 2021; and
24. Drawing Sheet C5.03-Utility Plan-Siland Recreation Facility-prepared by VHB Engineering, Surveying, Landscape Architecture and Geology, PC, dated October 14, 2021; and
25. Drawing Sheet C6.00-Overall Erosion Control Plan-Siland Recreation Facility-prepared by VHB Engineering, Surveying, Landscape Architecture and Geology, PC, dated October 14, 2021; and.
26. Drawing Sheet C6.01-Erosion Control Plan-Siland Recreation Facility-prepared by VHB Engineering, Surveying, Landscape Architecture and Geology, PC, dated October 14, 2021; and
27. Drawing Sheet C6.02-Erosion Control Plan-Siland Recreation Facility-prepared by VHB Engineering, Surveying, Landscape Architecture and Geology, PC, dated October 14, 2021; and
28. Drawing Sheet C6.03-Erosion Control Plan-Siland Recreation Facility-prepared by VHB Engineering, Surveying, Landscape Architecture and Geology, PC, dated October 14, 2021; and
29. Drawing Sheet C6.04-Erosion Control Plan-Siland Recreation Facility-prepared by VHB Engineering, Surveying, Landscape Architecture and Geology, PC, dated October 14, 2021; and
30. Drawing Sheet C7.01-Road Profile-Siland Recreation Facility-prepared by VHB Engineering, Surveying, Landscape Architecture and Geology, PC, dated October 14, 2021.
31. Drawing Sheet C7.02-Road Profile-Siland Recreation Facility-prepared by VHB Engineering, Surveying, Landscape Architecture and Geology, PC, dated October 14, 2021; and
32. Drawing Sheet C7.03-Road Profile-Siland Recreation Facility-prepared by VHB Engineering, Surveying, Landscape Architecture and Geology, PC, dated October 14, 2021; and
33. Drawing Sheet C7.04-Road Profile-Siland Recreation Facility-prepared by VHB Engineering, Surveying, Landscape Architecture and Geology, PC, dated October 14, 2021; and
34. Drawing Sheet C08.01-Site Details 1-Siland Recreation Facility-prepared by VHB Engineering, Surveying, Landscape Architecture and Geology, PC, dated October 14, 2021; and
35. Drawing Sheet C08.02- Site Details 2-Siland Recreation Facility-prepared by VECB Engineering, Surveying, Landscape Architecture and Geology, PC, dated October 14, 2021; and
36. Drawing Sheet C08.03-Site Details 3-Siland Recreation Facility-prepared by VHB Engineering, Surveying, Landscape Architecture and Geology, PC, dated October 14, 2021; and

37. Drawing Sheet C9.01-Photometric Plan-Siland Recreation Facility-prepared by VHB Engineering, Surveying, Landscape Architecture and Geology, PC, dated March 8, 2022; and
38. Drawing Sheet LI.01-Planting Plan-Siland Recreation Facility-prepared by VHB Engineering, Surveying, Landscape Architecture and Geology, PC, dated October 14, 2021; and
39. Drawing Sheet LI.02-Planting Plan-Siland Recreation Facility-prepared by VHB Engineering, Surveying, Landscape Architecture and Geology, PC, dated March 8, 2022; and
40. Drawing Sheet L2.00-Planting Notes and Details-Siland Recreation Facility-prepared by VHB Engineering, Surveying, Landscape Architecture and Geology, PC, dated October 14, 2021; and
41. Drawing Sheet AC501-Ice Pavilion Elevations-Silo Ridge-prepared by LE Architecture, dated June 4, 2021, scale 3/32" =1'0"; and
42. Drawing Sheet AC502-Ice Pavilion Elevations-Silo Ridge-prepared by LE Architecture, dated June 4, 2021, scale 3/32" =1'0"; and
43. Drawing Sheet AF501-Field House Elevations-Silo Ridge-prepared by LE Architecture, dated June 4, 2021, scale 3/32" =1 '0"; and
44. Drawing Sheet AF502-Field House Elevations-Silo Ridge-prepared by LE Architecture, dated June 4, 2021, scale 3/32" =1 '0"; and
45. Drawing Sheet AH501-Warming Hut Elevations-Silo Ridge-prepared by LE Architecture, dated June 4, 2021, scale 1/4" =1'0"; and
46. Drawing Sheet Ea-1.0-Proposed Easement Plan-Siland Recreation Facility-prepared by VHB Engineering, Surveying, Landscape Architecture and Geology, PC, dated March 8, 2022; and
47. Proposed Improvements for Adjacent Property-Siland Recreation Facility-prepared by VHB Engineering, Surveying, Landscape Architecture and Geology, PC, dated January 19, 2022; and
48. Drawing Sheet XS-1 Plan View for Cross Sections-Siland Recreation Facility-prepared by VHB Engineering, Surveying, Landscape Architecture and Geology, PC, dated February 16, 2022; and
49. Drawing Sheet XS-2 Site View for Cross Sections-Siland Recreation Facility-prepared by VHB Engineering, Surveying, Landscape Architecture and Geology, PC, dated February 16, 2022; and
50. Stormwater Pollution Prevention Plan ("SWPPP") prepared by VHB Engineering, Surveying, Landscape Architecture and Geology, PC, last revised October 2021; and
51. The Backyard at Siland, Preliminary Operation Plan dated March 8, 2022 and

BE IT FURTHER RESOLVED, that the Planning Board Chairman is authorized to sign the Approved Site Plans upon receipt of the following items:

1. Confirmation that the comments from the Planning Board's Engineer have been satisfactorily addressed; and

2. Confirmation from the Planning Board's Engineer that the color of the proposed fence on the Whalen's Land will be consistent with Planning Board's approval/direction; and

3. Confirmation that the Planning Board's Engineer has reviewed and accepted the technical details of the Project's SWPPP and proof of coverage of the Project under the NYSDEC SPDES General Permit for Stormwater Discharges from Construction Activity (GP-0-15-002); and

4. Proof of approval by the Town of Amenia Town Board to extend the service area of the Silo Ridge Sewer Works Corporation and the Silo Ridge Water Works Corporation to service the Project and Site or confirmation by the Town Board's attorney that no such approval is required; and

5. Proof of approval from the Dutchess County Department of Behavioral and Community Health ("DBCH") for the sewer and water supply systems servicing the Project and Site; and

6. A copy of a fully executed agreement between the Applicant and Whalen Leasing Co. pertaining to the construction of a fence Whalen's Land and landscaping on the Site to screen/buffer the Project from the Whalen's Land; and

7. Copies of fully executed third party agreements between the Applicant, Silo Ridge Homeowners Association, Inc. (as successor in interest to Silo Ridge Ventures Property A, LLC) and Harlem Valley, LLC (as successor in interest to Harlem Valley Landfill Corp.) consistent with the Approved Site Plans; and

8. A copy of the ZBA's approval of an area variance for the 8' high fence on the Whalen's Land. If the variance application is denied, the Applicant shall install a zoning compliant fence on the Whalen's Land and twenty spruce trees on the Site based on the Approved Site Plans. In the event that any other changes to the screening/buffering measures for the Whalen's Land are proposed, the Applicant shall seek amended site plan approval from the Planning Board; and

9. Drafts of all easements shown on the Approved Site Plans (including legal descriptions) must be acceptable to the Planning Board's Engineer and Attorney; and

10. Confirmation of payment to the Town of any and all outstanding escrow or other fees related to the Application; and

BE IT FURTHER RESOLVED, that no building permit shall be issued for the Project until the Planning Board has received the following:

1. Proof of recording of all required easements as shown on the Approved Site Plans for the Project with the Dutchess County Clerk; and

2. Payment of any and all outstanding escrow or other fees related to the Application; and

BE IT FURTHER RESOLVED, that no Certificate of Occupancy shall be issued for the Project until the Planning Board has received the following:

1. Confirmation from the Planning Board Engineer that the fencing located on the Whalen's Land and the trees on the Site to screen/buffer the Project from the Whalen's Land have been completed in accordance with the Approved Site Plans, as may be amended; and

2. Proof of a DBCH permit to operate the water and sewer supply systems to service the Project; and

3. Proof of the issuance of a Highway Work Permit by the New York State Department of Transportation (the "NYSDOT") to improve the Project's road access onto Route 22 and completion of the work to the satisfaction of NYSDOT; and

4. No certificate of occupancy shall be issued until all improvements shown on the site plan have been fully installed or completed. The applicant shall file with the Code Enforcement Officer a complete set of as built plans certified by a NYS licensed engineer that the improvements have been installed or otherwise completed in conformance with the approved plans with any deviations noted and explained. The as built plan and certification will serve as the basis for a determination by the Planning Board's Engineer that the Project has been constructed in accordance with the Approved Site Plans, as may be amended.

BE IT FURTHER RESOLVED, that parking on the Site for any community events shall be limited to no more than fifty (40) vehicles and fifty (50) participants. The Applicant shall strictly adhere to this requirement. Also, the Applicant shall include this requirement in all leases, agreements and/or rental documents used for such events; and

BE IT FURTHER RESOLVED, that as required by NYS Town Law §§ 274-a and 274-b, a copy of this resolution shall be filed in the Town of Amenia Clerk's office within 5 days after this resolution has been adopted and a copy of this resolution shall also be sent to the Applicant; and

BE IT FURTHER RESOLVED, that this resolution shall take effect immediately.

Motion by:

Second by:

The foregoing resolution was voted upon with all members of the Planning Board voting as follows:

	Yes	No	Abstain	Absent
Robert Boyles, Jr., Chair	✓			
John Stefanopoulos				✓

Walter Brett	___	✓	___	___
Neal Kusnetz	___	___	___	✓
Matthew Deister	✓	___	___	___
Nina Peek	___	___	___	✓
Anthony Robustelli	✓	___	___	___

Dated: March 23, 2022
Amenia, New York

Judy Westfall, Planning Board Clerk

TOWN OF AMENIA

4988 Route 22, AMENIA, NY 12501
TEL: 845-373-8860, x118 FAX: 845-373-9147

TOWN OF AMENIA PLANNING BOARD

SPECIAL PERMIT FINDINGS FOR SILAND RECREATION FACILITY

March 23, 2022

Project: Construction of a recreation facility which includes, among other things, a field and pool house, ice-house, warming hut, and tennis, pickle ball, and paddle tennis courts, sledding area, ballfield, playground and multi-purpose fields, supported by associated parking and utilities. (the "Project"). The Project also includes a proposed 8' tall fence on an adjoining property along the Project's northern property boundary.

Site: A 53± acre parcel owned by the Applicant consisting of Parcel # 32000-7066-00-91 021 9-0000 situated at 4391 NYS Route 22 in the Town of Amenia, Dutchess County, New York (the "Site")

Applicant: Siland Commercial Property LLC

Jurisdiction: The Site is located in the Office/Commercial/Industry and Rural Agricultural zoning districts under the Town of Amenia's Zoning Law (the "Zoning Law"), where the Project is a permissible use on the Site subject to Special Permit and Site Plan approval from the Planning Board pursuant to Article IX of the Zoning Law. Portions of the Project will be undertaken in the Trail Visual Protection Corridor. The easterly portion of the Site is in Primary Valley Bottom Aquifer.

The Planning Board hereby finds that the Project complies with the standards for Special Permit approval set forth in Zoning Law Article IX, § 120-63(B) as follows:

(1) The Project complies with all applicable use and dimensional requirements of the Zoning Law, with the exception of a setback variance required for the fence proposed to be constructed on an adjoining property along the Project's northern property boundary, and is consistent with the purposes of the OC and RA zoning districts. The Project will provide for landscaping to mitigate visual impacts within the Trail Visual Protection Corridor. Natural groundwater recharge exceeds consumption for the proposed project. The Project will not involve the use of any private well for onsite water usage. No impacts to the aquifer are expected as a consequence of this Project.

(2) The Project will not result in excessive off-premises noise, dust, odors, solid waste, or glare or create any public or private nuisances. Noise from the Project, during operations, will be reasonably limited and will not exceed that normally associated with a recreational facility. A sound study conducted by the Applicant demonstrated that, with the addition of noise-suppressing curtains on the Project's pickleball courts, noise from the courts would fully comply with the Town's noise standards in Zoning Law § 121-40(C) at the Project's property lines. In the context of traffic on NYS Route 22, a mining operation to the north of the Site, and the nearby railroad operations, including the Wassaic Rail Station, noise from the Project will not be excessive. The photometric plan for the Project demonstrates that glare from Project lighting will not be excessive. No lighting will be provided to allow use of the outdoor courts, playground, ballfield, and multi-purpose field after dark. All site lighting with be turned off at dark with the exception of necessary safety and security lighting. Solid waste will be managed on-site and lawfully disposed of off-site, and no other public or private nuisances will occur as a result of the Project's operations.

(3) The Project will not cause significant traffic congestion, impair pedestrian safety, or overload existing roads, considering their current width, surfacing, and condition, and any improvements proposed to be made to them by the applicant. Primary Project access will be to and from NYS Route 22 through a road connecting the Project from NYS Route 22 to the Silo Ridge subdivision development consistent with the rural land standards applied by the Planning Board to the roads in that subdivision pursuant to the Town's subdivision regulations in Chapter 105 of the Town of Amenia Code. Waivers to the applicable road standards were granted by the Planning Board for the Silo Ridge project and their continuation to Project roads will not diminish the safety of the Project roads and their compliance with the standards for a Special Permit. Secondary roads through the Project will be to and from the Silo Ridge development. The Project is not anticipated to generate significant traffic and will have minimal impact on NYS Route 22.

(4) The Project will be accessible to fire, police, and other emergency vehicles. The Applicant has consulted with the Fire District and the site plans incorporate measures to accommodate Fire District concerns.

(5) The Project will not overload any public water, drainage, or sewer system or any other municipal facility. The project will connect to and obtain its water supply and sewage treatment services from the Silo Ridge Water Works Corporation and the Silo Ridge Sewage Works Corporation. Both entities have indicated they have sufficient capacity to serve the project and have committed to serve the project. Based on those representations, adequate public water and wastewater capacity exists to serve the Project.

(6) The Project will not materially degrade any watercourse or other natural resource or ecosystem or endanger the water quality of an aquifer. There are no stormwater controls presently on the Site, so the Project will substantially improve control of stormwater on the Site through the implementation of an approved Stormwater Pollution Prevention Plan during and after construction of the Project.

(7) The Project will be suitable for the property on which it is proposed, considering the property's size, location, topography, vegetation, soils, natural habitat, and hydrology and, if appropriate, its

ability to be buffered or screened from neighboring properties and public roads. The Site is suitable for the Project in terms of location, relatively flat topography, limited existing vegetation and lack of habitat for protected species. Existing vegetation on the Site will be supplemented by proposed landscaping for the purpose of adequately screening/buffering the Project from NYS Route 22 and neighboring properties.

(8) The Project will be subject to such conditions on operation, design and layout of structures, and provision of buffer areas as may be necessary to ensure compatibility with surrounding uses and to protect the natural, historic, and scenic resources of the Town. Design and layout of the Project, including required lighting and landscaping, based on the approved site plans will ensure compatibility with and minimize impacts on surrounding uses. Operations will be limited by the number of parking spaces allowed on the Site as well as of the number of participants allowed for special events.

(9) The Project would not be consistent with the goal of concentrating retail uses in hamlets, however it would avoidstrip commercial development, and provide landscaping/vegetative buffers between nonresidential uses that are incompatible with residential use. The Project is a permissible use in the OC and RA zoning districts and is located to the immediate south of an existing mining operation and across NYS Route 22 from the Wassaic Rail Station. Site layout and the design of the Project, including approved lighting and landscaping, will sufficiently buffer the Project from nearby residential uses.

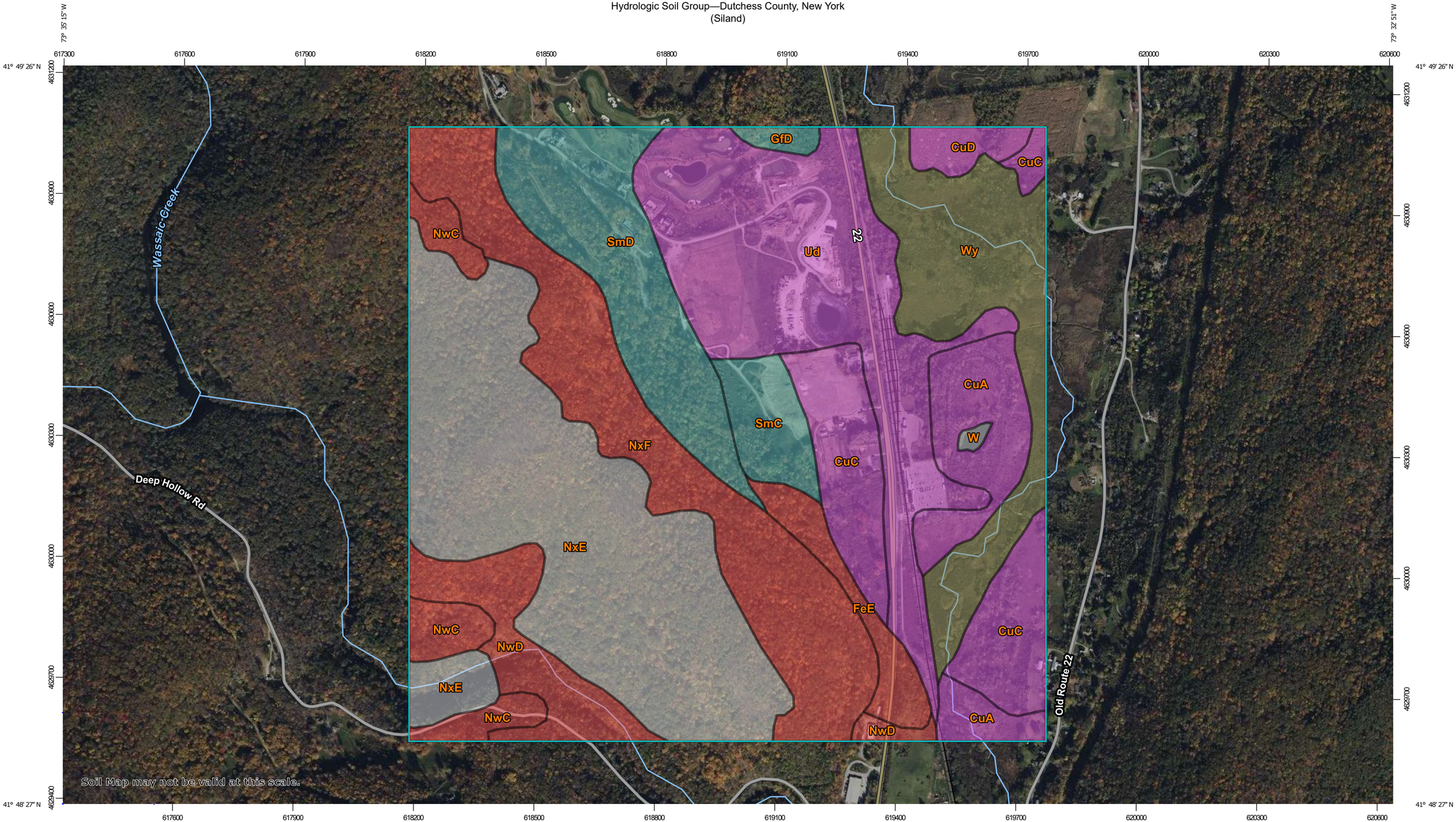
(10) The Project will have no impact on the availability of affordable housing in the Town as it is intended to be a recreational business that will serve the developed Silo Ridge Community and Town of Amenia residents that are members of civic groups and not for profit groups as described in the Operations Plan, last revised March 8, 2022. It will have no or minimal impact on the need for affordable housing in the Town.

(11) Based on the foregoing, the Project will comply with applicable site plan criteria in § 121-65D, including requirements for layout and design, lighting, landscaping, roads, parking, loading and circulation.

(12) The Site includes lands located in the RA zoning district. No development is proposed for that portion of the property in the RA District. The proposed Project will be constructed entirely on lands located in the OC Zoning District so it will not directly impact the residential district lands on the Site.

Attachment C
Soils Information

Hydrologic Soil Group—Dutchess County, New York
(Siland)



73° 35' 15" W — 73° 32' 51" W

41° 49' 26" N — 41° 48' 27" N

617300 617600 617900 618200 618500 618800 619100 619400 619700 620000 620300 620600

4631200 4630900 4630600 4630300 4630000 4629700 4629400

Map Scale: 1:8,920 if printed on B landscape (17" x 11") sheet.

N

Meters: 0 100 200 400 600

Feet: 0 400 800 1600 2400

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 18N WGS84

MAP LEGEND

Area of Interest (AOI)

- Area of Interest (AOI)

Soils

Soil Rating Polygons

- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Soil Rating Lines

- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Soil Rating Points

- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Water Features

- Streams and Canals

Transportation

- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background

- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

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: Dutchess County, New York
Survey Area Data: Version 21, Aug 29, 2024

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

Date(s) aerial images were photographed: Oct 21, 2022—Oct 27, 2022

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
CuA	Copake gravelly silt loam, nearly level	A	31.8	5.3%
CuC	Copake gravelly silt loam, rolling	A	45.1	7.5%
CuD	Copake gravelly silt loam, hilly	A	6.9	1.2%
FeE	Farmington-Rock outcrop complex, steep	D	13.4	2.2%
GfD	Galway-Farmington complex, hilly	C	2.9	0.5%
NwC	Nassau-Cardigan complex, rolling, very rocky	D	17.2	2.9%
NwD	Nassau-Cardigan complex, hilly, very rocky	D	28.1	4.7%
NxE	Nassau-Rock outcrop complex, steep		143.9	24.0%
NxF	Nassau-Rock outcrop complex, very steep	D	80.8	13.5%
SmC	Stockbridge-Farmington complex, rolling, rocky	C	14.8	2.5%
SmD	Stockbridge-Farmington complex, hilly, rocky	C	52.3	8.7%
Ud	Udorthents, smoothed	A	102.0	17.0%
W	Water		0.9	0.2%
Wy	Wayland silt loam	C/D	59.0	9.8%
Totals for Area of Interest			**599.0**	**100.0%**

Description

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.

Rating Options

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

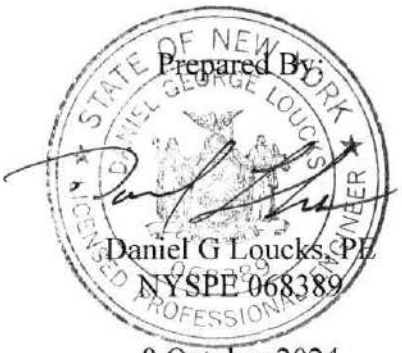
DANIEL G. LOUCKS, P.E.
GEOTECHNICAL ENGINEERING

Geotechnical Report
For
Silo Ridge Field and Ice Houses
Amenia, New York
File No. 4433

Prepared For:

Silo Ridge

Prepared By:



Daniel G Loucks, PE
NYSPE 068389

8 October 2024

2615 PAGE STORE ROAD, CAMERON, NC 28326 ■ 518-369-9453 ■ E-MAIL: DGLGEOENG@GMAIL.COM

INTRODUCTION:

The subsurface investigation for the proposed Silo Ridge Field and Ice House, Amenia, New York has been completed. LaBella of Ballston Spa, New York has completed eleven (11) soil borings at the site. The logs of these borings, along with a location diagram, have been included in the appendix of this report.

It is my understanding that the proposed construction will include two single-story buildings located approximately as indicated on the boring location diagram. The buildings will have a steel frame design.

The maximum column loadings will range from 250 to 300 kips. The settlement tolerances are normal. Settlement tolerances are considered to include up to 1 inch of total settlement and 3/4 inch of differential settlement between column locations.

The first floor slab for the proposed field house will be established at 488.5 ft. This will require up to approximately 20 feet of cut along the western side of the building. The first floor slab for the proposed ice house will be established at 486.5 ft. This will require less than 5 feet of cut/fill.

The purpose of this report is to describe the investigation conducted and the results obtained; to analyze and interpret the data obtained; and to make recommendations for the design and construction of the feasible foundation types and earthworks for the project. The recommendations contained in this report are based on the information that was provided up to the date the report was completed. Any changes in the design of the project or changes to the recommendations provided in this report should be brought to my attention to determine if there needs to be any revision of the geotechnical recommendations. I am not responsible for any changes made to the recommendations provided in this report unless I have provided written approval of the changes.

The scope of my services has been limited to coordinating the boring and laboratory investigation, analyzing the soils information, and providing a geotechnical report with foundation recommendations and seismic site classifications as per NYS Building Code. Environmental aspects of the project as well as grading and site design should be performed by qualified others.

FIELD INVESTIGATION PROCEDURES:

The borings were extended by means of 3.75 inch ID, hollow-stem augers, by using various cutting bits using circulating drilling fluid to remove the cuttings from the casing and by continuous sampling with a split-spoon sampler.

Representative samples were obtained from the boring holes by means of the split-spoon sampling procedure performed in accordance with ASTM D 1586. The standard penetration values obtained from this procedure have been indicated on the soil boring logs.

Soil samples obtained from these procedures were examined in the field, sealed in containers, and shipped to the laboratory for further examination, classification, and testing, as applicable.

During the investigation, water level readings were obtained at various times where water accumulated in the boring hole. The water level readings, along with an indication of the time of the reading relative to the boring procedure, have been indicated on the soil boring logs.

LABORATORY INVESTIGATION:

All samples were examined in the laboratory by the soil engineer and classified according to the Unified Soil Classification System. In this system, the soils are visually classified according to texture and plasticity. The appropriate group symbol is indicated on the soil boring logs.

Samples exhibiting significant cohesion were tested with a calibrated, spring-loaded, penetrometer. This test is used to estimate the unconfined compressive strength of the soil sample by measuring the soil's resistance to the penetration of the penetrometer needle. The results of these tests are listed on the boring logs.

SUBSURFACE CONDITIONS:

The specific subsurface conditions encountered at each boring location are indicated on the individual soil boring logs. However, to aid in the evaluation of this data, I have prepared a generalized description of the soil conditions based on the boring data.

Borings 1, 2, 3, 4, 5, 10, and 11 were performed in the proposed field house location. Borings 1, 2 were performed in the sloping area where up to 20 feet of cut is required. They generally encountered medium dense to very dense sand and gravel soils with possibly occasional cobbles/weathered schist and a trace to some silt. In boring B-1 split spoon refusal was encountered at approximately 25.0 feet, below the existing ground surface on weathered schist bedrock or boulder. Boring B-2 extended to 27.0 feet, below the existing ground surface in the sand and gravel soils. Boring B-10 extended 12.0 feet, below the existing ground surface in loose to medium dense sand with gravel and a trace to some silt soils.

Borings 3, 4, 5 and 11 encountered a thin upper layer of sand with gravel and clayey silt over deeper clayey silt soils with varying amounts of sand and occasional clay layers. These borings extended to 12.0 feet, below the existing ground surface and are loose to medium dense/soft to medium stiff.

Borings 6, 7, 8 and 9 were performed in the proposed ice house area. These boring encountered sand with varying amounts of gravel and a trace to some silt/clayey silt. They are loose to dense and extended to the bottom of the borings at 12.0 feet, below the existing ground surface.

GROUNDWATER CONDITIONS:

Accurate groundwater levels are difficult to determine in clayey silt soils with only short term readings or observations. Clayey silt soils typically do not allow an adequate amount of water to flow through the soil to produce a water level reading during the drilling operation. I have indicated where water was observed on the boring logs.

Based on the groundwater levels observed during the boring investigation, the moisture condition of the samples recovered from the boring holes and coloration of the soil samples, I judge that the groundwater level was located below depth of 4 feet, below the existing ground surface in the proposed filed house in the location of the clayey silt soils and below 8 feet, from the existing ground surface in the locations where sand and gravel soils were encountered. In the proposed ice house no groundwater was observed during the boring investigation.

Perched groundwater tables may occur at higher elevations in the soil profile due to groundwater being retained by layers or lenses of silt or clay soils. Perched or seasonal groundwater levels are sometimes indicated by mottled brown/gray soils. These soil conditions were observed as shallow as 4 feet below the existing ground surface.

Some fluctuation in hydrostatic groundwater levels and perched water conditions should be anticipated with variations in the seasonal rainfall and surface runoff.

It should be noted that the groundwater levels were obtained during the drilling procedure. Actual water levels may vary at the time of construction. Some groundwater could be encountered in soil layers labeled moist to wet on the boring logs.

ANALYSIS AND RECOMMENDATIONS:

As previously noted, generally the soils at the proposed field house contain sand and gravel with a trace to some silt and/or clayey silt soils. In my opinion properly designed spread footing foundations can be used to support the building, but because of the varying soil conditions, the recommended allowable soil bearing pressure would need to be limited to reduce differential settlements and in the proposed pool house, drainage or anchoring will be required below the proposed pool to prevent hydrostatic uplift pressures from possibly causing the pool to float or bottom to heave. These clayey silt soils will also require dewatering during construction to prevent disturbance and possibly heaving of the soils. Groundwater levels as shallow as 4 feet below the existing ground surface were observed during the boring investigation. The dewatering should be designed by a qualified engineer or hydrologist.

The borings for the proposed ice house generally encountered sand soils with varying amount of gravel and silt. These soils are loose to dense and in my opinion would be adequate to support properly designed spread footing foundations for the proposed building. No groundwater was observed during the boring investigation but because an ice rink will be placed in the building, properly designed insulation should be provided under the ice rink to prevent frost from entering the ground and possibly causing frost heave of the soils under and adjacent to the rink. This aspect of the design should be performed by qualified others.

Site Work:

The proposed construction areas should be cleared and grubbed and all organic topsoil and vegetation along with any uncontrolled fill and debris. The subgrade should be proof-rolled with a 10-ton roller and the proof rolling should be observed by the soil engineer or qualified technician under the guidance of a soil engineer. This proof rolling will compact the subgrade and reveal the presence of soft spots. If saturated subgrade conditions exist, I recommend that the subgrade be observed and probed by the soil engineer or qualified technician under the guidance of a soil engineer in place of proof rolling. Any soft spots should be excavated and backfilled with controlled fill material.

A way to stabilize a spongy, but suitable, virgin, subgrade would be to spread a reinforcement or separation type of geotextile (Mirafi 600X or approved equal) on the subgrade and follow with a lift of clean, granular fill or uniform crushed stone. The thickness of the controlled fill can range from 1.0 to 2.5 feet, as necessary, to achieve a working mat upon which to construct the remainder of the controlled fill or to place footings. If uniform crushed stone is used as controlled fill a layer of geotextile should be placed between the crushed stone and any sand/gravel controlled fill or virgin soil.

Another method for stabilizing spongy areas of the subgrade would be to improve the drainage by use of properly designed drain tiles or by using properly designed sump pit and pump dewatering systems. Using these methods, the local groundwater table maybe able to be lowered sufficiently to aid in stabilizing the subgrade surface. If large quantities of water are encountered vacuum well point dewatering maybe required. The need of a well point or any other type of dewatering program should be evaluated by the contractor before starting construction and be designed by a qualified dewatering contractor or hydrologist.

Controlled Fill:

Before any controlled fill is placed the site should be inspected to verify that the site has been prepared according to the recommendations contained in this report as required by the current NYS Building Code.

Controlled fill can consist of non-organic, on-site or imported soils free of debris and expansive soil/rock and having a maximum particle size of 3 inches. A gradation and proctor should be performed on the proposed soil and submitted to me for approval. Approved, properly placed and compacted material can be used as controlled fill within the proposed building footprint. Free draining controlled fill material should be placed as recommended in this report. Approved on-site or imported soils should not be used in these locations where free draining controlled fill is recommended unless approved by me.

Controlled, relatively clean, granular fill can be spread in lifts not exceeding 12 inches in loose thickness. These materials should be compacted to a minimum of 95 percent of the maximum ASTM Specification D 1557-91 density, modified proctor.

On-site, silty soils, will be difficult to compact during wet weather or poor drying conditions. These soils should not be used as controlled fill.

If crushed stone is used as controlled fill, it should have a layer of geotextile with a minimum tensile strength of 200 lbs should be placed between the stone and existing soils. The stone should be placed in lifts not exceeding 12 inches in thickness and should be compacted with a minimum of 5 passes of a vibratory roller rated at 5 tons or larger. Weathered shale or crushed shale should not be used as controlled fill within the proposed building area.

Free Draining Controlled Fill Material: Naturally or artificially graded mixture of sand, natural or crushed stone or gravel conforming to NYS DOT Table 733-04A, Type 2 or 4 as follows and free of any organics, expansive material or asphalt products:

U.S. Sieve No.	Percent Passing by Weight
2 inch	100
1/4 inch	30-65
No. 40	5-40
No. 200	0-10

NYS DOT Table 703-4, Size 2 crushed stone, clean, durable, angular, and of uniform quality throughout and non-expansive:

U.S. Sieve No.	Percent Passing by Weight
1 ½ inch	100
1 inch	90-100
1/2 inch	0-15

All controlled fill should be free of organic and/or frozen material.

Free-draining controlled fill should have less than 10 percent fines passing the #200 sieve.

I recommend performing one field density test for every 2,000 square feet of controlled fill placed, within the overlaying building footprint, but in no case fewer than three tests per lift.

I recommend that for foundation, pool wall and footing backfill that in each compacted backfill layer have at least one field in place density test for each 50 feet or less of wall or footing length, but not fewer than two tests along a wall face or footing be performed per lift. Walls should be backfilled uniformly on each side of the wall to prevent uneven lateral loading on the wall, unless the wall is designed as a retaining wall.

Proper placement and compaction of backfill along exterior portions of foundation walls should be provided, especially in locations where there are sidewalks or building entries. Proper placement of backfill materials can reduce possible settlements and the use of properly designed backfill and drainage can reduce possible frost heave movements.

Results of the field compaction test results should be sent to my office for review. Copies of the results of soil gradation tests should also be provided to me for review and approval.

Building Foundations:

I recommend that the proposed structures be supported by spread footing foundations resting on firm virgin, inorganic, soils or

on controlled fill which, in turn, rests on these virgin materials. Footings for the proposed field house can be designed for a maximum, net, allowable soil bearing pressure of 2000 psf. This allowable soil bearing pressure is recommended to limit differential settlements. Footings for the proposed ice house can be designed for a maximum, net, allowable soil bearing pressure of 2500 psf.

The soil engineer or qualified technician under the guidance of a soil engineer should observe the footing subgrade at the beginning of the project or if soil conditions change to verify the allowable bearing pressure of the soil encountered and that any uncontrolled fill has been removed.

Loads from adjacent footings or structures should be assumed to distribute based on the elastic theory. Typical Boussinesq charts can be used to approximate loads at various depths and locations due to adjacent structures.

A minimum footing width of 2.0 feet is recommended for load bearing strip footings. Isolated footings should be at least 3.0 feet wide.

Exterior footings or footings in unheated areas should have a minimum of 4.0 feet of embedment for protection from frost action. Interior footings should have a minimum embedment of 2.0 feet below finished grade to develop the bearing value of the soils.

All walls that retain soil on only one side should have a drain tile placed along the base of the wall. The drain tile should be a minimum of 4 inches in diameter, surrounded by a minimum of 6 inches of properly graded washed sand or crushed stone wrapped with a non-woven filter fabric with a maximum apparent opening size of 70 and a minimum trapezoid tearing strength of 100 lbs. The drain tile should drain to a stormwater sewer, daylight, or a sump equipped with a pump.

The wall should then be backfilled with a controlled, well graded, free-draining granular material. The material should extend away from the wall a horizontal distance of two-thirds the height of the fill being placed. The upper 1 foot of material should be a fairly impermeable material to shed surface water and should be pitched away from the building to provide proper drainage.

If these procedures are used, a static lateral soil pressure of 40 psf per foot of retained soil can be used for design of the wall. This static, active lateral soil pressure is based on a moist unit weight of 125 pcf and an angle of internal friction of 32 degrees. A wall soil friction angle of 18 degrees and a coefficient of base sliding of 0.35 can also be used for design.

If the wall is braced or if the deflection is limited prior to backfilling so the active soil pressure is not achieved, a static, at-rest lateral soil pressure of 63 psf per foot of retained soil can be used for design.

To resist overturning and sliding a static lateral passive pressure of 250 psf per foot of embedment can be used, provided foundations are backfilled with controlled fill. This static, passive pressure resistance value has been reduced from the calculated full passive pressure because of stress/strain characteristics of the soil. To develop the full, calculated resistance a certain amount of movement or deflection in the structure is required. The amount of movement required to generate this resistance generally greater than is acceptable for structures. I therefore recommend that the full passive pressure not be used.

If properly designed drainage cannot be provided for the proposed pool, then the pool walls should be designed to support static lateral soil and water pressures of 85 psf per foot of soil and water. The pool should also be properly anchored to prevent hydrostatic pressure from causing the pool to float or bottom to heave.

The passive resistance of the upper two feet of soil, not in floor slab areas, should be ignored due to surface effects of frost and moisture.

Any surcharge loading of existing adjacent building foundations or other adjacent structures/utilities should be addressed by the structural engineer using Boussinesq charts.

Floor Slabs:

Concrete floor slabs can be designed to rest on controlled fills resting on virgin, inorganic materials. A 6-inch layer of well-

graded, free-draining, granular material should be placed beneath the floor slab to provide drainage, act as a capillary break, and to provide better and more uniform support.

If vehicle loadings are to be applied to the floor slab, the proposed slab and supporting soils should be analyzed as a pavement structure. I recommend that a minimum of 12 inches of free draining controlled granular fill be placed below any concrete pavements.

A modulus of subgrade reaction of 125 psi per inch can be used to design concrete slabs resting on a minimum of 6 inches of free draining controlled fill that in turn rests on virgin soils. A modulus of subgrade reaction of 100 psi per inch can be used to design exterior slabs or pavements resting on a minimum of 12 inches of free draining controlled fill. This reduced value is recommended due to seasonal variations that occur due to frost in the soils.

Exterior concrete/asphalt pavements will experience some frost heave movements during the winter and spring. If these movements are not acceptable then a minimum of 4.0 feet of approved subbase material and properly designed drains would be required below the concrete/asphalt pavements or sidewalks. The use of properly designed footing drains can also be used to reduce possible frost heave movements adjacent to the proposed structure.

If the moisture levels of floor slab areas are critical additional drainage materials and vapor barriers will be required beneath the floor slab. Also, the moisture content of the subbase soils should be carefully monitored to prevent excess water from saturating these subbase soils before the floor slab is poured. This aspect of the design should be performed by qualified others.

Seismic Conditions:

The potential seismic conditions at the proposed site have been investigated using the information provided in the NYS Building Code, ASCE-7 and the boring information obtained during my investigation and past experience with soils in the area.

Based on the soil boring information and my experience it is my opinion that the Site Classification (ASCE-7 Table 20.3-1) could be assumed to be D. Using data from Reference Document ASCE7-16, Risk Category I, I estimate that the MCE spectral acceleration (S_{MS}) at short periods is 28.1 and the MCE spectral acceleration (S_{M1}) at 1 s period is 12.9. I have included a copy of the spectral accelerations for other Hazard Levels in the appendix of this report.

The probabilistic ground motion values are for rock site class B. Peak ground accelerations in the upper soil profile may vary. If specific peak ground accelerations or shear wave velocities are required for the upper soil profile additional testing would be required. If it is determined by the structural engineer that the Seismic Design Category is D, E or F additional geotechnical recommendations can be provided.

The soil borings and my analysis do not indicate any significant potential seismic hazards such as liquefaction, sensitive clays, weakly cemented soil, or surface rupture.

CONSTRUCTION PROCEDURES AND PROBLEMS:

The NYS Building Code requires special inspections and follow up reports. These inspections should be performed to verify compliance with the recommendations contained in this report.

All excavations of more than a few feet should be sheeted and braced or laid back to prevent sloughing in of the sides.

Excavations should not extend below adjacent footings or structures unless properly designed sheeting and bracing or underpinning is installed.

Footing and floor slab subgrades should be tamped to compact any soil disturbed during the excavation process. A flat plate should be placed on the end of the excavator or backhoe bucket to reduce disturbance of the footing subgrade. If over excavation of subgrades are required to remove cobbles or possibly boulders, then the over excavated areas should be filled with controlled granular fill or lean concrete.

A layer of geotextile (min. tensile strength of 200 lbs) and 6 to 18 inches of crushed stone may be required in footing or pool

excavations to prevent disturbance of the virgin subgrade during wet weather. The stone and fabric should be placed as described in the *Controlled Fill* section of this report.

Sump-pit and sump-pump-type dewatering will be required in excavations or low areas during wet weather or if groundwater is encountered. If large quantities of groundwater are encountered vacuum wells maybe required to stabilize the subgrade soils. All excavations should be dewatered to a minimum of 3 foot below the bottom of the excavation. All dewatering programs should be designed to prevent bottom heave. Any dewatering program should be performed with properly designed filtration protection on all pumps to prevent loss of ground.

As previously noted, some of the on-site soils contain clayey silt which will make the soils sensitive to moisture content. If the material becomes wet or saturated, it will become spongy and easily disturbed. Imported uniform crushed stone may be required to prevent disturbance of the subgrade soils during construction.

Subgrades should be kept from freezing during construction.

Water, snow, and ice should not be allowed to collect and stand in excavations or low areas of the subgrade.

Some obstacles, including possibly cobbles/boulders, may be encountered in excavations.

Design and construction procedures should include measures to limit the potential for slab curl and vapor transmission. The shrinkage properties of the concrete should be controlled and the curing of the concrete controlled. Differential shrinkage between the top and bottom of the slabs could otherwise result in curling of the slabs. The control of vapor transmission through the slab should also be addressed. These phenomena may be only indirectly related to soil conditions. The architect/ structural engineer should address this aspect of the design.

Current American Concrete Institute recommendations for the design and construction of floor slabs and the control of shrinkage, slab curl and vapor transmission can be referred to.

Silo Ridge Field and Ice Houses
Amenia, New York
File No. 4433

CONTENTS OF APPENDIX:

1. General Notes

2. Boring Location Diagram

3. Boring Logs

4. Seismic Design Values

5. Unified Soil Classification System

6. Soil Use Chart

7. General Qualifications

GENERAL NOTES

DRILLING & SAMPLING SYMBOLS

SS : Split-Spoon — 1¾ " I.D., 2" O.D., except where noted
S : Shelby Tube — 2" O.D., except where noted
PA : Power Auger Sample
DB : Diamond Bit — NX: BX: AX:
CB : Carboloy Bit — NX: BX: AX:
OS : Osterberg Sampler — 3" Shelby Tube
HS : Housel Sampler
WS : Wash Sample
FT : Fish Tail
RB : Rock Bit
WO : Wash Out

Standard "N" Penetration: Blows per foot of a 140 pound hammer falling 30 inches on a 2 inch OD split spoon, except where noted

WATER LEVEL MEASUREMENT SYMBOLS

WL : Water Level
WCI : Wet Cave In
DCI : Dry Cave In
WS : While Sampling
WD : While Drilling
BCR : Before Casing Removal
ACR : After Casing Removal
AB : After Boring

Water levels indicated on the boring logs are the levels measured in the boring at the times indicated. In pervious soils, the indicated elevations are considered reliable ground water levels. In impervious soils the accurate determination of ground water elevations is not possible in even several day's observation, and additional evidence on ground water elevations must be sought.

CLASSIFICATION

COHESIONLESS SOILS

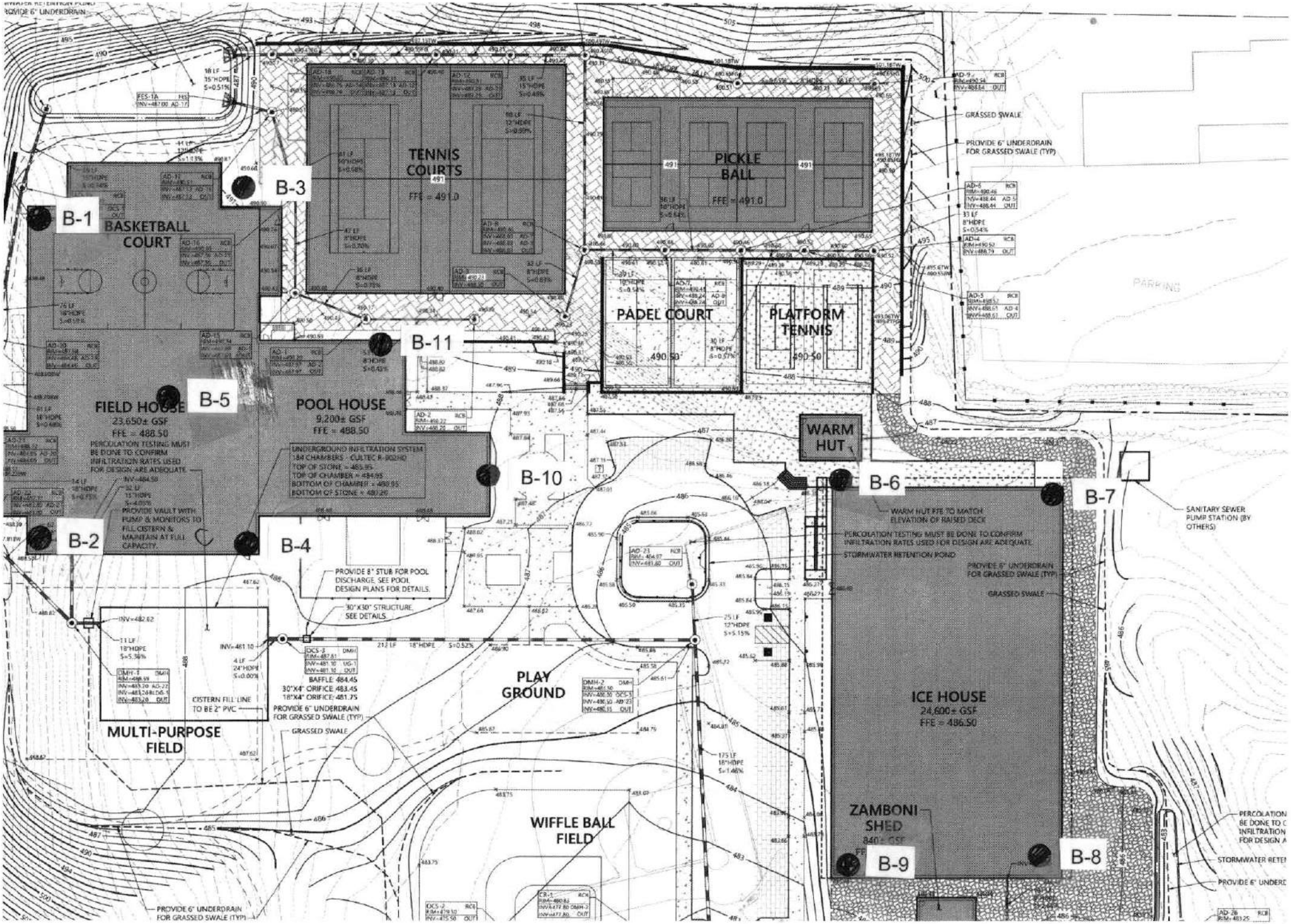
"Trace"	:	1% to 10%
"Trace to some"	:	10% to 20%
"Some"	:	20% to 35%
"And"	:	35% to 50%
Loose	:	0 to 9 Blows
Medium Dense	:	10 to 29 Blows
Dense	:	30 to 59 Blows
Very Dense	:	≥60 Blows

} or equivalent

COHESIVE SOILS

If clay content is sufficient so that clay dominates soil properties, then clay becomes the principle noun with the other major soil constituent as modifiers: i.e., silty clay. Other minor soil constituents may be added according to classification breakdown for cohesionless soils; i.e., silty clay, trace to some sand, trace gravel.

Soft	:	0.00 —0.59 tons/ft²
Medium	:	0.60 — 0.99 tons/ft²
Stiff	:	1.00 — 1.99 tons/ft²
Very Stiff	:	2.00 — 3.99 tons/ft²
Hard	:	≥ 4.00 tons/ft²


TENNIS COURTS
FFE = 491.0
PICKLE BALL
FFE = 491.0
BASKETBALL COURT
PADEL COURT
490.50
PLATFORM TENNIS
490.50
B-1
B-2
B-3
B-4
B-5
B-6
B-7
B-8
B-9
B-10
B-11
FIELD HOUSE
23,650± GSF
FFE = 488.50
PERCOLATION TESTING MUST BE DONE TO CONFIRM INFILTRATION RATES USED FOR DESIGN ARE ADEQUATE.
POOL HOUSE
9,200± GSF
FFE = 488.50
UNDERGROUND INFILTRATION SYSTEM
184 CHAMBERS - CULTEC R-902HD
TOP OF STONE = 483.95
TOP OF CHAMBER = 484.95
BOTTOM OF CHAMBER = 480.95
BOTTOM OF STONE = 480.20
WARM HUT
WARM HUT FFE TO MATCH ELEVATION OF RAISED DECK
STORMWATER RETENTION POND
PROVIDE 6" UNDERDRAIN FOR GRASSED SWALE (TYP)
GRASSED SWALE
SANITARY SEWER PUMP STATION (BY OTHERS)
ICE HOUSE
24,600± GSF
FFE = 486.50
ZAMBONI SHED
840± GSF
MULTI-PURPOSE FIELD
PLAY GROUND
WIFFLE BALL FIELD
PROVIDE 8" STUB FOR POOL DISCHARGE. SEE POOL DESIGN PLANS FOR DETAILS.
30"X30" STRUCTURE. SEE DETAILS.
BAFFLE 484.45
30"X4" ORIFICE 483.45
18"X4" ORIFICE 481.75
CISTERN FILL LINE TO BE 2" PVC
PROVIDE VAULT WITH PUMP & MONITORS TO FILL CISTERN & MAINTAIN AT FULL CAPACITY.
PARKING

Silo Ridge Field House & Ice House Amenia, NY	4433	Boring No. 1
Daniel G Loucks PE 2615 Page Store Road Cameron, NC dgloeoeng@gmail.com 518-369-9453	Drilling Contractor: LaBella	Drill Rig Type: ATV
	Hammer Type: Automatic	Date: September 2024
	Hammer Weight: 140 lbs	Hammer Drop: 30 inches
	Groundwater Depth: 17 ft WS	

Depth (feet)	Sample Number	Sample Type	Blow Counts (blows/foot)	"N" Value	Approx. Strata Change Depth	Lithology **Soil Group Name:** modifier, color, moisture, density/consistency, grain size, other descriptors **Rock Description:** modifierm color, hardness/degree of concentration, bedding and joint characteristics, solutions, void conditions.
	1	SS	8-16-22-14	38	2.0	Fine to Coarse Sand, trace to some Gravel, Silt, Brown Moist, Dense (SM)
	2	SS	15-15-16-17	31		Fine to Medium Gravel and Sand, trace to some Silt, Gray, Moist, Dense (GM-SM)
	3	SS	16-16-19-18	35	6.0	
	4	SS	19-30-25-26	55		Fine to coarse Sand, some Gravel, trace to some Silt, Brown Moist, Dense to Very Dense (SM)
	5	SS	18-24-36-22	60	10.0	
10	6	SS	26-36-34-22	70		Highly Weathered Schist, trace to some Silt, Gray Moist, Very Dense (SM)
		PA			13.0	Fine to Coarse Sand, some Gravel, trace to some Silt Brown, Moist to Wet, Dense (SM)
	7	SS	13-16-19-25	35		
		PA				
20	8	SS	17-22-24-34	46		
		PA			25.0	
	9	SS	50/.1	50+	25.1	Weathered Schist, Gray, Moist, Very Dense (GP)
						End of Boring at 25.1 Feet Split Spoon Refusal

Daniel G Loucks PE

Ground Surface Elevation: N/A

Silo Ridge Field House & Ice House Amenia, NY	Fil;e No: 4433	Boring No. 2
Daniel G Loucks PE 2615 Page Store Road Cameron, NC dglgeoeng@gmail.com 518-369-9453	Drilling Contractor: LaBella	Drill Rig Type: ATV
	Hammer Type: Automatic	Date: September 2024
	Hammer Weight: 140 lbs	Hammer Drop: 30 inches
	Groundwater Depth: 20 ft WS	

Depth (feet)	Sample Number	Sample Type	Blow Counts (blows/foot)	"N" Value	Approx. Strata Change Depth	Lithology **Soil Group Name:** modifier, color, moisture, density/consistency, grain size, other descriptors **Rock Description:** modifierm color, hardness/degree of concentration, bedding and joint characteristics, solutions, void conditions.
	1	SS	8-10-16-16	26	2.0	Fine to Coarse Sand, some Gravel, trace to some Silt Brown, Moist, Medium Dense (SM)
	2	SS	14-16-9-9	25		Fine to Coarse Sand, trace to some Gravel, Silt, Brown Moist, Medium Dense to Very Dense
	3	SS	10-11-13-11	24		
	4	SS	12-36-41-17	77		
	5	SS	11-9-15-10	24		
10	6	SS	8-13-5-11	18		
		PA				
	7	SS	15-16-10-11	26		
		PA				
20	8	SS	7-10-13-19	23		
		PS				
	9	SS	12-15-22-28	37	27.0	
						End of Boring at 27.0 Feet

Daniel G Loucks PE

Ground Surface Elevation: N/A

Silo Ridge Field House & Ice House Amenia, NY	Fil;e No: 4433	Boring No. 3
Daniel G Loucks PE 2615 Page Store Road Cameron, NC dglgeoeng@gmail.com 518-369-9453	Drilling Contractor: LaBella	Drill Rig Type: ATV
	Hammer Type: Automatic	Date: September 2024
	Hammer Weight: 140 lbs	Hammer Drop: 30 inches
	Groundwater Depth: 4 ft WS	

Depth (feet)	Sample Number	Sample Type	Blow Counts (blows/foot)	"N" Value	Approx. Strata Change Depth	Lithology **Soil Group Name:** modifier, color, moisture, density/consistency, grain size, other descriptors **Rock Description:** modifierm color, hardness/degree of concentration, bedding and joint characteristics, solutions, void conditions.
	1	SS	5-5-6-6	11	2.0	Clayey Silt, trace to some Fine Sand, Brown, Moist Medium Dense (ML)
	2	SS	4-3-5-6	8		Clayey Silt, trace fine Sand, Brown/Gray, Wet, Loose to Medium Dense (ML)
	3	SS	4-5-5-7	10		
	4	SS	5-4-4-5	8		
	5	SS	5-4-5-6	9		
10	6	SS	4-4-4-7	8	12.0	
						End of Boring at 12.0 Feet
20						

Daniel G Loucks PE

Ground Surface Elevation: N/A

Silo Ridge Field House & Ice House Amenia, NY	Fil;e No: 4433	Boring No. 4
Daniel G Loucks PE 2615 Page Store Road Cameron, NC dglgeoeng@gmail.com 518-369-9453	Drilling Contractor: LaBella	Drill Rig Type: ATV
	Hammer Type: Automatic	Date: September 2024
	Hammer Weight: 140 lbs	Hammer Drop: 30 inches
	Groundwater Depth: 8 ft WS	

Depth (feet)	Sample Number	Sample Type	Blow Counts (blows/foot)	"N" Value	Approx. Strata Change Depth	Lithology **Soil Group Name:** modifier, color, moisture, density/consistency, grain size, other descriptors **Rock Description:** modifierm color, hardness/degree of concentration, bedding and joint characteristics, solutions, void conditions.
	1	SS	8-14-14-21	28	2.0	Fine to Coarse Sand, trace to some Gravel, Silt, Brown Gray, Moist, Medium Dense (SM) Possible Fill
	2	SS	13-9-4-4	13	4.0	Clayey Silt, trace to some Sand, trace Gravel, Dark Brown Moist, Medium Dense (ML)
	3	SS	3-3-3-6	6		Clayey Silt, trace Fine Sand, Brown, Moist to Wet Loose (ML)
	4	SS	7-3-3-4	6	8.0	
	5	SS	3-4-3-4	7		Clayey Silt, some Clay, Brown/Gray, Wet, Loose/Soft (ML)(CL) Occasional Clay Layers Qu = 0.4 tsf
10	6	SS	3-2-2-4	4	12.0	
						End of Boring at 12.0 Feet
20						

Daniel G Loucks PE	Ground Surface Elevation: N/A

Silo Ridge Field House & Ice House Amenia, NY	Fil;e No: 4433	Boring No. 5
Daniel G Loucks PE 2615 Page Store Road Cameron, NC dglgeoeng@gmail.com 518-369-9453	Drilling Contractor: LaBella	Drill Rig Type: ATV
	Hammer Type: Automatic	Date: September 2024
	Hammer Weight: 140 lbs	Hammer Drop: 30 inches
	Groundwater Depth: 6 ft WS	

Depth (feet)	Sample Number	Sample Type	Blow Counts (blows/foot)	"N" Value	Approx. Strata Change Depth	Lithology **Soil Group Name:** modifier, color, moisture, density/consistency, grain size, other descriptors **Rock Description:** modifierm color, hardness/degree of concentration, bedding and joint characteristics, solutions, void conditions.
	1	SS	8-6-6-8	12		Fine to Coarse Sand, some Gravel, trace to some Silt Brown, Moist, Medium Dense (SM)
					2.0	
	2	SS	4-3-2-3	5		Clayey Silt, trace Sand, Brown, Moist, Loose (ML)
	3	SS	6-5-5-6	10		
					6.0	
	4	SS	5-6-6-7	12		Clayey Silt, trace to some Clay, Brown/Gray, Wet Medium Dense/Medium Stiff (ML)(CL) Occasional Clay Layers Qu = 0.5 to 1.0 tsf
	5	SS	5-5-5-7	10		
10	6	SS	6-5-5-5	10		
					12.0	End of Boring at 12.0 Feet
20						

Daniel G Loucks PE

Ground Surface Elevation: N/A

Silo Ridge Field House & Ice House Amenia, NY	Fil;e No: 4433	Boring No. 6
Daniel G Loucks PE 2615 Page Store Road Cameron, NC dqlgeoeng@gmail.com 518-369-9453	Drilling Contractor: LaBella	Drill Rig Type: ATV
	Hammer Type: Automatic	Date: September 2024
	Hammer Weight: 140 lbs	Hammer Drop: 30 inches
	Groundwater Depth: None Observed ft WS	

Depth (feet)	Sample Number	Sample Type	Blow Counts (blows/foot)	"N" Value	Approx. Strata Change Depth	Lithology **Soil Group Name:** modifier, color, moisture, density/consistency, grain size, other descriptors **Rock Description:** modifierm color, hardness/degree of concentration, bedding and joint characteristics, solutions, void conditions.
	1	SS	6-10-14-14	24	2.0	Fine to Coarse Sand, some Gravel, trace to some Silt Brown/Gray, Moist, Medium Dense (SM)
	2	SS	11-11-14-16	25		Fine to Coarse Sand, trace to some Gravel, Silt, Gray/ Brown, Medium Dense to Dense (SM)
	3	SS	14-11-21-12	32	6.0	
	4	SS	8-10-5-4	15	8.0	Fine to Coarse Sand, trace to some Silt, Brown, Moist Medium Dense (SM)
	5	SS	6-6-5-6	11		Fine to Coarse Sand, trace to some Clayey Silt, trace Gravel, Brown, Moist to Wet Medium Dense (SM)
10	6	SS	4-7-6-7	13	12.0	
						End of Boring at 12.0 Feet
20						

Daniel G Loucks PE

Ground Surface Elevation: N/A

Silo Ridge Field House & Ice House Amenia, NY	Fil;e No: 4433	Boring No. 7
Daniel G Loucks PE 2615 Page Store Road Cameron, NC dglgeoeng@gmail.com 518-369-9453	Drilling Contractor: LaBella	Drill Rig Type: ATV
	Hammer Type: Automatic	Date: September 2024
	Hammer Weight: 140 lbs	Hammer Drop: 30 inches
	Groundwater Depth: None Observed WS	

Depth (feet)	Sample Number	Sample Type	Blow Counts (blows/foot)	"N" Value	Approx. Strata Change Depth	Lithology Soil Group Name: modifier, color, moisture, density/consistency, grain size, other descriptors Rock Description: modifierm color, hardness/degree of concentration, bedding and joint characteristics, solutions, void conditions.
	1	SS	8-7-7-6	14		Fine to Coarse Sand, some Gravel, trace to some Silt, Brown/Gray, Moist, Medium Dense (SM)
	2	SS	6-6-8-11	14		
	3	SS	7-7-10-10	17	6.0	
	4	SS	9-9-15-16	24		Fine to Coarse Sand, trace to some Gravel, Silt, Gray, Moist, Medium Dense (SM)
	5	SS	8-9-10-9	19		
10	6	SS	8-11-10-7	21	12.0	
						End of Boring at 12.0 Feet
20						

Daniel G Loucks PE

Ground Surface Elevation: N/A

Silo Ridge Field House & Ice House Amenia, NY	Fil;e No: 4433	Boring No. 8
Daniel G Loucks PE 2615 Page Store Road Cameron, NC dglgeoeng@gmail.com 518-369-9453	Drilling Contractor: LaBella	Drill Rig Type: ATV
	Hammer Type: Automatic	Date: September 2024
	Hammer Weight: 140 lbs	Hammer Drop: 30 inches
	Groundwater Depth: None Observed WS	

Depth (feet)	Sample Number	Sample Type	Blow Counts (blows/foot)	"N" Value	Approx. Strata Change Depth	Lithology **Soil Group Name:** modifier, color, moisture, density/consistency, grain size, other descriptors **Rock Description:** modifierm color, hardness/degree of concentration, bedding and joint characteristics, solutions, void conditions.
	1	SS	8-10-14-14	24	2.0	Fine to Coarse Sand, some Gravel, Silt, Dark Brown Medium Dense (SM)
	2	SS	4-5-3-3	8		Fine to Coarse Sand, some Gravel, Clayey Silt, Gray Moist to Wet, Loose (SM)
	3	SS	3-3-2-4	5		
	4	SS	3-5-3-5	8		
	5	SS	4-5-3-3	8	10.0	
10	6	SS	7-7-5-8	12	12.0	Fine to Coarse Sand, trace to some Gravel, Clayey Silt Brown, Moist, Medium Dense (SM)
						End of Boring at 12.0 Feet
20						

Daniel G Loucks PE

Ground Surface Elevation: N/A

Silo Ridge Field House & Ice House Amenia, NY	Fil;e No: 4433	Boring No. 9
Daniel G Loucks PE 2615 Page Store Road Cameron, NC dglgeoeng@gmail.com 518-369-9453	Drilling Contractor: LaBella	Drill Rig Type: ATV
	Hammer Type: Automatic	Date: September 2024
	Hammer Weight: 140 lbs	Hammer Drop: 30 inches
	Groundwater Depth: None Observed WS	

Depth (feet)	Sample Number	Sample Type	Blow Counts (blows/foot)	"N" Value	Approx. Strata Change Depth	Lithology **Soil Group Name:** modifier, color, moisture, density/consistency, grain size, other descriptors **Rock Description:** modifierm color, hardness/degree of concentration, bedding and joint characteristics, solutions, void conditions.
	1	SS	6-12-7-10	19		Fine to Coarse Sand, trace to some Gravel, Silt, Brown/ Gray, Moist, Medium Dense (SM)
	2	SS	6-6-8-7	14	3.0	Fine to Coarse Sand, trace to some Gravel, Clayey Silt Gray, Moist, Loose (SM)
	3	SS	5-5-4-3	9	6.0	
	4	SS	2-2-3-6	5	8.0	Fine to Coarse Sand, some Gravel, Clayey Silt, Brown Moist to Wet, Loose (SM)
	5	SS	11-7-4-3	11		Fine to Coarse Sand, trace to some Gravel, Silt, Brown Moist, Medium Dense (SM)
10	6	SS	4-4-6-7	10	12.0	
						End of Boring at 12.0 Feet
20						

Daniel G Loucks PE

Ground Surface Elevation: N/A

Silo Ridge Field House & Ice House Amenia, NY	Fil;e No: 4433	Boring No. 10
Daniel G Loucks PE 2615 Page Store Road Cameron, NC dglgeoeng@gmail.com 518-369-9453	Drilling Contractor: LaBella	Drill Rig Type: ATV
	Hammer Type: Automatic	Date: September 2024
	Hammer Weight: 140 lbs	Hammer Drop: 30 inches
	Groundwater Depth: 8 ft WS	

Depth (feet)	Sample Number	Sample Type	Blow Counts (blows/foot)	"N" Value	Approx. Strata Change Depth	Lithology **Soil Group Name:** modifier, color, moisture, density/consistency, grain size, other descriptors **Rock Description:** modifierm color, hardness/degree of concentration, bedding and joint characteristics, solutions, void conditions.
	1	SS	10-12-13-13	25		Fine to Coarse Sand, trace to some Gravel, Silt, Brown/Gray Moist, Medium Dense (SM)
	2	SS	10-12-12-12	24	4.0	
	3	SS	6-5-4-4	9		Fine to Coarse Sand, trace to some Gravel, Silt, Brown Moist, Loose to Medium Dense (SM)
	4	SS	7-6-6-6	12		
	5	SS	7-4-4-2	8		
10	6	SS	3-5-6-5	11	12.0	
						End of Boring at 12.0 Feet
20						

Daniel G Loucks PE

Ground Surface Elevation: N/A

Silo Ridge Field House & Ice House Amenia, NY	Fil;e No: 4433	Boring No. 11
Daniel G Loucks PE 2615 Page Store Road Cameron, NC dglgeoeng@gmail.com 518-369-9453	Drilling Contractor: LaBella	Drill Rig Type: ATV
	Hammer Type: Automatic	Date: September 2024
	Hammer Weight: 140 lbs	Hammer Drop: 30 inches
	Groundwater Depth: None Observed WS	

Depth (feet)	Sample Number	Sample Type	Blow Counts (blows/foot)	"N" Value	Approx. Strata Change Depth	Lithology **Soil Group Name:** modifier, color, moisture, density/consistency, grain size, other descriptors **Rock Description:** modifierm color, hardness/degree of concentration, bedding and joint characteristics, solutions, void conditions.
	1	SS	8-16-12-1-2	28	2.0	Fine to Coarse Sand, trace to some Silt, trace Gravel Brown, Moist, Medium Dense (SM)
	2	SS	17-16-16-14	32		Fine to Coarse Sand and Gravel, trace to some Silt, Brown Gray, Moist, Medium Dense to Dense (SM-GM)
	3	SS	10-6-7-6	13	6.0	
	4	SS	7-8-6-8	14	8.0	Fine to Medium Sand and Clayey Silt, trace Gravel, Brown Moist, Medium Dense (SM-ML)
	5	SS	5-6-4-5	10	10.0	Clayey Silt, trace Sand, Brown, Moist to Wet Medium Dense (ML)
10	6	SS	4-4-3-6	7	12.0	Clayey Silt, some Fine Sand, Brown, Moist, Loose (ML)
						End of Boring at 12.0 Feet
20						

Daniel G Loucks PE

Ground Surface Elevation: N/A

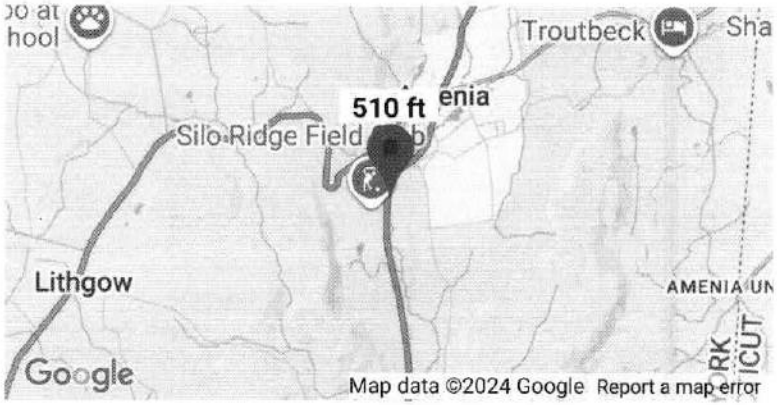
⚠ This is a beta release of the new ATC Hazards by Location website. Please contact us with feedback.

ℹ The ATC Hazards by Location website will not be updated to support ASCE 7-22. Find out why.

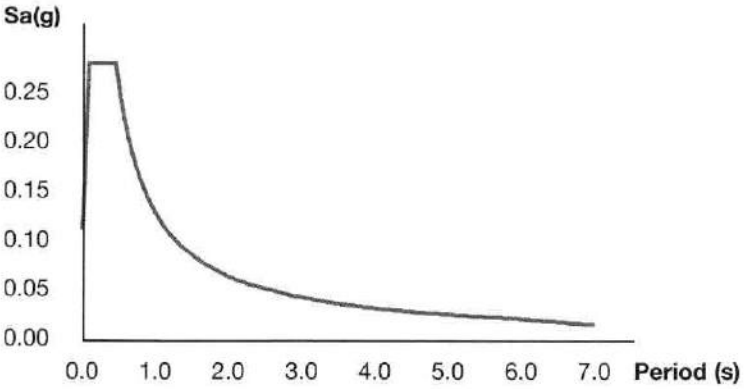
ATC Hazards by Location

Search Information

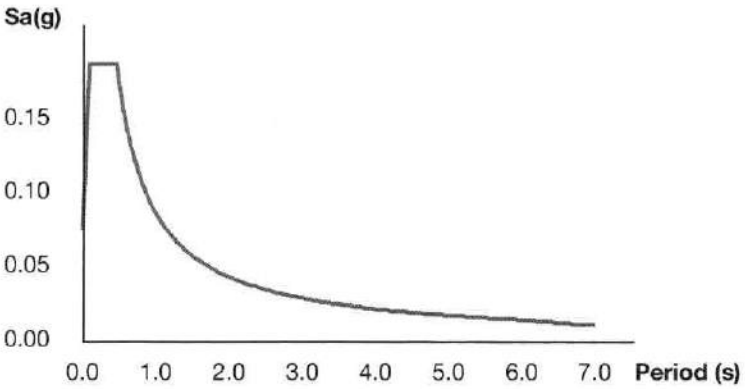
Coordinates:	41.835320440584056, -73.5662331757324
Elevation:	510 ft
Timestamp:	2024-10-08T13:07:43.323Z
Hazard Type:	Seismic
Reference Document:	ASCE7-16
Risk Category:	I
Site Class:	D



MCER Horizontal Response Spectrum



Design Horizontal Response Spectrum



Basic Parameters

Name	Value	Description
S_S	0.175	MCE_R ground motion (period=0.2s)
S_1	0.054	MCE_R ground motion (period=1.0s)
S_{MS}	0.281	Site-modified spectral acceleration value
S_{M1}	0.129	Site-modified spectral acceleration value
S_{DS}	0.187	Numeric seismic design value at 0.2s SA
S_{D1}	0.086	Numeric seismic design value at 1.0s SA

▾Additional Information

Name	Value	Description
SDC	B	Seismic design category

F_a	1.6	Site amplification factor at 0.2s
F_v	2.4	Site amplification factor at 1.0s
CR_S	0.937	Coefficient of risk (0.2s)
CR_1	0.92	Coefficient of risk (1.0s)
PGA	0.094	MCE_G peak ground acceleration
F_{PGA}	1.6	Site amplification factor at PGA
PGA_M	0.15	Site modified peak ground acceleration
T_L	6	Long-period transition period (s)
SsRT	0.175	Probabilistic risk-targeted ground motion (0.2s)
SsUH	0.187	Factored uniform-hazard spectral acceleration (2% probability of exceedance in 50 years)
SsD	1.5	Factored deterministic acceleration value (0.2s)
S1RT	0.054	Probabilistic risk-targeted ground motion (1.0s)
S1UH	0.058	Factored uniform-hazard spectral acceleration (2% probability of exceedance in 50 years)
S1D	0.6	Factored deterministic acceleration value (1.0s)
PGAd	0.5	Factored deterministic acceleration value (PGA)

Disclaimer

Hazard loads are provided by the U.S. Geological Survey Seismic Design Web Services.

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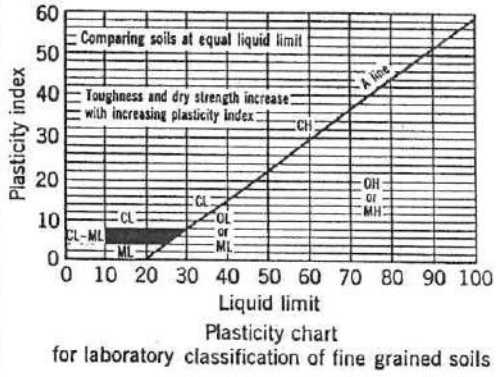
Table 3.5 Unified Soil Classification

Field Identification Procedures (Excluding particles larger than 3 in. and basing fractions on estimated weights)						Group Symbols[a]	Typical Names	Information Required for Describing Soils	Laboratory Classification Criteria
Coarse-grained soils: More than half of material is *larger* than No. 200 sieve size[b] (The No. 200 sieve size is about the smallest particle visible to naked eye)	Gravels: More than half of coarse fraction is larger than No. 4 sieve size (For visual classification, the ¼ in. size may be used as equivalent to the No. 4 sieve size)	Clean gravels (little or no fines)	Wide range in grain size and substantial amounts of all intermediate particle sizes			*GW*	Well graded gravels, gravel-sand mixtures, little or no fines	Give typical name; indicate approximate percentages of sand and gravel; maximum size; angularity, surface condition, and hardness of the coarse grains; local or geologic name and other pertinent descriptive information; and symbols in parentheses For undisturbed soils add information on stratification, degree of compactness, cementation, moisture conditions and drainage characteristics Example: *Silty sand*, gravelly; about 20% hard, angular gravel particles ½-in. maximum size; rounded and subangular sand grains coarse to fine, about 15% nonplastic fines with low dry strength; well compacted and moist in place; alluvial sand; (*SM*)	Determine percentages of gravel and sand from grain size curve Depending on percentage of fines (fraction smaller than No. 200 sieve size) coarse grained soils are classified as follows: Less than 5% *GW, GP, SW, SP* More than 12% *GM, GC, SM, SC* 5% to 12% *Borderline* cases requiring use of dual symbols Use grain size curve in identifying the fractions as given under field identification	$C_U = \frac{D_{60}}{D_{10}}$ Greater than 4 $C_C = \frac{(D_{30})^2}{D_{10} \times D_{60}}$ Between 1 and 3 Not meeting all gradation requirements for *GW* Atterberg limits below "A" line, or *PI* less than 4 — Above "A" line with *PI* between 4 and 7 are *borderline* cases requiring use of dual symbols Atterberg limits above "A" line, with *PI* greater than 7
			Predominantly one size or a range of sizes with some intermediate sizes missing			*GP*	Poorly graded gravels, gravel-sand mixtures, little or no fines		
		Gravels with fines (appreciable amount of fines)	Nonplastic fines (for identification procedures see *ML* below)			*GM*	Silty gravels, poorly graded gravel-sand-silt mixtures		
			Plastic fines (for identification procedures, see *CL* below)			*GC*	Clayey gravels, poorly graded gravel-sand-clay mixtures		
	Sands: More than half of coarse fraction is smaller than No. 4 sieve size	Clean sands (little or no fines)	Wide range in grain sizes and substantial amounts of all intermediate particle sizes			*SW*	Well graded sands, gravelly sands, little or no fines		$C_U = \frac{D_{60}}{D_{10}}$ Greater than 6 $C_C = \frac{(D_{30})^2}{D_{10} \times D_{60}}$ Between 1 and 3 Not meeting all gradation requirements for *SW* Atterberg limits below "A" line or *PI* less than 5 — Above "A" line with *PI* between 4 and 7 are *borderline* cases requiring use of dual symbols Atterberg limits below "A" line with *PI* greater than 7
			Predominantly one size or a range of sizes with some intermediate sizes missing			*SP*	Poorly graded sands, gravelly sands, little or no fines		
		Sands with fines (appreciable amount of fines)	Nonplastic fines (for identification procedures, see *ML* below)			*SM*	Silty sands, poorly graded sand-silt mixtures		
			Plastic fines (for identification procedures, see *CL* below)			*SC*	Clayey sands, poorly graded sand-clay mixtures		
Fine-grained soils: More than half of material is *smaller* than No. 200 sieve size (The No. 200 sieve size is about the smallest particle visible to naked eye)	Identification Procedures on Fraction Smaller than No. 40 Sieve Size		Dry Strength (crushing characteristics)	Dilatancy (reaction to shaking)	Toughness (consistency near plastic limit)				
	Silts and clays: liquid limit less than 50		None to slight	Quick to slow	None	*ML*	Inorganic silts and very fine sands, rock flour, silty or clayey fine sands with slight plasticity	Give typical name; indicate degree and character of plasticity, amount and maximum size of coarse grains; colour in wet condition, odour if any, local or geologic name, and other pertinent descriptive information, and symbol in parentheses For undisturbed soils add information on structure, stratification, consistency in undisturbed and remoulded states, moisture and drainage conditions Example: *Clayey silt*, brown; slightly plastic; small percentage of fine sand; numerous vertical root holes; firm and dry in place; loess; (*ML*)	
			Medium to high	None to very slow	Medium	*CL*	Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays		
			Slight to medium	Slow	Slight	*OL*	Organic silts and organic silt-clays of low plasticity		
	Silts and clays: liquid limit greater than 50		Slight to medium	Slow to none	Slight to medium	*MH*	Inorganic silts, micaceous or diatomaceous fine sandy or silty soils, elastic silts		
			High to very high	None	High	*CH*	Inorganic clays of high plasticity, fat clays		
			Medium to high	None to very slow	Slight to medium	*OH*	Organic clays of medium to high plasticity		
Highly Organic Soils			Readily identified by colour, odour, spongy feel and frequently by fibrous texture			*Pt*	Peat and other highly organic soils		



Plasticity chart
for laboratory classification of fine grained soils

From Wagner, 1957.

[a] *Boundary classifications*. Soils possessing characteristics of two groups are designated by combinations of group symbols. For example *GW–GC*, well graded gravel-sand mixture with clay binder.

[b] All sieve sizes on this chart are U.S. standard.

Field Identification Procedure for Fine Grained Soils or Fractions

These procedures are to be performed on the minus No. 40 sieve size particles, approximately 1/64 in. For field classification purposes, screening is not intended, simply remove by hand the coarse particles that interfere with the tests.

Dilatancy (Reaction to shaking):

After removing particles larger than No. 40 sieve size, prepare a pat of moist soil with a volume of about one-half cubic inch. Add enough water if necessary to make the soil soft but not sticky.

Place the pat in the open palm of one hand and shake horizontally, striking vigorously against the other hand several times. A positive reaction consists of the appearance of water on the surface of the pat which changes to a livery consistency and becomes glossy. When the sample is squeezed between the fingers, the water and gloss disappear from the surface, the pat stiffens and finally it cracks or crumbles. The rapidity of appearance of water during shaking and of its disappearance during squeezing assist in identifying the character of the fines in a soil.

Very fine clean sands give the quickest and most distinct reaction whereas a plastic clay has no reaction. Inorganic silts, such as a typical rock flour, show a moderately quick reaction.

Dry Strength (Crushing characteristics):

After removing particles larger than No. 40 sieve size, mould a pat of soil to the consistency of putty, adding water if necessary. Allow the pat to dry completely by oven, sun or air drying, and then test its strength by breaking and crumbling between the fingers. This strength is a measure of the character and quantity of the colloidal fraction contained in the soil. The dry strength increases with increasing plasticity.

High dry strength is characteristic for clays of the CH group. A typical inorganic silt possesses only very slight dry strength. Silty fine sands and silts have about the same slight dry strength, but can be distinguished by the feel when powdering the dried specimen. Fine sand feels gritty whereas a typical silt has the smooth feel of flour.

Toughness (Consistency near plastic limit):

After removing particles larger than the No. 40 sieve size, a specimen of soil about one-half inch cube in size, is moulded to the consistency of putty. If too dry, water must be added and if sticky, the specimen should be spread out in a thin layer and allowed to lose some moisture by evaporation. Then the specimen is rolled out by hand on a smooth surface or between the palms into a thread about one-eight inch in diameter. The thread is then folded and re-rolled repeatedly. During this manipulation the moisture content is gradually reduced and the specimen stiffens, finally loses its plasticity, and crumbles when the plastic limit is reached.

After the thread crumbles, the pieces should be lumped together and a slight kneading action continued until the lump crumbles.

The tougher the thread near the plastic limit and the stiffer the lump when it finally crumbles, the more potent is the colloidal clay fraction in the soil. Weakness of the thread at the plastic limit and quick loss of coherence of the lump below the plastic limit indicate either inorganic clay of low plasticity, or materials such as kaolin-type clays and organic clays which occur below the A-line.

Highly organic clays have a very weak and spongy feel at the plastic limit.

Soil Characteristics Pertinent to Roads and Airfields

Major Divisions		Letter (1)	Name	Value as Subgrade When Not Subject to Frost Action	Value as Subbase When Not Subject to Frost Action	Value as Base When Not Subject to Frost Action	Potential Frost Action	Compressibility and Expansion	Drainage Characteristics	Compaction Equipment	Unit Dry Weight lb. per cu. ft.	Typical Design Values	
												CBR (2)	Subgrade Modulus k lb. per cu. in.
Coarse-Grained Soils	Gravel and Gravelly soils	GW	Well-graded gravels or gravel-sand mixtures, little or no fines	Excellent	Excellent	Good	None to very slight	Almost none	Excellent	Crawler-type tractor, rubber-tired roller, steel-wheeled roller	125-140	40-80	300-500
		GP	Poorly graded gravels or gravel-sand mixtures, little or no fines	Good to excellent	Good	Fair to good	None to very slight	Almost none	Excellent	Crawler-type tractor, rubber-tired roller, steel-wheeled roller	110-140	30-60	300-500
		GM d	Silty gravels, gravel-sand-silt mixtures	Good to excellent	Good	Fair to good	Slight to medium	Very slight	Fair to poor	Rubber-tired roller, sheepsfoot roller; close control of moisture	125-145	40-60	300-500
		GM u		Good	Fair	Poor to not suitable	Slight to medium	Slight	Poor to practically impervious	Rubber-tired roller, sheepsfoot roller	115-135	20-30	200-500
		OC	Clayey gravels, gravel-sand-clay mixtures	Good	Fair	Poor to not suitable	Slight to medium	Slight	Poor to practically impervious	Rubber-tired roller, sheepsfoot roller	130-145	20-40	200-500
	Sand and Sandy soils	SW	Well-graded sands or gravelly sands, little or no fines	Good	Fair to good	Poor	None to very slight	Almost none	Excellent	Crawler-type tractor, rubber-tired roller	110-130	20-40	200-400
		SP	Poorly graded sands or gravelly sands, little or no fines	Fair to good	Fair	Poor to not suitable	None to very slight	Almost none	Excellent	Crawler-type tractor, rubber-tired roller	105-135	10-40	150-400
		SM d	Silty sands, sand-silt mixtures	Fair to good	Fair to good	Poor	Slight to high	Very slight	Fair to poor	Rubber-tired roller, sheepsfoot roller; close control of moisture	120-135	15-40	150-400
		SM u		Fair	Poor to fair	Not suitable	Slight to high	Slight to medium	Poor to practically impervious	Rubber-tired roller, sheepsfoot roller	100-130	10-20	100-300
		SC	Clayey sands, sand-clay mixtures	Poor to fair	Poor	Not suitable	Slight to high	Slight to medium	Poor to practically impervious	Rubber-tired roller, sheepsfoot roller	100-135	5-20	100-300
Fine-Grained Soils	Silts and Clays LL is less than 50	ML	Inorganic silts and very fine sands, rock flour, silty or clayey fine sands or clayey silts with slight plasticity	Poor to fair	Not suitable	Not suitable	Medium to very high	Slight to medium	Fair to poor	Rubber-tired roller, sheepsfoot roller; close control of moisture	90-130	15 or less	100-200
		CL	Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays	Poor to fair	Not suitable	Not suitable	Medium to high	Medium	Practically impervious	Rubber-tired roller, sheepsfoot roller	90-130	15 or less	50-150
		OL	Organic silts and organic silt-clays of low plasticity	Poor	Not suitable	Not suitable	Medium to high	Medium to high	Poor	Rubber-tired roller, sheepsfoot roller	90-105	5 or less	50-100
	Silts and Clays LL is Greater than 50	MH	Inorganic silts, micaceous or diatomaceous fine sandy or silty soils, elastic silts	Poor	Not suitable	Not suitable	Medium to very high	High	Fair to poor	Sheepsfoot roller, rubber-tired roller	80-105	10 or less	50-100
		CH	Inorganic clays of medium to high plasticity, organic silts	Poor to fair	Not suitable	Not suitable	Medium	High	Practically impervious	Sheepsfoot roller, rubber-tired roller	90-115	15 or less	50-150
		OH	Organic clays of high plasticity, fat clays	Poor to very poor	Not suitable	Not suitable	Medium	High	Practically impervious	Sheepsfoot roller, rubber-tired roller	80-110	5 or less	25-100
Highly Organic Soils		Pt	Peat and other highly organic soils	Not suitable	Not suitable	Not suitable	Slight	Very high	Fair to poor	Compaction not practical	—	—	—

Note:

(1) Unit Dry Weights are for compacted soil at optimum moisture content for modified AASHO compaction effort. Division of GM and SM groups into subdivision of d and u are for roads and airfields only. Subdivision is basis of Atterberg limits; suffix d (e.g., GMd) will be used when the liquid limit (LL) is 25 or less and the plasticity index is 6 or less; the suffix u will be used otherwise.

(2) The maximum value that can be used in design of airfields is, in some cases, limited by gradation and plasticity requirements.

GENERAL QUALIFICATIONS

This report has been prepared in order to aid in the evaluation of this property and to assist the architect and/or engineer in the design of this project. The scope of the project and location described herein, and my description of the project represents my understanding of the significant aspects relevant to soil and foundation characteristics. In the event that any changes in the design or location of the proposed facilities, as outlined in this report, are planned, I should be informed so the changes can be reviewed and the conclusions of this report modified or approved in writing by myself.

It is recommended that all construction operations dealing with earthwork and foundations be inspected by an experienced soil engineer to assure that the design requirements are fulfilled in the actual construction. If you wish, I would welcome the opportunity to review the plans and specifications when they have been prepared so that I may have the opportunity of commenting on the effect of soil conditions on the design and specifications.

The analysis and recommendations submitted in this report are based upon the data obtained from the soil borings and/or test pits performed at the locations indicated on the location diagram and from any other information discussed in the report. This report does not reflect any variations which may occur between these boring and/or test pits. In the performance of subsurface investigations, specific information is obtained at specific locations at specific times. However, it is a well-known fact that variations in soil and rock conditions exist on most sites between boring locations and also such situations as groundwater conditions vary from time to time. The nature and extent of variations may may not become evident until the course of construction. If variations then appear evident, it will be necessary for a reevaluation of the recommendations of this report after performing on-site observations during the construction period and noting the characteristics of any variations.

Attachment D
Drainage Calculations

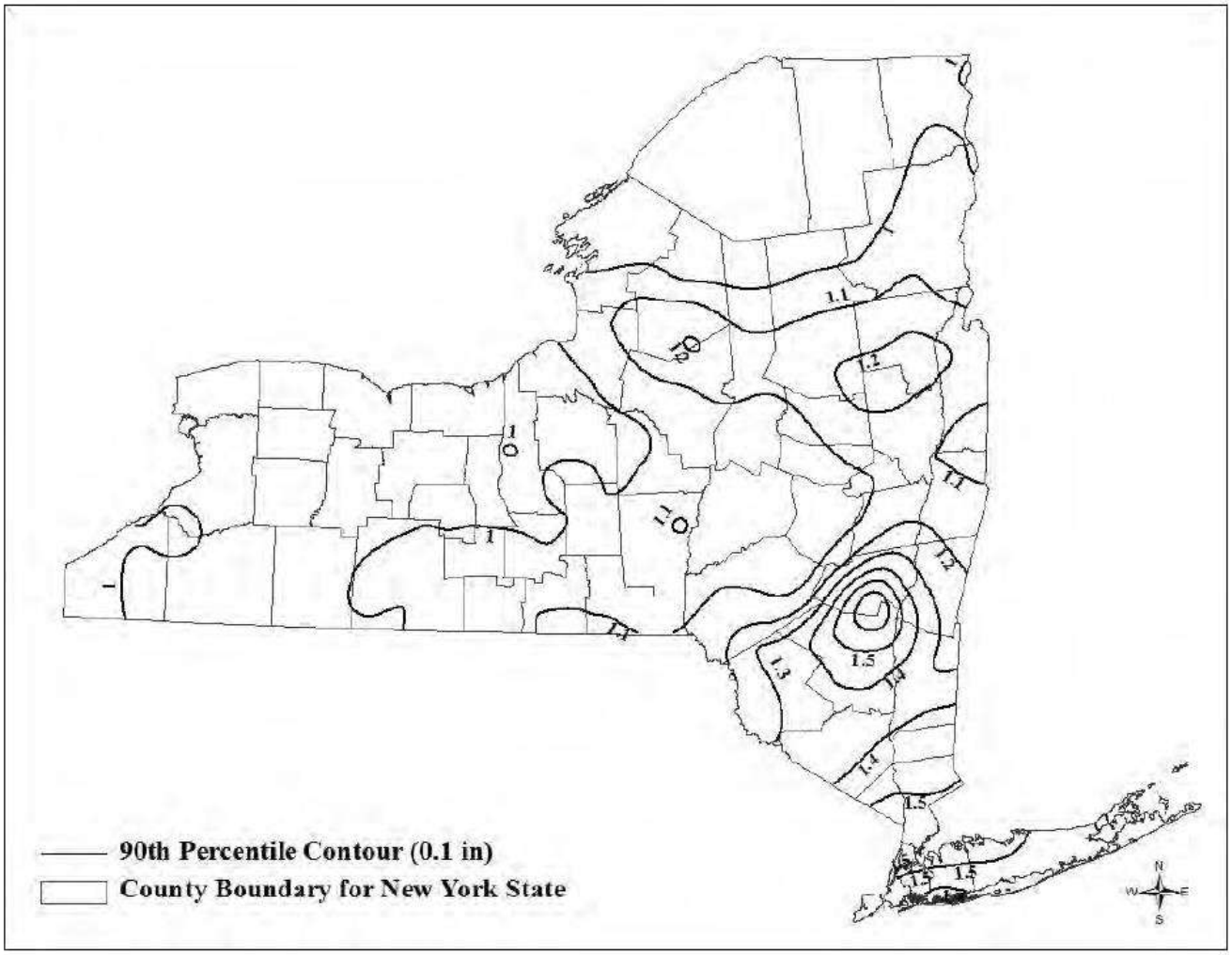
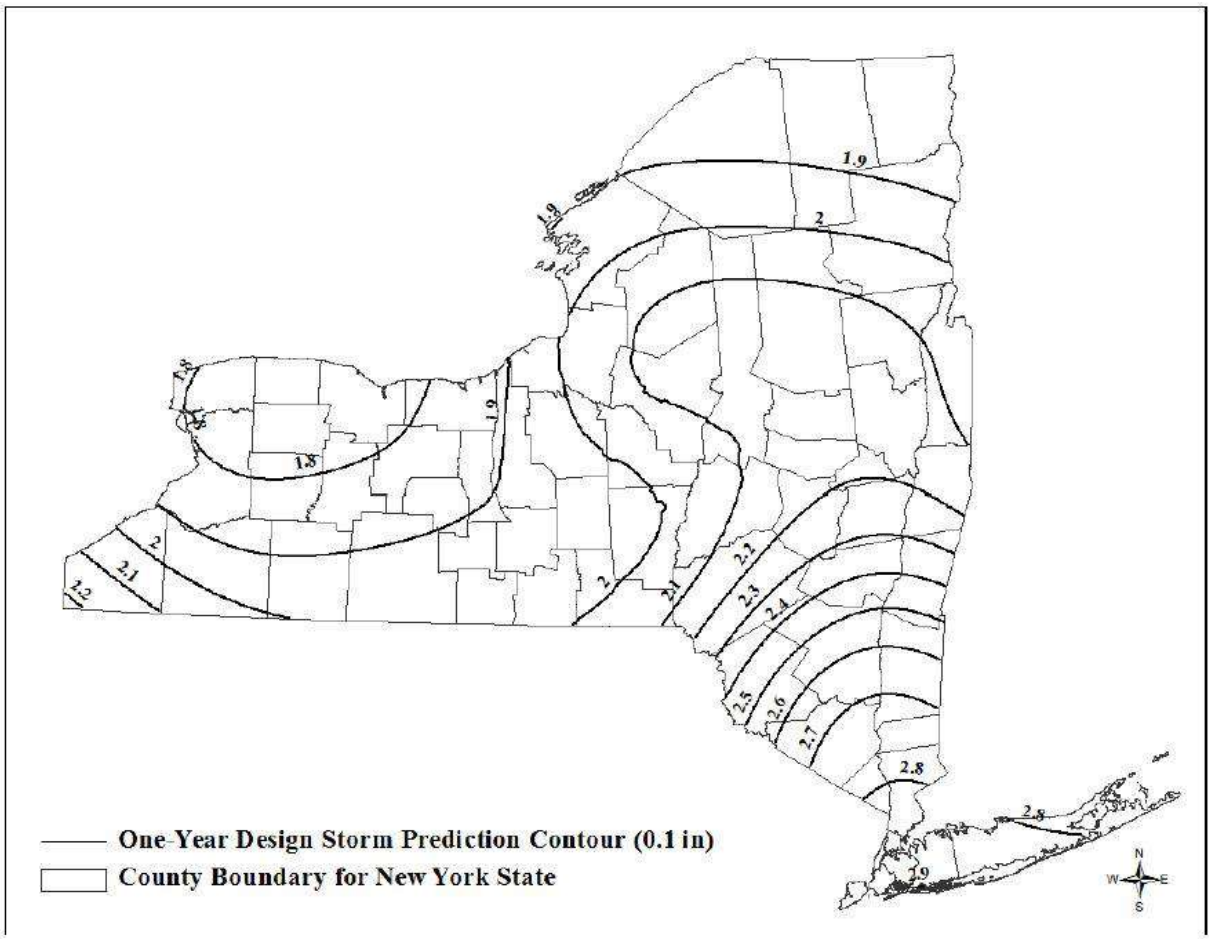


Figure 4.1 90th Percentile Rainfall in New York State (NYSDEC, 2013)

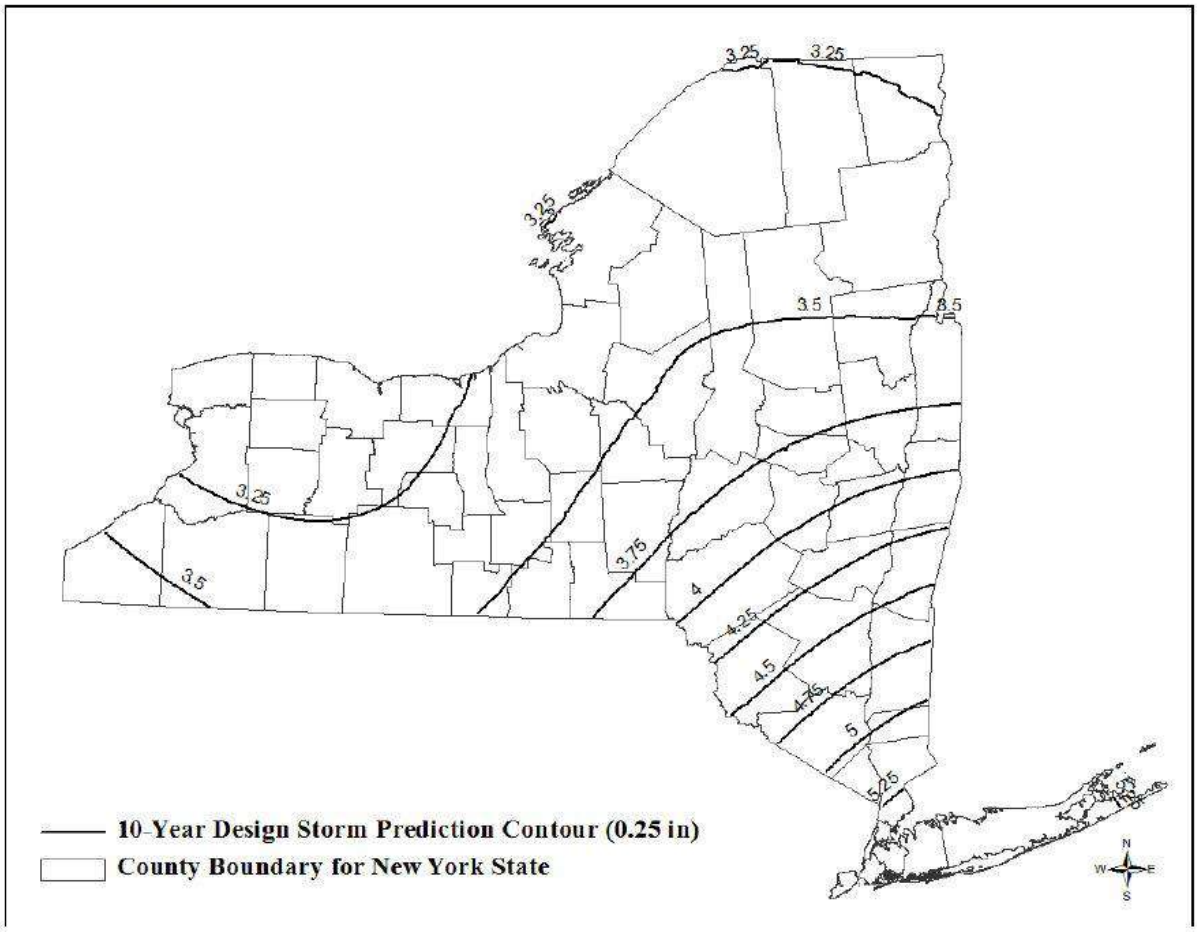
Source: New York State Stormwater Management Design Manual, July 2024

Figure 4.2: One-Year Design Storm in New York State (NYSDEC, 2013)



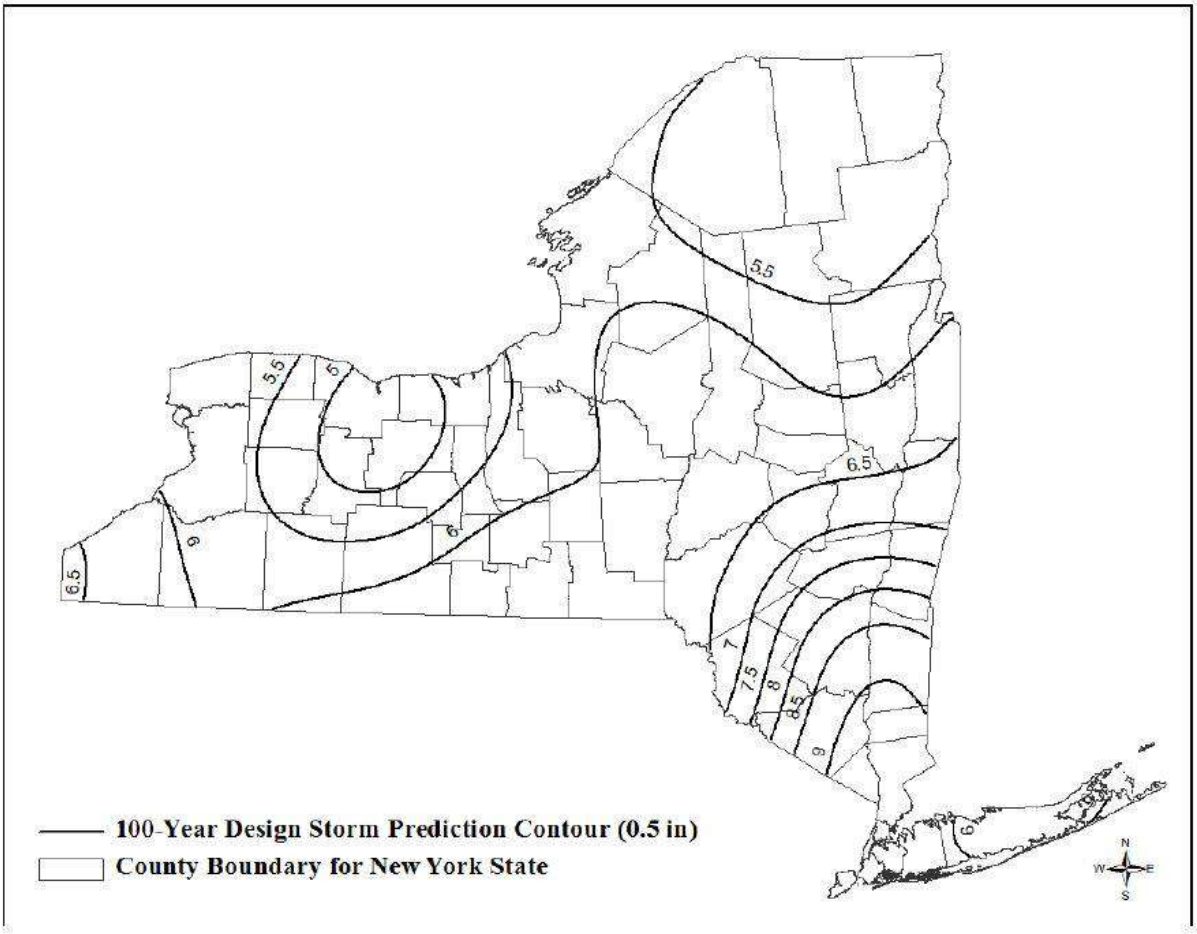
Source: New York State Stormwater Management Design Manual, July 2015

Figure 4.3: Ten-Year Design Storm in New York State (NYSDEC, 2013)



Source: New York State Stormwater Management Design Manual, July 2015

Figure 4.4: One Hundred-Year Design Storm in New York State (NYSDEC, 2013)



Source: New York State Stormwater Management Design Manual, July 2015

NOAA Atlas 14, Volume 10, Version 3
Location name: Amenia, New York, USA*
Latitude: 41.8173°, Longitude: -73.5643°
Elevation: 492 ft**
* source: ESRI Maps
** source: USGS

POINT PRECIPITATION FREQUENCY ESTIMATES

Sanja Perica, Sandra Pavlovic, Michael St. Laurent, Carl Trypaluk, Dale Unruh, Orlan Wilhite

NOAA, National Weather Service, Silver Spring, Maryland

PF_tabular | PF_graphical | Maps_&_aerials

PF tabular

PDS-based point precipitation frequency estimates with 90% confidence intervals (in inches)[1]

Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
5-min	**0.339** (0.257-0.447)	**0.402** (0.304-0.530)	**0.504** (0.380-0.666)	**0.588** (0.441-0.782)	**0.704** (0.514-0.974)	**0.793** (0.567-1.12)	**0.884** (0.615-1.29)	**0.980** (0.655-1.47)	**1.11** (0.718-1.72)	**1.21** (0.768-1.92)
10-min	**0.481** (0.364-0.633)	**0.569** (0.431-0.750)	**0.713** (0.538-0.944)	**0.833** (0.625-1.11)	**0.998** (0.728-1.38)	**1.12** (0.804-1.58)	**1.25** (0.872-1.82)	**1.39** (0.928-2.08)	**1.57** (1.02-2.44)	**1.72** (1.09-2.72)
15-min	**0.566** (0.428-0.745)	**0.670** (0.506-0.883)	**0.840** (0.634-1.11)	**0.980** (0.736-1.30)	**1.17** (0.856-1.62)	**1.32** (0.946-1.86)	**1.47** (1.03-2.14)	**1.63** (1.09-2.44)	**1.85** (1.20-2.87)	**2.02** (1.28-3.20)
30-min	**0.775** (0.587-1.02)	**0.915** (0.693-1.21)	**1.14** (0.863-1.51)	**1.34** (1.00-1.78)	**1.60** (1.17-2.21)	**1.80** (1.29-2.54)	**2.00** (1.40-2.93)	**2.23** (1.49-3.34)	**2.54** (1.64-3.94)	**2.80** (1.77-4.42)
60-min	**0.984** (0.745-1.30)	**1.16** (0.879-1.53)	**1.45** (1.09-1.92)	**1.69** (1.27-2.25)	**2.02** (1.48-2.80)	**2.28** (1.63-3.22)	**2.54** (1.78-3.71)	**2.83** (1.89-4.23)	**3.24** (2.09-5.01)	**3.57** (2.26-5.64)
2-hr	**1.28** (0.978-1.68)	**1.49** (1.13-1.95)	**1.83** (1.38-2.40)	**2.11** (1.59-2.78)	**2.49** (1.82-3.42)	**2.78** (2.00-3.90)	**3.08** (2.16-4.46)	**3.40** (2.28-5.07)	**3.84** (2.49-5.93)	**4.19** (2.66-6.60)
3-hr	**1.48** (1.12-1.92)	**1.71** (1.30-2.23)	**2.10** (1.60-2.75)	**2.42** (1.83-3.18)	**2.86** (2.10-3.92)	**3.19** (2.30-4.46)	**3.54** (2.48-5.12)	**3.91** (2.63-5.81)	**4.42** (2.88-6.81)	**4.84** (3.08-7.60)
6-hr	**1.80** (1.38-2.34)	**2.14** (1.64-2.77)	**2.68** (2.05-3.49)	**3.13** (2.38-4.10)	**3.75** (2.77-5.13)	**4.21** (3.06-5.90)	**4.70** (3.34-6.84)	**5.28** (3.56-7.82)	**6.12** (3.99-9.39)	**6.83** (4.36-10.7)
12-hr	**2.13** (1.64-2.74)	**2.62** (2.02-3.38)	**3.42** (2.62-4.42)	**4.08** (3.12-5.32)	**5.00** (3.73-6.85)	**5.67** (4.17-7.97)	**6.40** (4.63-9.42)	**7.33** (4.95-10.8)	**8.79** (5.74-13.4)	**10.1** (6.44-15.7)
24-hr	**2.45** (1.90-3.14)	**3.10** (2.40-3.98)	**4.16** (3.20-5.35)	**5.03** (3.86-6.52)	**6.24** (4.69-8.55)	**7.12** (5.27-10.0)	**8.10** (5.91-12.0)	**9.37** (6.35-13.8)	**11.4** (7.48-17.4)	**13.3** (8.50-20.6)
2-day	**2.81** (2.18-3.57)	**3.55** (2.76-4.53)	**4.77** (3.70-6.10)	**5.78** (4.46-7.44)	**7.17** (5.41-9.77)	**8.19** (6.09-11.5)	**9.32** (6.83-13.7)	**10.8** (7.33-15.8)	**13.2** (8.64-20.0)	**15.3** (9.83-23.6)
3-day	**3.05** (2.38-3.87)	**3.85** (3.00-4.89)	**5.14** (4.00-6.56)	**6.22** (4.81-7.98)	**7.70** (5.83-10.5)	**8.78** (6.55-12.2)	**9.98** (7.33-14.6)	**11.5** (7.86-16.9)	**14.1** (9.25-21.3)	**16.3** (10.5-25.1)
4-day	**3.27** (2.56-4.14)	**4.10** (3.20-5.20)	**5.46** (4.26-6.95)	**6.59** (5.11-8.43)	**8.14** (6.17-11.0)	**9.28** (6.93-12.9)	**10.5** (7.74-15.4)	**12.2** (8.30-17.8)	**14.8** (9.75-22.4)	**17.1** (11.1-26.4)
7-day	**3.88** (3.04-4.88)	**4.80** (3.77-6.06)	**6.31** (4.94-7.99)	**7.56** (5.88-9.63)	**9.29** (7.06-12.5)	**10.6** (7.90-14.6)	**11.9** (8.78-17.3)	**13.7** (9.40-20.0)	**16.6** (10.9-24.9)	**19.0** (12.3-29.2)
10-day	**4.50** (3.54-5.65)	**5.47** (4.30-6.88)	**7.07** (5.54-8.92)	**8.39** (6.55-10.7)	**10.2** (7.77-13.7)	**11.6** (8.65-15.9)	**13.0** (9.56-18.7)	**14.9** (10.2-21.5)	**17.7** (11.7-26.6)	**20.2** (13.1-31.0)
20-day	**6.46** (5.11-8.06)	**7.50** (5.93-9.37)	**9.20** (7.25-11.5)	**10.6** (8.31-13.4)	**12.5** (9.56-16.6)	**14.0** (10.5-18.9)	**15.5** (11.3-21.9)	**17.3** (12.0-25.0)	**19.9** (13.3-29.8)	**22.1** (14.4-33.8)
30-day	**8.11** (6.44-10.1)	**9.19** (7.28-11.4)	**10.9** (8.65-13.7)	**12.4** (9.76-15.6)	**14.4** (11.0-18.9)	**15.9** (11.9-21.4)	**17.5** (12.7-24.4)	**19.2** (13.3-27.6)	**21.6** (14.4-32.2)	**23.5** (15.3-35.8)
45-day	**10.2** (8.09-12.6)	**11.3** (8.98-14.0)	**13.2** (10.4-16.4)	**14.7** (11.6-18.4)	**16.8** (12.8-21.9)	**18.5** (13.8-24.5)	**20.1** (14.5-27.6)	**21.7** (15.1-31.0)	**23.9** (16.0-35.4)	**25.4** (16.6-38.7)
60-day	**11.9** (9.47-14.7)	**13.1** (10.4-16.2)	**15.0** (11.9-18.7)	**16.7** (13.2-20.8)	**18.9** (14.5-24.5)	**20.7** (15.4-27.3)	**22.4** (16.1-30.5)	**24.0** (16.7-34.2)	**26.0** (17.4-38.5)	**27.4** (17.9-41.6)

[1] Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS).

Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates (for a given duration and average recurrence interval) will be greater than the upper bound (or less than the lower bound) is 5%. Estimates at upper bounds are not checked against probable maximum precipitation (PMP) estimates and may be higher than currently valid PMP values.

Please refer to NOAA Atlas 14 document for more information.

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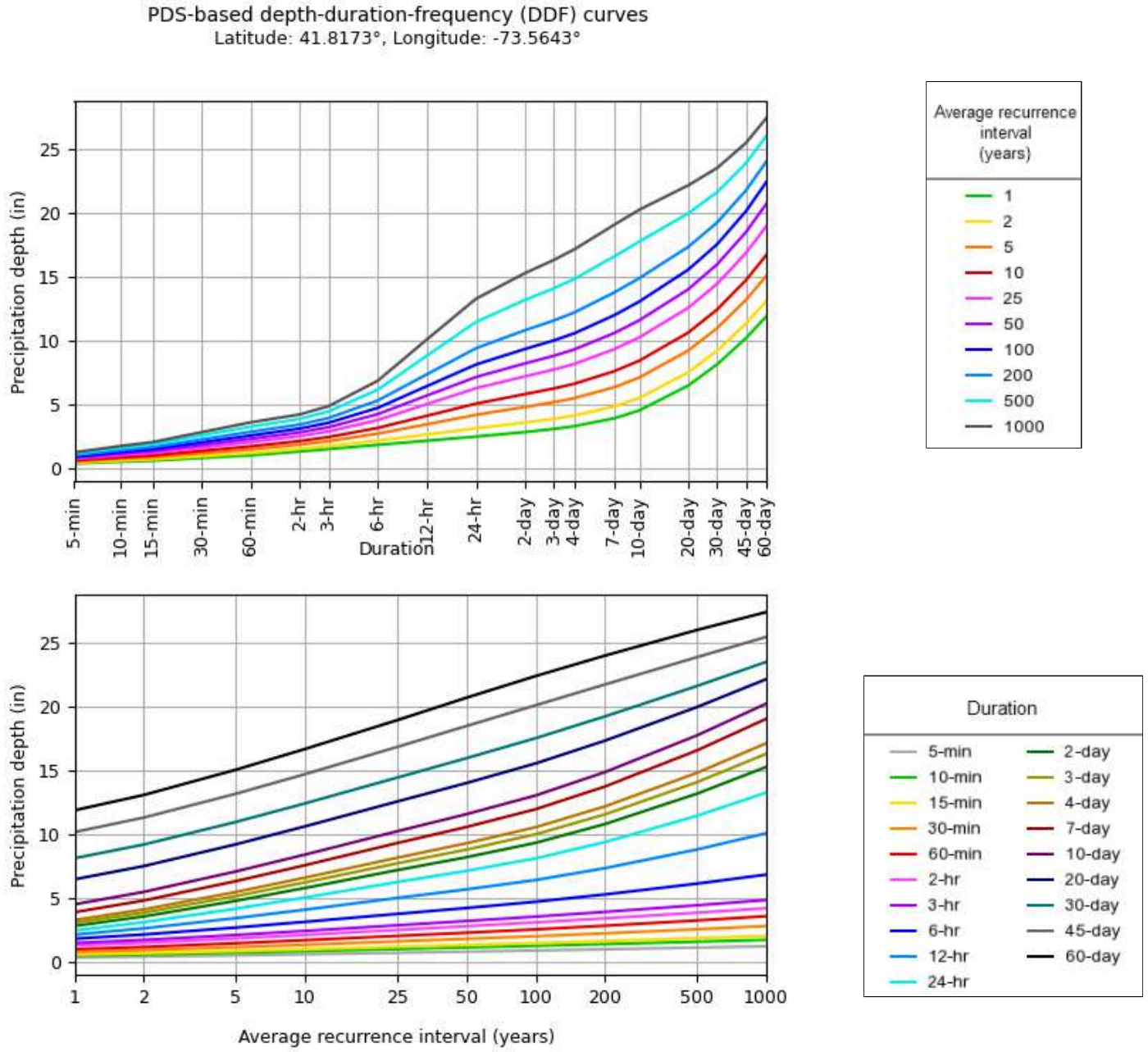
PF graphical



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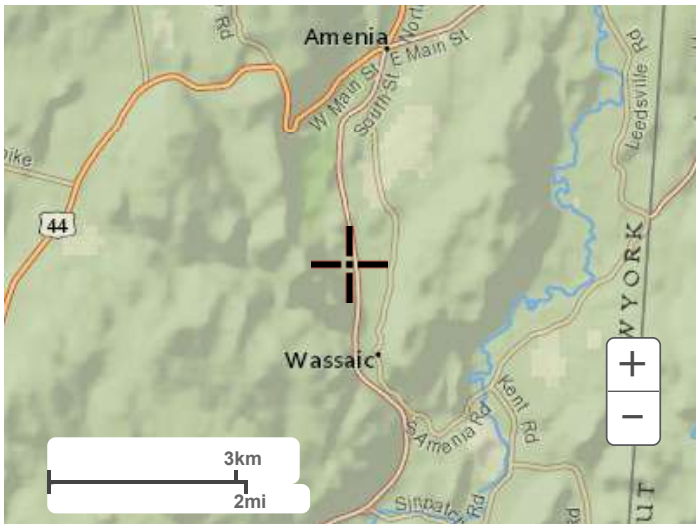
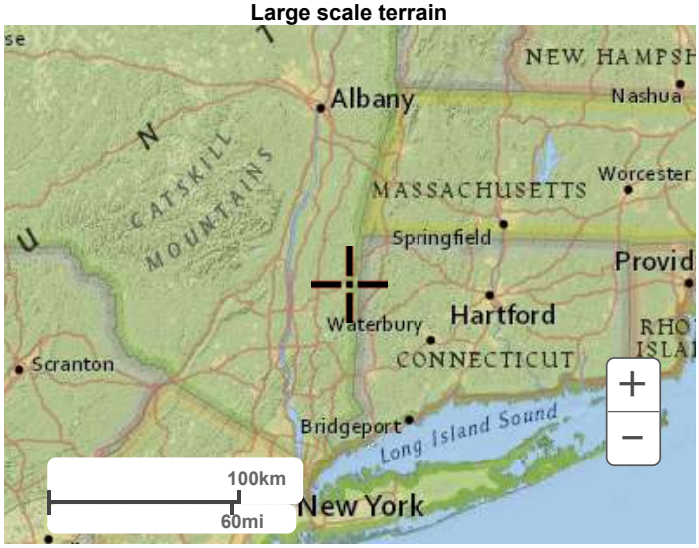
Maps & aerials

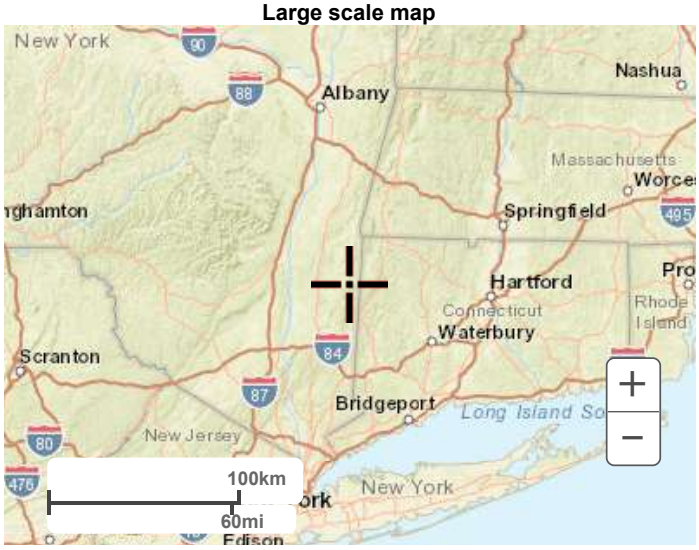
Small scale terrain



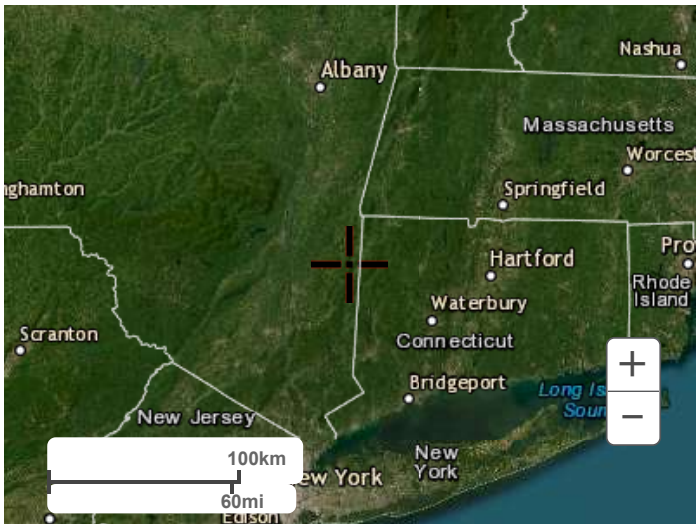
Large scale terrain



Large scale map



Large scale aerial



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National Oceanic and Atmospheric Administration
National Weather Service
National Water Center
1325 East West Highway
Silver Spring, MD 20910
Questions?: HDSC.Questions@noaa.gov

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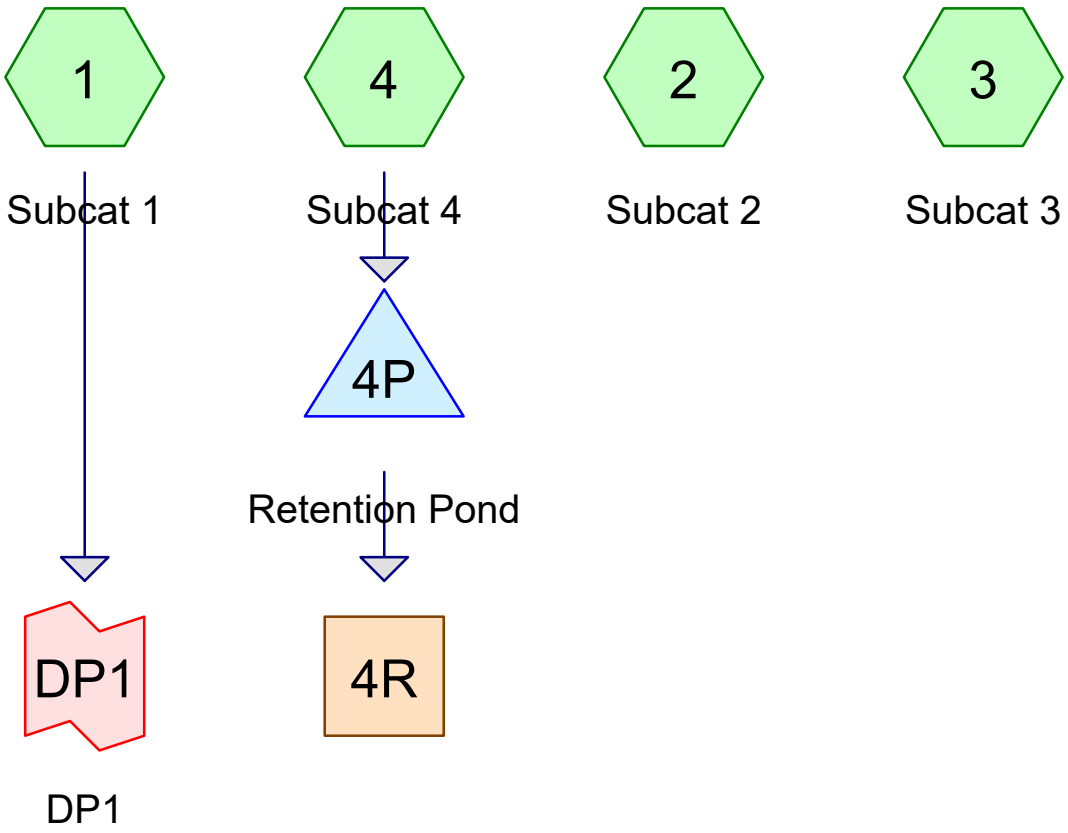


Subcat Reach Pond Link

Routing Diagram for Siland_EX
Prepared by VHB, Inc, Printed 2/27/2025
HydroCAD® 10.20-5c s/n 01038 © 2023 HydroCAD Software Solutions LLC

Rainfall Events Listing (selected events)

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	1-yr	NY-Amenia 24-hr S1	100-yr	Default	24.00	1	2.45	2

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
2.112	30	Brush, Good, HSG A (1, 2, 4)
3.174	65	Brush, Good, HSG C (1)
3.688	76	Gravel roads, HSG A (1, 3, 4)
0.478	89	Gravel roads, HSG C (1, 4)
24.529	30	Meadow, non-grazed, HSG A (1, 2, 3, 4)
2.707	71	Meadow, non-grazed, HSG C (1, 4)
0.823	98	Paved parking, HSG A (2)
0.181	98	Roofs, HSG A (1, 2)
0.010	98	Roofs, HSG C (1)
2.524	98	Water Surface, HSG A (4)
1.289	30	Woods, Good, HSG A (1, 3)
22.983	70	Woods, Good, HSG C (1)
33.479	77	Woods, Good, HSG D (1)
1.191	32	Woods/grass comb., Good, HSG A (1, 2, 3, 4)
99.169	**62**	**TOTAL AREA**

Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
36.338	HSG A	1, 2, 3, 4
0.000	HSG B	
29.351	HSG C	1, 4
33.479	HSG D	1
0.000	Other	
99.169		**TOTAL AREA**

Ground Covers (all nodes)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
2.112	0.000	3.174	0.000	0.000	5.286	Brush, Good	1, 2, 4
3.688	0.000	0.478	0.000	0.000	4.166	Gravel roads	1, 3, 4
24.529	0.000	2.707	0.000	0.000	27.236	Meadow, non-grazed	1, 2, 3, 4
0.823	0.000	0.000	0.000	0.000	0.823	Paved parking	2
0.181	0.000	0.010	0.000	0.000	0.191	Roofs	1, 2
2.524	0.000	0.000	0.000	0.000	2.524	Water Surface	4
1.289	0.000	22.983	33.479	0.000	57.751	Woods, Good	1, 3
1.191	0.000	0.000	0.000	0.000	1.191	Woods/grass comb., Good	1, 2, 3, 4
36.338	**0.000**	**29.351**	**33.479**	**0.000**	**99.169**	**TOTAL AREA**	

Time span=0.00-36.00 hrs, dt=0.03 hrs, 1201 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1: Subcat 1 Runoff Area=76.654 ac 0.10% Impervious Runoff Depth=0.31"
Flow Length=3,373' Tc=33.2 min CN=66 Runoff=6.47 cfs 1.959 af

Subcatchment 2: Subcat 2 Runoff Area=3.251 ac 28.81% Impervious Runoff Depth=0.02"
Tc=10.0 min CN=50 Runoff=0.01 cfs 0.005 af

Subcatchment 3: Subcat 3 Runoff Area=1.175 ac 0.00% Impervious Runoff Depth=0.00"
Tc=5.0 min CN=37 Runoff=0.00 cfs 0.000 af

Subcatchment 4: Subcat 4 Runoff Area=18.089 ac 13.96% Impervious Runoff Depth=0.00"
Flow Length=972' Tc=14.5 min CN=47 Runoff=0.02 cfs 0.005 af

Reach 4R: Avg. Flow Depth=0.00' Max Vel=0.00 fps Inflow=0.00 cfs 0.000 af
n=0.030 L=120.2' S=0.0348 '/' Capacity=10.56 cfs Outflow=0.00 cfs 0.000 af

Pond 4P: Retention Pond Peak Elev=505.66' Storage=1,702,550 cf Inflow=0.02 cfs 0.005 af
Outflow=0.00 cfs 0.000 af

Link DP1: DP1 Inflow=6.47 cfs 1.959 af
Primary=6.47 cfs 1.959 af

Total Runoff Area = 99.169 ac Runoff Volume = 1.970 af Average Runoff Depth = 0.24"
96.43% Pervious = 95.630 ac 3.57% Impervious = 3.539 ac

Summary for Subcatchment 1: Subcat 1

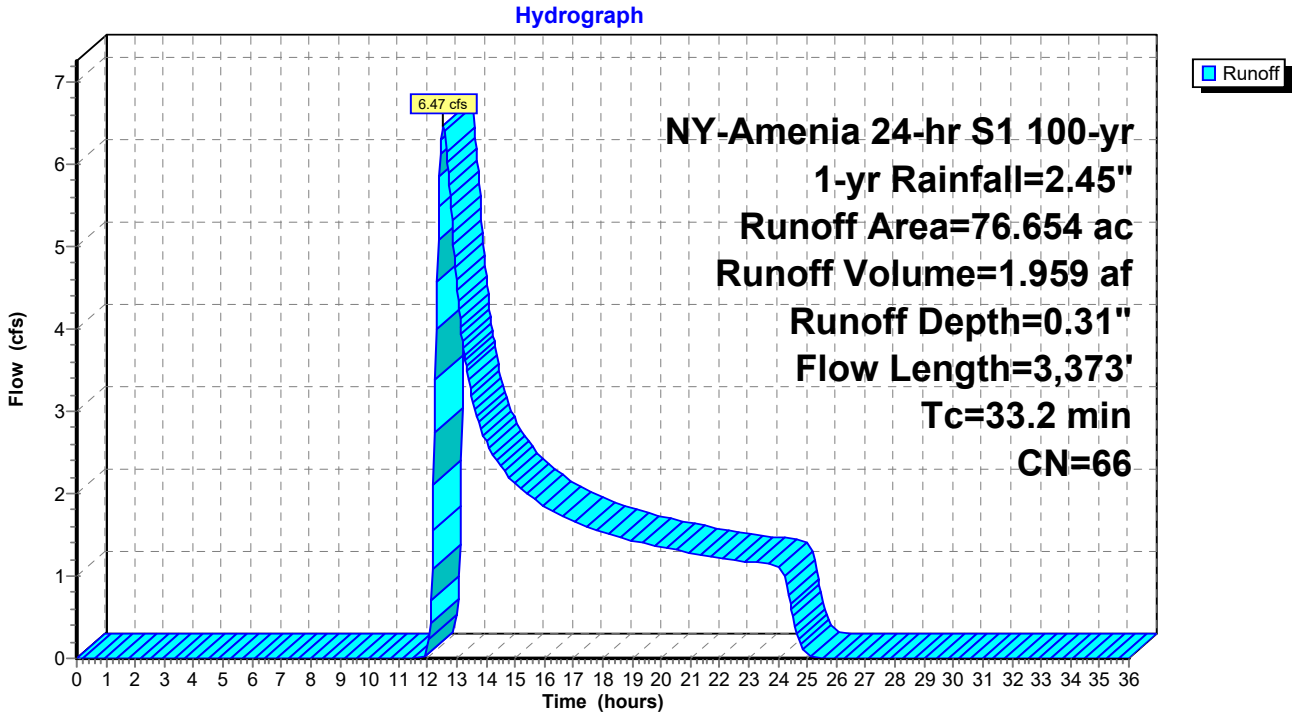
Runoff = 6.47 cfs @ 12.55 hrs, Volume= 1.959 af, Depth= 0.31"
Routed to Link DP1 : DP1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.03 hrs
NY-Amenia 24-hr S1 100-yr 1-yr Rainfall=2.45"

Area (ac)	CN	Description
1.159	30	Brush, Good, HSG A
3.174	65	Brush, Good, HSG C
0.808	76	Gravel roads, HSG A
0.392	89	Gravel roads, HSG C
11.265	30	Meadow, non-grazed, HSG A
2.597	71	Meadow, non-grazed, HSG C
0.068	98	Roofs, HSG A
0.010	98	Roofs, HSG C
0.511	30	Woods, Good, HSG A
22.983	70	Woods, Good, HSG C
33.479	77	Woods, Good, HSG D
0.208	32	Woods/grass comb., Good, HSG A
76.654	66	Weighted Average
76.576		99.90% Pervious Area
0.078		0.10% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	50	0.1800	0.09		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.10"
24.1	3,323	0.2110	2.30		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
33.2	3,373	Total			

Subcatchment 1: Subcat 1



Summary for Subcatchment 2: Subcat 2

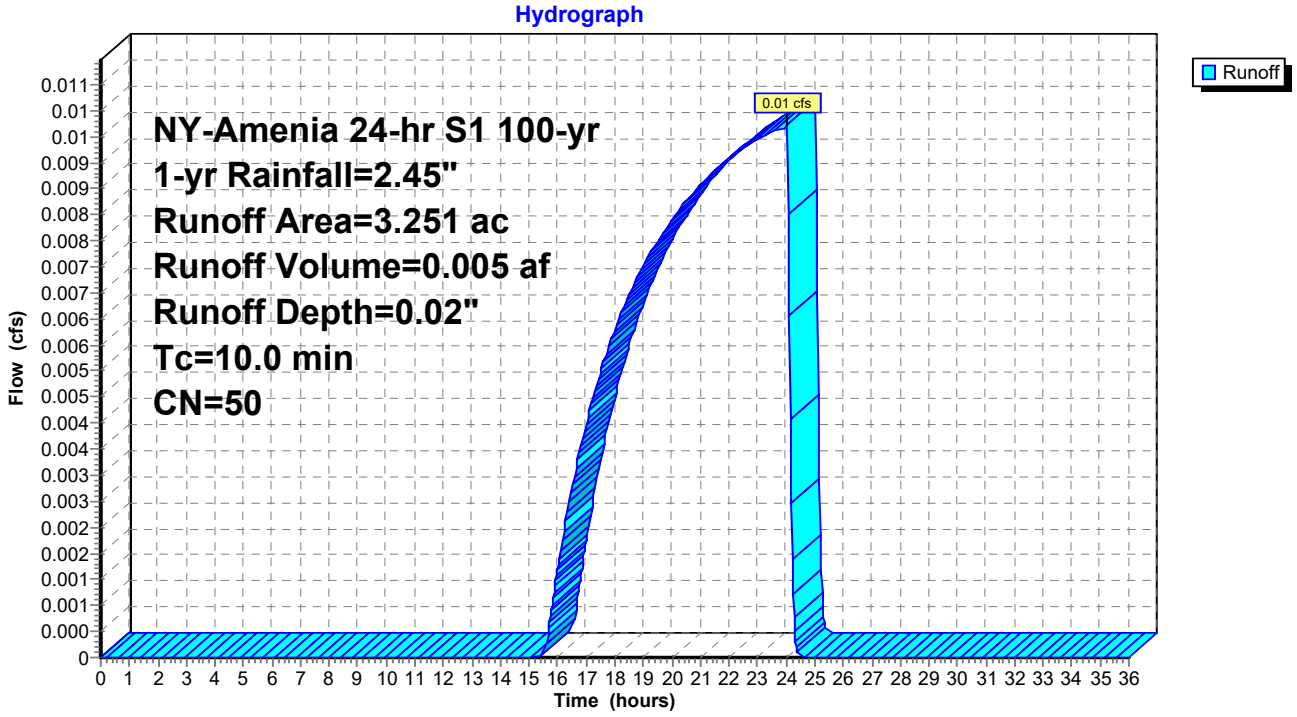
Runoff = 0.01 cfs @ 24.00 hrs, Volume= 0.005 af, Depth= 0.02"
Routed to nonexistent node 1L

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.03 hrs
NY-Amenia 24-hr S1 100-yr 1-yr Rainfall=2.45"

Area (ac)	CN	Description
0.819	30	Brush, Good, HSG A
0.874	30	Meadow, non-grazed, HSG A
0.823	98	Paved parking, HSG A
0.114	98	Roofs, HSG A
0.621	32	Woods/grass comb., Good, HSG A
3.251	50	Weighted Average
2.315		71.19% Pervious Area
0.937		28.81% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry,**

Subcatchment 2: Subcat 2



Summary for Subcatchment 3: Subcat 3

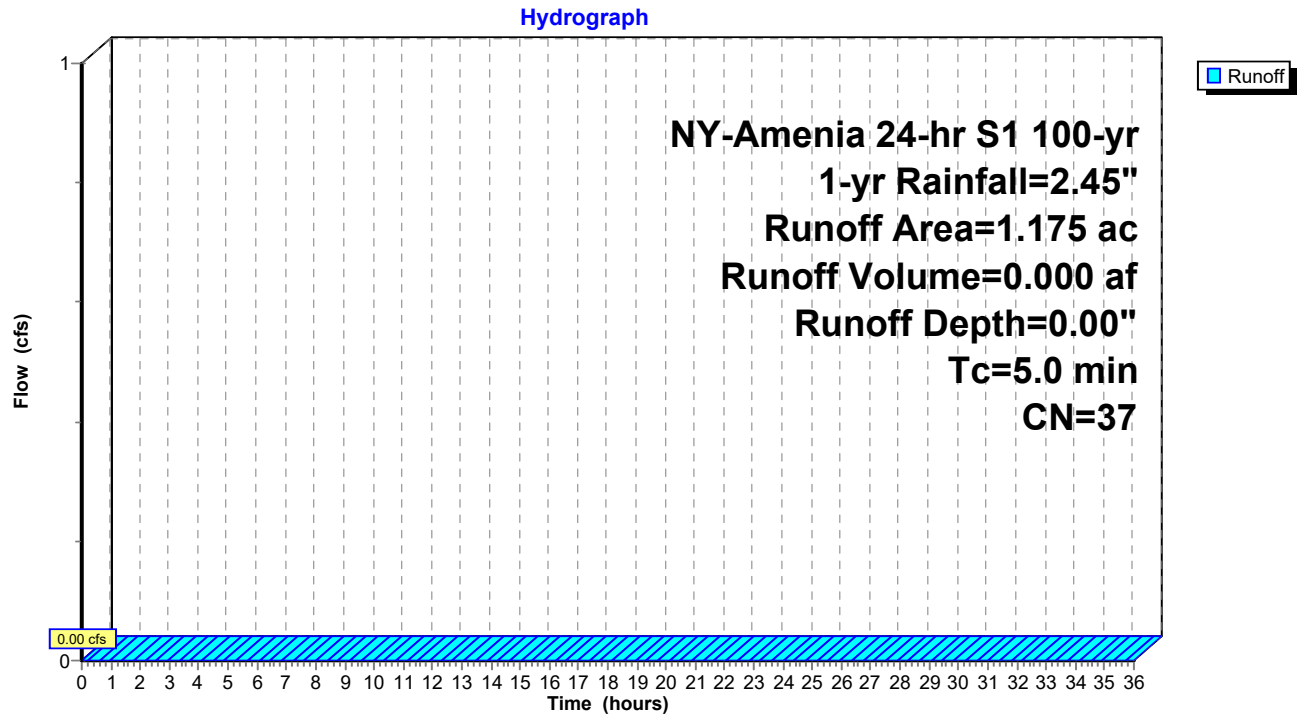
Runoff = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Depth= 0.00"
Routed to nonexistent node 1L

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.03 hrs
NY-Amenia 24-hr S1 100-yr 1-yr Rainfall=2.45"

Area (ac)	CN	Description
0.182	76	Gravel roads, HSG A
0.215	30	Meadow, non-grazed, HSG A
0.778	30	Woods, Good, HSG A
0.000	32	Woods/grass comb., Good, HSG A
1.175	37	Weighted Average
1.175		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment 3: Subcat 3



Summary for Subcatchment 4: Subcat 4

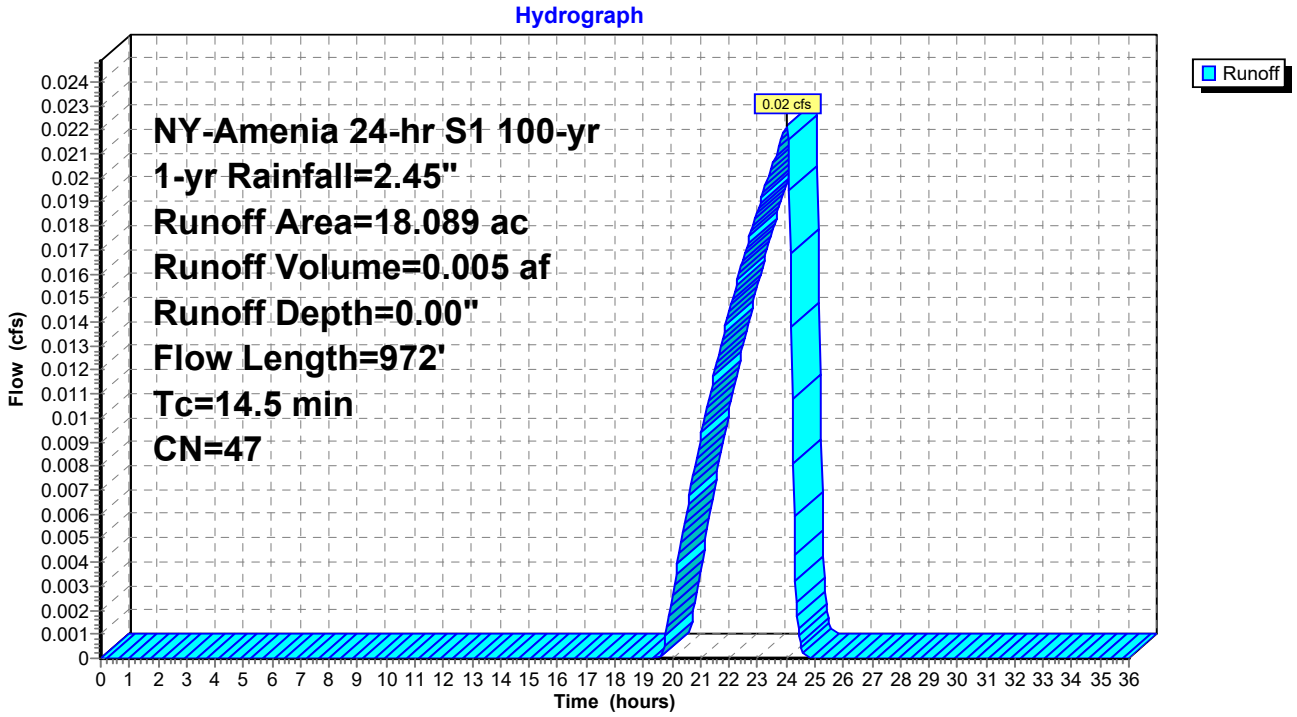
Runoff = 0.02 cfs @ 24.02 hrs, Volume= 0.005 af, Depth= 0.00"
Routed to Pond 4P : Retention Pond

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.03 hrs
NY-Amenia 24-hr S1 100-yr 1-yr Rainfall=2.45"

Area (ac)	CN	Description
0.134	30	Brush, Good, HSG A
2.698	76	Gravel roads, HSG A
0.085	89	Gravel roads, HSG C
12.176	30	Meadow, non-grazed, HSG A
0.109	71	Meadow, non-grazed, HSG C
2.524	98	Water Surface, HSG A
0.361	32	Woods/grass comb., Good, HSG A
18.089	47	Weighted Average
15.564		86.04% Pervious Area
2.524		13.96% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.3	50	0.0200	0.10		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.10"
4.6	690	0.1260	2.48		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
1.3	195	0.0260	2.60		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
0.3	37	0.1080	2.30		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
14.5	972	Total			

Subcatchment 4: Subcat 4



Summary for Reach 4R:

Inflow Area = 18.089 ac, 13.96% Impervious, Inflow Depth = 0.00" for 1-yr event
Inflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min
Routed to nonexistent node 1L

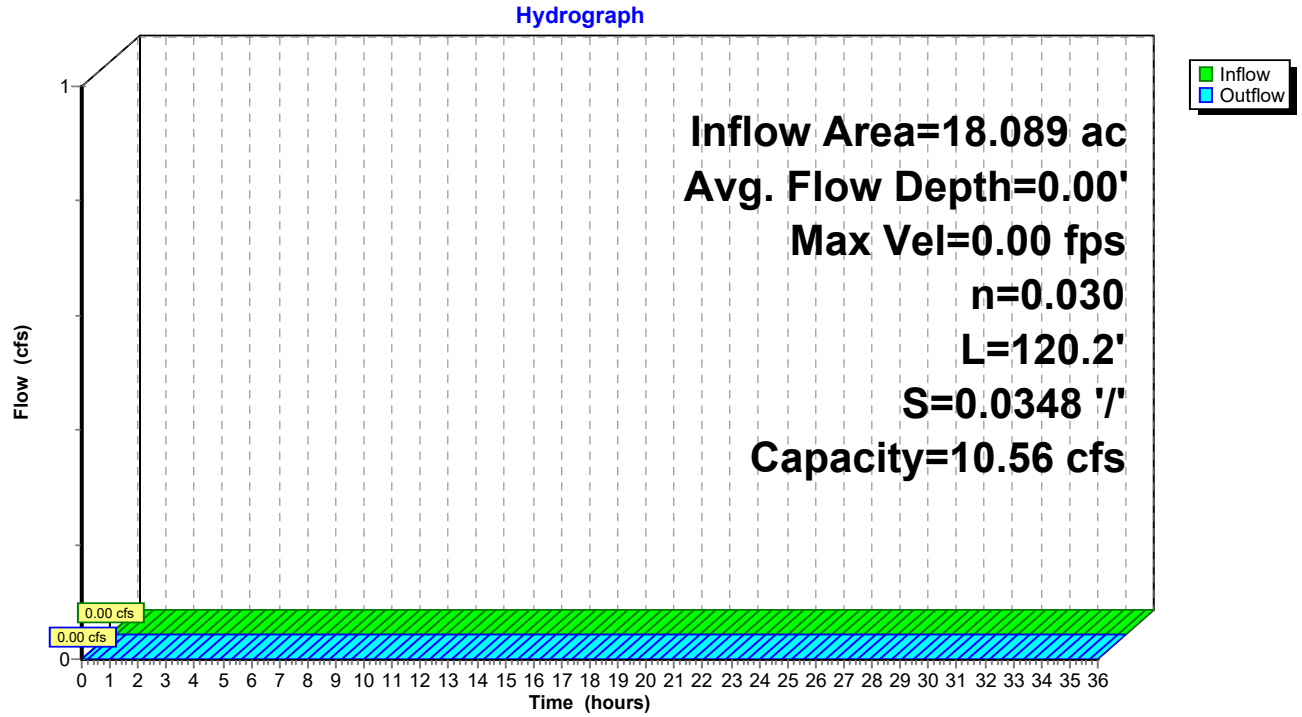
Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.03 hrs
Max. Velocity= 0.00 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 0.00 fps, Avg. Travel Time= 0.0 min

Peak Storage= 0 cf @ 0.00 hrs
Average Depth at Peak Storage= 0.00'
Bank-Full Depth= 0.50' Flow Area= 2.5 sf, Capacity= 10.56 cfs

2.00' x 0.50' deep channel, n= 0.030 Earth, grassed & winding
Side Slope Z-value= 6.0 '/' Top Width= 8.00'
Length= 120.2' Slope= 0.0348 '/'
Inlet Invert= 507.18', Outlet Invert= 503.00'

‡

Reach 4R:



Summary for Pond 4P: Retention Pond

Inflow Area = 18.089 ac, 13.96% Impervious, Inflow Depth = 0.00" for 1-yr event
Inflow = 0.02 cfs @ 24.02 hrs, Volume= 0.005 af
Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Atten= 100%, Lag= 0.0 min
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Routed to Reach 4R :

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.03 hrs
Starting Elev= 505.66' Surf.Area= 110,913 sf Storage= 1,702,334 cf
Peak Elev= 505.66' @ 24.84 hrs Surf.Area= 110,929 sf Storage= 1,702,550 cf (217 cf above start)

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)
Center-of-Mass det. time= (not calculated: no outflow)

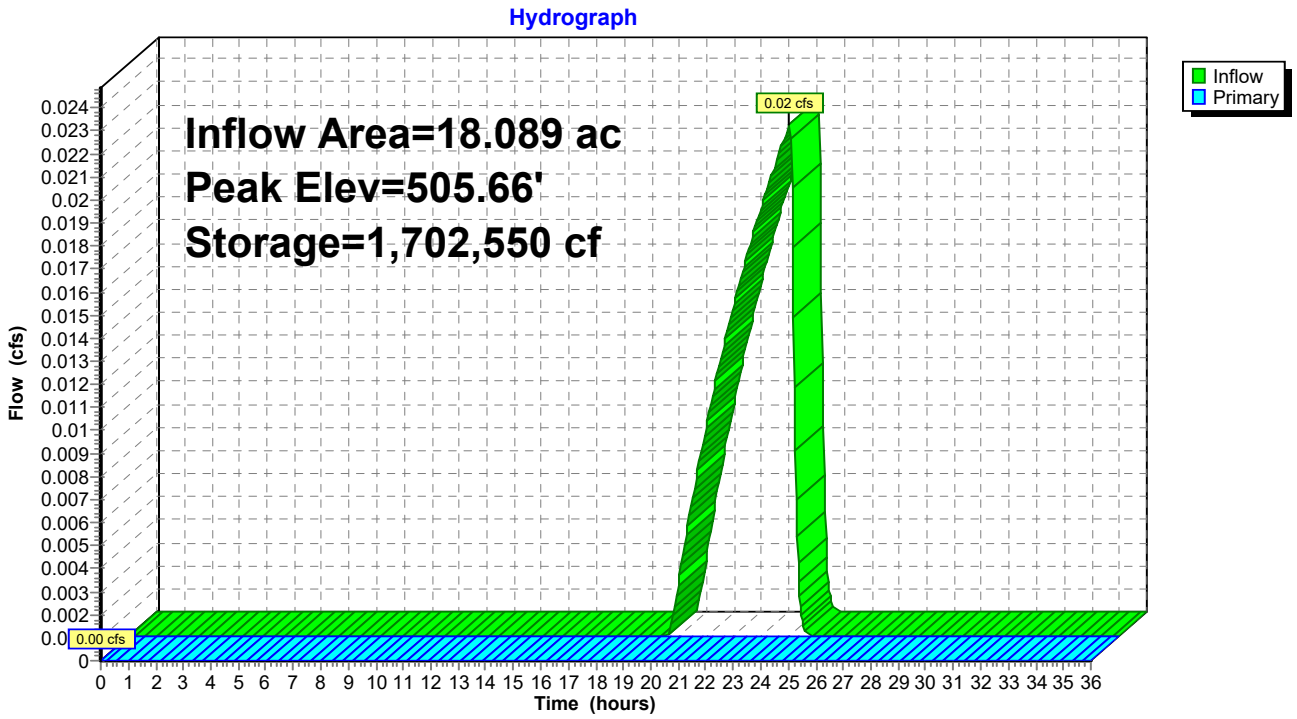
Volume	Invert	Avail.Storage	Storage Description
#1	479.00'	1,974,954 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
479.00	20,134	0	0
480.00	24,882	22,508	22,508
481.00	29,083	26,983	49,491
482.00	32,555	30,819	80,310
483.00	35,690	34,123	114,432
484.00	38,624	37,157	151,589
485.00	41,493	40,059	191,648
486.00	44,398	42,946	234,593
487.00	47,283	45,841	280,434
488.00	50,182	48,733	329,166
489.00	53,093	51,638	380,804
490.00	56,029	54,561	435,365
491.00	58,974	57,502	492,866
492.00	61,921	60,448	553,314
493.00	64,884	63,403	616,716
494.00	67,880	66,382	683,098
495.00	70,934	69,407	752,505
496.00	74,074	72,504	825,009
497.00	77,331	75,703	900,712
498.00	80,719	79,025	979,737
499.00	84,192	82,456	1,062,192
500.00	87,688	85,940	1,148,132
501.00	91,183	89,436	1,237,568
502.00	94,702	92,943	1,330,510
503.00	98,243	96,473	1,426,983
504.00	101,849	100,046	1,527,029
505.00	105,758	103,804	1,630,832
506.00	113,569	109,664	1,740,496
506.50	113,569	56,785	1,797,280
507.00	116,675	57,561	1,854,841
508.00	123,551	120,113	1,974,954

Device	Routing	Invert	Outlet Devices
#1	Primary	507.18'	**4.0' long + 1.0 '/' SideZ x 2.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=505.66' (Free Discharge)
↑—**1=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond 4P: Retention Pond

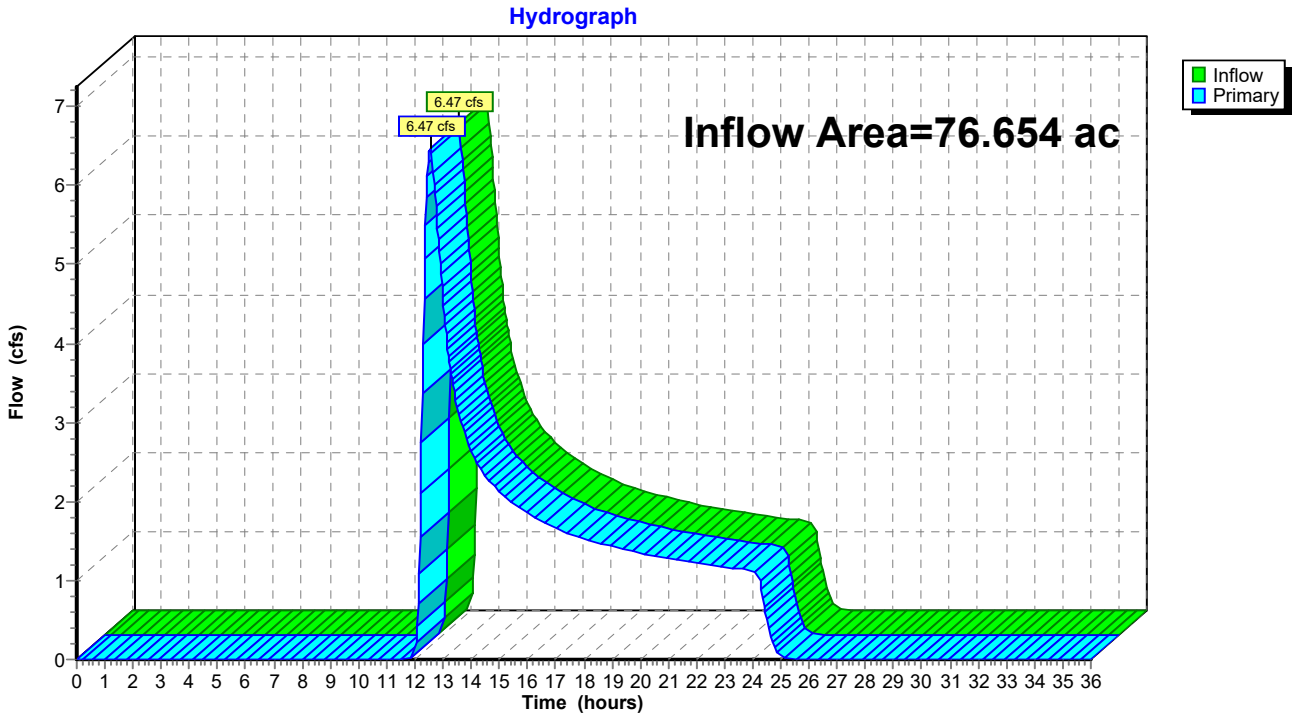


Summary for Link DP1: DP1

Inflow Area = 76.654 ac, 0.10% Impervious, Inflow Depth = 0.31" for 1-yr event
Inflow = 6.47 cfs @ 12.55 hrs, Volume= 1.959 af
Primary = 6.47 cfs @ 12.55 hrs, Volume= 1.959 af, Atten= 0%, Lag= 0.0 min
Routed to nonexistent node 1L

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.03 hrs

Link DP1: DP1



Time span=0.00-36.00 hrs, dt=0.03 hrs, 1201 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment1: Subcat 1 Runoff Area=76.654 ac 0.10% Impervious Runoff Depth=0.59"
Flow Length=3,373' Tc=33.2 min CN=66 Runoff=17.77 cfs 3.789 af

Subcatchment2: Subcat 2 Runoff Area=3.251 ac 28.81% Impervious Runoff Depth=0.11"
Tc=10.0 min CN=50 Runoff=0.03 cfs 0.030 af

Subcatchment3: Subcat 3 Runoff Area=1.175 ac 0.00% Impervious Runoff Depth=0.00"
Tc=5.0 min CN=37 Runoff=0.00 cfs 0.000 af

Subcatchment4: Subcat 4 Runoff Area=18.089 ac 13.96% Impervious Runoff Depth=0.06"
Flow Length=972' Tc=14.5 min CN=47 Runoff=0.12 cfs 0.089 af

Reach 4R: Avg. Flow Depth=0.00' Max Vel=0.00 fps Inflow=0.00 cfs 0.000 af
n=0.030 L=120.2' S=0.0348 '/' Capacity=10.56 cfs Outflow=0.00 cfs 0.000 af

Pond 4P: Retention Pond Peak Elev=505.69' Storage=1,706,183 cf Inflow=0.12 cfs 0.089 af
Outflow=0.00 cfs 0.000 af

Link DP1: DP1 Inflow=17.77 cfs 3.789 af
Primary=17.77 cfs 3.789 af

Time span=0.00-36.00 hrs, dt=0.03 hrs, 1201 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment1: Subcat 1 Runoff Area=76.654 ac 0.10% Impervious Runoff Depth=1.75"
Flow Length=3,373' Tc=33.2 min CN=66 Runoff=65.87 cfs 11.167 af

Subcatchment2: Subcat 2 Runoff Area=3.251 ac 28.81% Impervious Runoff Depth=0.70"
Tc=10.0 min CN=50 Runoff=1.22 cfs 0.191 af

Subcatchment3: Subcat 3 Runoff Area=1.175 ac 0.00% Impervious Runoff Depth=0.14"
Tc=5.0 min CN=37 Runoff=0.02 cfs 0.014 af

Subcatchment4: Subcat 4 Runoff Area=18.089 ac 13.96% Impervious Runoff Depth=0.55"
Flow Length=972' Tc=14.5 min CN=47 Runoff=3.19 cfs 0.826 af

Reach 4R: Avg. Flow Depth=0.00' Max Vel=0.00 fps Inflow=0.00 cfs 0.000 af
n=0.030 L=120.2' S=0.0348 '/' Capacity=10.56 cfs Outflow=0.00 cfs 0.000 af

Pond 4P: Retention Pond Peak Elev=505.98' Storage=1,738,309 cf Inflow=3.19 cfs 0.826 af
Outflow=0.00 cfs 0.000 af

Link DP1: DP1 Inflow=65.87 cfs 11.167 af
Primary=65.87 cfs 11.167 af

Time span=0.00-36.00 hrs, dt=0.03 hrs, 1201 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment1: Subcat 1 Runoff Area=76.654 ac 0.10% Impervious Runoff Depth=2.62"
Flow Length=3,373' Tc=33.2 min CN=66 Runoff=101.97 cfs 16.733 af

Subcatchment2: Subcat 2 Runoff Area=3.251 ac 28.81% Impervious Runoff Depth=1.26"
Tc=10.0 min CN=50 Runoff=3.07 cfs 0.342 af

Subcatchment3: Subcat 3 Runoff Area=1.175 ac 0.00% Impervious Runoff Depth=0.40"
Tc=5.0 min CN=37 Runoff=0.08 cfs 0.040 af

Subcatchment4: Subcat 4 Runoff Area=18.089 ac 13.96% Impervious Runoff Depth=1.04"
Flow Length=972' Tc=14.5 min CN=47 Runoff=10.20 cfs 1.568 af

Reach 4R: Avg. Flow Depth=0.00' Max Vel=0.00 fps Inflow=0.00 cfs 0.000 af
n=0.030 L=120.2' S=0.0348 '/' Capacity=10.56 cfs Outflow=0.00 cfs 0.000 af

Pond 4P: Retention Pond Peak Elev=506.27' Storage=1,770,647 cf Inflow=10.20 cfs 1.568 af
Outflow=0.00 cfs 0.000 af

Link DP1: DP1 Inflow=101.97 cfs 16.733 af
Primary=101.97 cfs 16.733 af

Time span=0.00-36.00 hrs, dt=0.03 hrs, 1201 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment1: Subcat 1 Runoff Area=76.654 ac 0.10% Impervious Runoff Depth=4.09"
Flow Length=3,373' Tc=33.2 min CN=66 Runoff=162.23 cfs 26.124 af

Subcatchment2: Subcat 2 Runoff Area=3.251 ac 28.81% Impervious Runoff Depth=2.31"
Tc=10.0 min CN=50 Runoff=6.56 cfs 0.626 af

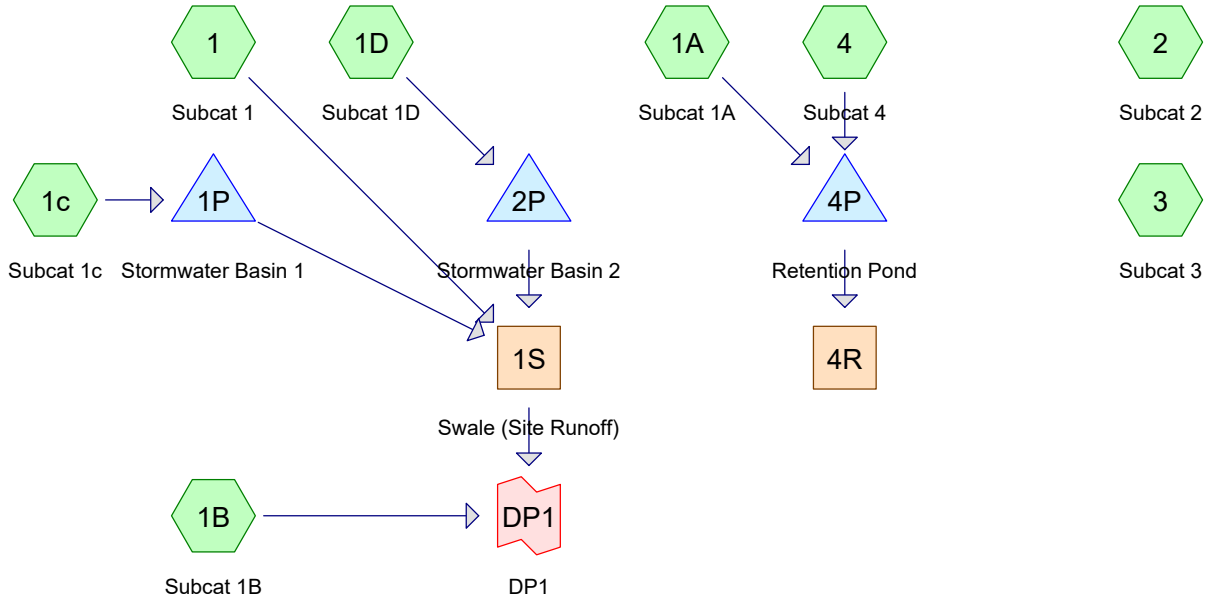
Subcatchment3: Subcat 3 Runoff Area=1.175 ac 0.00% Impervious Runoff Depth=1.01"
Tc=5.0 min CN=37 Runoff=0.71 cfs 0.099 af

Subcatchment4: Subcat 4 Runoff Area=18.089 ac 13.96% Impervious Runoff Depth=2.00"
Flow Length=972' Tc=14.5 min CN=47 Runoff=24.85 cfs 3.008 af

Reach 4R: Avg. Flow Depth=0.00' Max Vel=0.00 fps Inflow=0.00 cfs 0.000 af
n=0.030 L=120.2' S=0.0348 '/' Capacity=10.56 cfs Outflow=0.00 cfs 0.000 af

Pond 4P: Retention Pond Peak Elev=506.81' Storage=1,833,320 cf Inflow=24.85 cfs 3.008 af
Outflow=0.00 cfs 0.000 af

Link DP1: DP1 Inflow=162.23 cfs 26.124 af
Primary=162.23 cfs 26.124 af



Subcat Reach Pond Link

Routing Diagram for Siland_PR
Prepared by VHB, Inc, Printed 3/19/2025
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Rainfall Events Listing (selected events)

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	1-yr	NY-Amenia 24-hr S1	100-yr	Default	24.00	1	2.45	2

Summary for Subcatchment 1: Subcat 1

Runoff = 2.52 cfs @ 12.21 hrs, Volume= 0.364 af, Depth= 0.50"
Routed to Reach 1S : Swale (Site Runoff)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.03 hrs
NY-Amenia 24-hr S1 100-yr 1-yr Rainfall=2.45"

Area (ac)	CN	Description
0.859	39	>75% Grass cover, Good, HSG A
0.013	74	>75% Grass cover, Good, HSG C
1.036	30	Meadow, non-grazed, HSG A
3.788	71	Meadow, non-grazed, HSG C
1.908	98	Paved parking, HSG A
1.079	98	Paved parking, HSG C
8.682	72	Weighted Average
5.695		65.60% Pervious Area
2.987		34.40% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.4	50	0.0600	0.16		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.10"
1.5	300	0.2170	3.26		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
2.6	1,000	0.0120	6.51	11.51	**Pipe Channel,** 18.0" Round Area= 1.8 sf Perim= 4.7' r= 0.38' n= 0.013 Concrete pipe, bends & connections
7.7	345	0.0115	0.75		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
17.2	1,695	Total			

Summary for Subcatchment 1A: Subcat 1A

Runoff = 8.85 cfs @ 12.43 hrs, Volume= 1.666 af, Depth= 0.58"
Routed to Pond 4P : Retention Pond

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.03 hrs
NY-Amenia 24-hr S1 100-yr 1-yr Rainfall=2.45"

Area (ac)	CN	Description
0.046	30	Meadow, non-grazed, HSG A
0.400	71	Meadow, non-grazed, HSG C
0.015	30	Woods, Good, HSG A
14.290	70	Woods, Good, HSG C
19.691	77	Woods, Good, HSG D
34.442	74	Weighted Average
34.442		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.5	50	0.0400	0.05		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.10"
9.3	1,580	0.3200	2.83		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
5.6	680	0.0838	2.03		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
1.0	740	0.0466	12.83	22.68	**Pipe Channel,** 18.0" Round Area= 1.8 sf Perim= 4.7' r= 0.38' n= 0.013
32.4	3,050	Total			

Summary for Subcatchment 1B: Subcat 1B

Runoff = 4.10 cfs @ 12.37 hrs, Volume= 0.861 af, Depth= 0.40"
Routed to Link DP1 : DP1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.03 hrs
NY-Amenia 24-hr S1 100-yr 1-yr Rainfall=2.45"

Area (ac)	CN	Description
2.608	30	Meadow, non-grazed, HSG A
0.436	71	Meadow, non-grazed, HSG C
0.009	98	Paved parking, HSG A
0.000	98	Paved parking, HSG C
0.064	98	Roofs, HSG A
0.010	98	Roofs, HSG C
0.486	30	Woods, Good, HSG A
8.531	70	Woods, Good, HSG C
13.788	77	Woods, Good, HSG D
25.931	69	Weighted Average
25.848		99.68% Pervious Area
0.083		0.32% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.7	50	0.1200	0.08		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.10"
7.0	1,370	0.4300	3.28		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
1.3	350	0.0770	4.47		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
2.2	270	0.0850	2.04		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
4.8	230	0.0130	0.80		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
26.0	2,270	Total			

Summary for Subcatchment 1c: Subcat 1c

Runoff = 0.01 cfs @ 24.03 hrs, Volume= 0.004 af, Depth= 0.01"
Routed to Pond 1P : Stormwater Basin 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.03 hrs
NY-Amenia 24-hr S1 100-yr 1-yr Rainfall=2.45"

Area (ac)	CN	Description
0.039	39	>75% Grass cover, Good, HSG A
0.811	30	Brush, Good, HSG A
0.016	65	Brush, Good, HSG C
0.215	76	Gravel roads, HSG A
3.399	30	Meadow, non-grazed, HSG A
0.474	71	Meadow, non-grazed, HSG C
1.117	98	Paved parking, HSG A
0.098	98	Paved parking, HSG C
6.168	48	Weighted Average
4.954		80.32% Pervious Area
1.214		19.68% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.8	50	0.0800	0.17		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.10"
7.5	900	0.0811	1.99		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
12.3	950	Total			

Summary for Subcatchment 1D: Subcat 1D

Runoff = 0.34 cfs @ 12.04 hrs, Volume= 0.034 af, Depth= 0.40"
Routed to Pond 2P : Stormwater Basin 2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.03 hrs
NY-Amenia 24-hr S1 100-yr 1-yr Rainfall=2.45"

Area (ac)	CN	Description
0.334	30	Meadow, non-grazed, HSG A
0.593	98	Paved parking, HSG A
0.106	30	Woods, Good, HSG A
1.032	69	Weighted Average
0.440		42.58% Pervious Area
0.593		57.42% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Subcatchment 2: Subcat 2

Runoff = 0.01 cfs @ 24.00 hrs, Volume= 0.002 af, Depth= 0.01"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.03 hrs
NY-Amenia 24-hr S1 100-yr 1-yr Rainfall=2.45"

Area (ac)	CN	Description
0.819	30	Brush, Good, HSG A
1.137	30	Meadow, non-grazed, HSG A
0.862	98	Paved parking, HSG A
0.114	98	Roofs, HSG A
0.722	30	Woods, Good, HSG A
3.653	48	Weighted Average
2.678		73.30% Pervious Area
0.976		26.70% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry,**

Summary for Subcatchment 3: Subcat 3

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

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.03 hrs
NY-Amenia 24-hr S1 100-yr 1-yr Rainfall=2.45"

Area (ac)	CN	Description
0.178	96	Gravel surface, HSG A
0.369	30	Meadow, non-grazed, HSG A
0.022	98	Paved parking, HSG A
0.598	30	Woods, Good, HSG A
1.168	41	Weighted Average
1.146		98.11% Pervious Area
0.022		1.89% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Subcatchment 4: Subcat 4

Runoff = 0.02 cfs @ 24.02 hrs, Volume= 0.005 af, Depth= 0.00"
Routed to Pond 4P : Retention Pond

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.03 hrs
NY-Amenia 24-hr S1 100-yr 1-yr Rainfall=2.45"

Area (ac)	CN	Description
0.134	30	Brush, Good, HSG A
2.686	76	Gravel roads, HSG A
12.188	30	Meadow, non-grazed, HSG A
0.155	71	Meadow, non-grazed, HSG C
0.040	98	Paved parking, HSG C
2.524	98	Water Surface, HSG A
0.361	32	Woods/grass comb., Good, HSG A
18.089	47	Weighted Average
15.525		85.82% Pervious Area
2.564		14.18% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.3	50	0.0400	0.13		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.10"
4.2	640	0.1300	2.52		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
1.2	220	0.0360	3.05		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
11.7	910	Total			

Summary for Reach 1S: Swale (Site Runoff)

Inflow Area = 15.882 ac, 30.18% Impervious, Inflow Depth = 0.28" for 1-yr event
Inflow = 2.52 cfs @ 12.21 hrs, Volume= 0.370 af
Outflow = 2.46 cfs @ 12.28 hrs, Volume= 0.370 af, Atten= 2%, Lag= 4.3 min
Routed to Link DP1 : DP1

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.03 hrs
Max. Velocity= 2.65 fps, Min. Travel Time= 2.4 min
Avg. Velocity = 1.21 fps, Avg. Travel Time= 5.3 min

Peak Storage= 357 cf @ 12.24 hrs
Average Depth at Peak Storage= 0.32' , Surface Width= 3.90'
Bank-Full Depth= 1.35' Flow Area= 8.2 sf, Capacity= 48.13 cfs

2.00' x 1.35' deep channel, n= 0.022 Earth, clean & straight
Side Slope Z-value= 3.0 '/' Top Width= 10.10'
Length= 382.6' Slope= 0.0107 '/'
Inlet Invert= 473.89', Outlet Invert= 469.80'

‡

Stage-Area-Storage for Reach 1S: Swale (Site Runoff)

Elevation (feet)	End-Area (sq-ft)	Storage (cubic-feet)
473.89	0.0	0
473.91	0.0	16
473.93	0.1	32
473.95	0.1	50
473.97	0.2	69
473.99	0.2	88
474.01	0.3	108
474.03	0.3	130
474.05	0.4	152
474.07	0.5	175
474.09	0.5	199
474.11	0.6	224
474.13	0.7	250
474.15	0.7	277
474.17	0.8	304
474.19	0.9	333
474.21	0.9	362
474.23	1.0	393
474.25	1.1	424
474.27	1.2	457
474.29	1.3	490
474.31	1.4	524
474.33	1.5	559
474.35	1.6	595
474.37	1.7	632
474.39	1.8	670
474.41	1.9	708
474.43	2.0	748
474.45	2.1	789
474.47	2.2	830
474.49	2.3	872
474.51	2.4	916
474.53	2.5	960
474.55	2.6	1,005
474.57	2.7	1,051
474.59	2.9	1,098
474.61	3.0	1,146
474.63	3.1	1,195
474.65	3.3	1,245
474.67	3.4	1,295
474.69	3.5	1,347
474.71	3.7	1,399
474.73	3.8	1,453
474.75	3.9	1,507
474.77	4.1	1,562
474.79	4.2	1,618
474.81	4.4	1,676
474.83	4.5	1,734
474.85	4.7	1,792
474.87	4.8	1,852
474.89	5.0	1,913
474.91	5.2	1,975
474.93	5.3	2,037
474.95	5.5	2,101
474.97	5.7	2,165
474.99	5.8	2,231
475.01	6.0	2,297
475.03	6.2	2,364
475.05	6.4	2,432
475.07	6.5	2,501
475.09	6.7	2,571
475.11	6.9	2,642
475.13	7.1	2,714
475.15	7.3	2,786
475.17	7.5	2,860
475.19	7.7	2,935
475.21	7.9	3,010
475.23	**8.1**	**3,086**

Summary for Reach 4R:

Inflow Area = 52.530 ac, 4.88% Impervious, Inflow Depth = 0.00" for 1-yr event
Inflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.03 hrs
Max. Velocity= 0.00 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 0.00 fps, Avg. Travel Time= 0.0 min

Peak Storage= 0 cf @ 0.00 hrs
Average Depth at Peak Storage= 0.00'
Bank-Full Depth= 0.50' Flow Area= 2.5 sf, Capacity= 10.56 cfs

2.00' x 0.50' deep channel, n= 0.030 Earth, grassed & winding
Side Slope Z-value= 6.0 '/' Top Width= 8.00'
Length= 120.2' Slope= 0.0348 '/'
Inlet Invert= 507.18', Outlet Invert= 503.00'

‡

Stage-Area-Storage for Reach 4R:

Elevation (feet)	End-Area (sq-ft)	Storage (cubic-feet)
507.18	0.0	0
507.19	0.0	2
507.20	0.0	5
507.21	0.1	8
507.22	0.1	11
507.23	0.1	14
507.24	0.1	17
507.25	0.2	20
507.26	0.2	24
507.27	0.2	27
507.28	0.3	31
507.29	0.3	35
507.30	0.3	39
507.31	0.4	43
507.32	0.4	48
507.33	0.4	52
507.34	0.5	57
507.35	0.5	62
507.36	0.6	67
507.37	0.6	72
507.38	0.6	77
507.39	0.7	82
507.40	0.7	88
507.41	0.8	93
507.42	0.8	99
507.43	0.9	105
507.44	0.9	111
507.45	1.0	117
507.46	1.0	124
507.47	1.1	130
507.48	1.1	137
507.49	1.2	144
507.50	1.3	151
507.51	1.3	158
507.52	1.4	165
507.53	1.4	172
507.54	1.5	180
507.55	1.6	188
507.56	1.6	195
507.57	1.7	203
507.58	1.8	212
507.59	1.8	220
507.60	1.9	228
507.61	2.0	237
507.62	2.0	245
507.63	2.1	254
507.64	2.2	263
507.65	2.3	272
507.66	2.3	282
507.67	2.4	291
507.68	**2.5**	**301**

Summary for Pond 1P: Stormwater Basin 1

Inflow Area = 6.168 ac, 19.68% Impervious, Inflow Depth = 0.01" for 1-yr event
Inflow = 0.01 cfs @ 24.03 hrs, Volume= 0.004 af
Outflow = 0.01 cfs @ 24.06 hrs, Volume= 0.004 af, Atten= 4%, Lag= 2.1 min
Discarded = 0.01 cfs @ 24.06 hrs, Volume= 0.004 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Routed to Reach 1S : Swale (Site Runoff)

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.03 hrs
Peak Elev= 485.21' @ 24.06 hrs Surf.Area= 1,712 sf Storage= 19 cf

Plug-Flow detention time= 28.6 min calculated for 0.004 af (100% of inflow)
Center-of-Mass det. time= 28.7 min (1,341.7 - 1,313.0)

Volume	Invert	Avail.Storage	Storage Description
#1	485.20'	4,773 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
485.20	1,705	220.0	0	0	1,705
487.20	3,140	260.0	4,773	4,773	3,307

Device	Routing	Invert	Outlet Devices
#1	Discarded	485.20'	**0.500 in/hr Exfiltration over Surface area**
#2	Primary	485.50'	**18.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Discarded OutFlow Max=0.02 cfs @ 24.06 hrs HW=485.21' (Free Discharge)
↑—**1=Exfiltration** (Exfiltration Controls 0.02 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=485.20' (Free Discharge)
↑—**2=Orifice/Grate** (Controls 0.00 cfs)

Stage-Area-Storage for Pond 1P: Stormwater Basin 1

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
485.20	1,705	0
485.22	1,717	34
485.24	1,729	69
485.26	1,742	103
485.28	1,754	138
485.30	1,766	174
485.32	1,779	209
485.34	1,791	245
485.36	1,804	281
485.38	1,816	317
485.40	1,829	353
485.42	1,842	390
485.44	1,854	427
485.46	1,867	464
485.48	1,880	502
485.50	1,893	539
485.52	1,905	577
485.54	1,918	616
485.56	1,931	654
485.58	1,944	693
485.60	1,957	732
485.62	1,970	771
485.64	1,983	811
485.66	1,997	850
485.68	2,010	891
485.70	2,023	931
485.72	2,036	971
485.74	2,050	1,012
485.76	2,063	1,053
485.78	2,076	1,095
485.80	2,090	1,136
485.82	2,103	1,178
485.84	2,117	1,221
485.86	2,130	1,263
485.88	2,144	1,306
485.90	2,158	1,349
485.92	2,172	1,392
485.94	2,185	1,436
485.96	2,199	1,480
485.98	2,213	1,524
486.00	2,227	1,568
486.02	2,241	1,613
486.04	2,255	1,658
486.06	2,269	1,703
486.08	2,283	1,748
486.10	2,297	1,794
486.12	2,311	1,840
486.14	2,325	1,887
486.16	2,340	1,933
486.18	2,354	1,980
486.20	2,368	2,028
486.22	2,383	2,075
486.24	2,397	2,123
486.26	2,411	2,171
486.28	2,426	2,219
486.30	2,440	2,268
486.32	2,455	2,317
486.34	2,470	2,366
486.36	2,484	2,416
486.38	2,499	2,466
486.40	2,514	2,516
486.42	2,529	2,566
486.44	2,543	2,617
486.46	2,558	2,668
486.48	2,573	2,719
486.50	2,588	2,771
486.52	2,603	2,823
486.54	2,618	2,875
486.56	2,633	2,927
486.58	2,649	2,980
486.60	2,664	3,033
486.62	2,679	3,087
486.64	2,694	3,141
486.66	2,710	3,195
486.68	2,725	3,249
486.70	2,740	3,304
486.72	2,756	3,359
486.74	2,771	3,414
486.76	2,787	3,469
486.78	2,803	3,525
486.80	2,818	3,581
486.82	2,834	3,638
486.84	2,850	3,695
486.86	2,865	3,752
486.88	2,881	3,809
486.90	2,897	3,867
486.92	2,913	3,925
486.94	2,929	3,984
486.96	2,945	4,042
486.98	2,961	4,102
487.00	2,977	4,161
487.02	2,993	4,221
487.04	3,009	4,281
487.06	3,025	4,341
487.08	3,042	4,402
487.10	3,058	4,463
487.12	3,074	4,524
487.14	3,091	4,586
487.16	3,107	4,648
487.18	3,123	4,710
487.20	**3,140**	**4,773**

Summary for Pond 2P: Stormwater Basin 2

Inflow Area = 1.032 ac, 57.42% Impervious, Inflow Depth = 0.40" for 1-yr event
Inflow = 0.34 cfs @ 12.04 hrs, Volume= 0.034 af
Outflow = 0.03 cfs @ 15.76 hrs, Volume= 0.034 af, Atten= 91%, Lag= 223.3 min
Discarded = 0.01 cfs @ 15.76 hrs, Volume= 0.028 af
Primary = 0.01 cfs @ 15.76 hrs, Volume= 0.006 af
Routed to Reach 1S : Swale (Site Runoff)

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.03 hrs / 2
Peak Elev= 482.51' @ 15.76 hrs Surf.Area= 1,265 sf Storage= 609 cf

Plug-Flow detention time= 410.9 min calculated for 0.034 af (99% of inflow)
Center-of-Mass det. time= 406.8 min (1,364.2 - 957.4)

Volume	Invert	Avail.Storage	Storage Description
#1	482.00'	2,022 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
482.00	1,102	190.1	0	0	1,102
483.50	1,610	209.0	2,022	2,022	1,773

Device	Routing	Invert	Outlet Devices
#1	Discarded	482.00'	**0.500 in/hr Exfiltration over Surface area** Phase-In= 0.01'
#2	Device 3	482.50'	**24.0" W x 24.0" H Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Primary	479.00'	**12.0" Round Culvert** L= 180.0' CPP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 479.00' / 476.20' S= 0.0156 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Discarded OutFlow Max=0.01 cfs @ 15.76 hrs HW=482.51' (Free Discharge)
└**1=Exfiltration** (Exfiltration Controls 0.01 cfs)

Primary OutFlow Max=0.01 cfs @ 15.76 hrs HW=482.51' (Free Discharge)
└**3=Culvert** (Passes 0.01 cfs of 5.43 cfs potential flow)
└**2=Orifice/Grate** (Orifice Controls 0.01 cfs @ 0.39 fps)

Stage-Area-Storage for Pond 2P: Stormwater Basin 2

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
482.00	1,102	0
482.05	1,117	55
482.10	1,133	112
482.15	1,148	169
482.20	1,164	227
482.25	1,180	285
482.30	1,196	345
482.35	1,212	405
482.40	1,228	466
482.45	1,244	528
482.50	1,261	590
482.55	1,277	654
482.60	1,294	718
482.65	1,310	783
482.70	1,327	849
482.75	1,344	916
482.80	1,361	983
482.85	1,378	1,052
482.90	1,395	1,121
482.95	1,413	1,191
483.00	1,430	1,262
483.05	1,448	1,334
483.10	1,465	1,407
483.15	1,483	1,481
483.20	1,501	1,555
483.25	1,519	1,631
483.30	1,537	1,707
483.35	1,555	1,785
483.40	1,573	1,863
483.45	1,592	1,942
483.50	**1,610**	**2,022**
483.55	1,610	2,022
483.60	1,610	2,022
483.65	1,610	2,022
483.70	1,610	2,022
483.75	1,610	2,022
483.80	1,610	2,022
483.85	1,610	2,022
483.90	1,610	2,022
483.95	1,610	2,022
484.00	1,610	2,022
484.05	1,610	2,022
484.10	1,610	2,022
484.15	1,610	2,022
484.20	1,610	2,022
484.25	1,610	2,022
484.30	1,610	2,022
484.35	1,610	2,022
484.40	1,610	2,022
484.45	1,610	2,022
484.50	1,610	2,022

Summary for Pond 4P: Retention Pond

Inflow Area = 52.530 ac, 4.88% Impervious, Inflow Depth = 0.38" for 1-yr event
Inflow = 8.85 cfs @ 12.43 hrs, Volume= 1.671 af
Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Atten= 100%, Lag= 0.0 min
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Routed to Reach 4R :

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.03 hrs
Starting Elev= 492.30' Surf.Area= 62,810 sf Storage= 572,023 cf
Peak Elev= 493.43' @ 25.89 hrs Surf.Area= 66,167 sf Storage= 644,773 cf (72,749 cf above start)

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)
Center-of-Mass det. time= (not calculated: no outflow)

Volume	Invert	Avail.Storage	Storage Description
#1	479.00'	1,974,954 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
479.00	20,134	0	0
480.00	24,882	22,508	22,508
481.00	29,083	26,983	49,491
482.00	32,555	30,819	80,310
483.00	35,690	34,123	114,432
484.00	38,624	37,157	151,589
485.00	41,493	40,059	191,648
486.00	44,398	42,946	234,593
487.00	47,283	45,841	280,434
488.00	50,182	48,733	329,166
489.00	53,093	51,638	380,804
490.00	56,029	54,561	435,365
491.00	58,974	57,502	492,866
492.00	61,921	60,448	553,314
493.00	64,884	63,403	616,716
494.00	67,880	66,382	683,098
495.00	70,934	69,407	752,505
496.00	74,074	72,504	825,009
497.00	77,331	75,703	900,712
498.00	80,719	79,025	979,737
499.00	84,192	82,456	1,062,192
500.00	87,688	85,940	1,148,132
501.00	91,183	89,436	1,237,568
502.00	94,702	92,943	1,330,510
503.00	98,243	96,473	1,426,983
504.00	101,849	100,046	1,527,029
505.00	105,758	103,804	1,630,832
506.00	113,569	109,664	1,740,496
506.50	113,569	56,785	1,797,280
507.00	116,675	57,561	1,854,841
508.00	123,551	120,113	1,974,954

Device	Routing	Invert	Outlet Devices
#1	Primary	507.18'	**4.0' long + 3.0 '/' SideZ x 2.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=492.30' (Free Discharge)
↑—**1=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Stage-Area-Storage for Pond 4P: Retention Pond

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
479.00	20,134	0
479.50	22,508	10,661
480.00	24,882	22,508
480.50	26,983	35,474
481.00	29,083	49,491
481.50	30,819	64,466
482.00	32,555	80,310
482.50	34,123	96,979
483.00	35,690	114,432
483.50	37,157	132,644
484.00	38,624	151,589
484.50	40,059	171,260
485.00	41,493	191,648
485.50	42,946	212,757
486.00	44,398	234,593
486.50	45,841	257,153
487.00	47,283	280,434
487.50	48,733	304,437
488.00	50,182	329,166
488.50	51,638	354,621
489.00	53,093	380,804
489.50	54,561	407,717
490.00	56,029	435,365
490.50	57,502	463,747
491.00	58,974	492,866
491.50	60,448	522,721
492.00	61,921	553,314
492.50	63,403	584,644
493.00	64,884	616,716
493.50	66,382	649,533
494.00	67,880	683,098
494.50	69,407	717,420
495.00	70,934	752,505
495.50	72,504	788,365
496.00	74,074	825,009
496.50	75,703	862,453
497.00	77,331	900,712
497.50	79,025	939,801
498.00	80,719	979,737
498.50	82,456	1,020,530
499.00	84,192	1,062,192
499.50	85,940	1,104,725
500.00	87,688	1,148,132
500.50	89,436	1,192,413
501.00	91,183	1,237,568
501.50	92,943	1,283,599
502.00	94,702	1,330,510
502.50	96,473	1,378,304
503.00	98,243	1,426,983
503.50	100,046	1,476,555
504.00	101,849	1,527,029
504.50	103,804	1,578,442
505.00	105,758	1,630,832
505.50	109,664	1,684,687
506.00	113,569	1,740,496
506.50	113,569	1,797,280
507.00	116,675	1,854,841
507.50	120,113	1,914,038
508.00	**123,551**	**1,974,954**

Summary for Link DP1: DP1

Inflow Area = 41.813 ac, 11.66% Impervious, Inflow Depth = 0.35" for 1-yr event
Inflow = 6.39 cfs @ 12.33 hrs, Volume= 1.230 af
Primary = 6.39 cfs @ 12.33 hrs, Volume= 1.230 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.03 hrs

Time span=0.00-36.00 hrs, dt=0.03 hrs, 1201 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment1: Subcat 1 Runoff Area=8.682 ac 34.40% Impervious Runoff Depth=0.87"
Flow Length=1,695' Tc=17.2 min CN=72 Runoff=5.00 cfs 0.628 af

Subcatchment1A: Subcat 1A Runoff Area=34.442 ac 0.00% Impervious Runoff Depth=0.97"
Flow Length=3,050' Tc=32.4 min CN=74 Runoff=16.30 cfs 2.791 af

Subcatchment1B: Subcat 1B Runoff Area=25.931 ac 0.32% Impervious Runoff Depth=0.72"
Flow Length=2,270' Tc=26.0 min CN=69 Runoff=9.34 cfs 1.564 af

Subcatchment1c: Subcat 1c Runoff Area=6.168 ac 19.68% Impervious Runoff Depth=0.07"
Flow Length=950' Tc=12.3 min CN=48 Runoff=0.05 cfs 0.038 af

Subcatchment1D: Subcat 1D Runoff Area=1.032 ac 57.42% Impervious Runoff Depth=0.72"
Tc=5.0 min CN=69 Runoff=0.79 cfs 0.062 af

Subcatchment2: Subcat 2 Runoff Area=3.653 ac 26.70% Impervious Runoff Depth=0.07"
Tc=10.0 min CN=48 Runoff=0.03 cfs 0.023 af

Subcatchment3: Subcat 3 Runoff Area=1.168 ac 1.89% Impervious Runoff Depth=0.00"
Tc=5.0 min CN=41 Runoff=0.00 cfs 0.000 af

Subcatchment4: Subcat 4 Runoff Area=18.089 ac 14.18% Impervious Runoff Depth=0.06"
Flow Length=910' Tc=11.7 min CN=47 Runoff=0.12 cfs 0.089 af

Reach 1S: Swale (Site Runoff) Avg. Flow Depth=0.45' Max Vel=3.22 fps Inflow=4.99 cfs 0.666 af
n=0.022 L=382.6' S=0.0107 '/' Capacity=48.13 cfs Outflow=4.91 cfs 0.666 af

Reach 4R: Avg. Flow Depth=0.00' Max Vel=0.00 fps Inflow=0.00 cfs 0.000 af
n=0.030 L=120.2' S=0.0348 '/' Capacity=10.56 cfs Outflow=0.00 cfs 0.000 af

Pond 1P: Stormwater Basin 1 Peak Elev=485.56' Storage=659 cf Inflow=0.05 cfs 0.038 af
Discarded=0.02 cfs 0.033 af Primary=0.02 cfs 0.005 af Outflow=0.04 cfs 0.038 af

Pond 2P: Stormwater Basin 2 Peak Elev=482.58' Storage=689 cf Inflow=0.79 cfs 0.062 af
Discarded=0.01 cfs 0.029 af Primary=0.14 cfs 0.033 af Outflow=0.16 cfs 0.062 af

Pond 4P: Retention Pond Peak Elev=494.21' Storage=697,416 cf Inflow=16.30 cfs 2.879 af
Outflow=0.00 cfs 0.000 af

Link DP1: DP1 Inflow=13.93 cfs 2.231 af
Primary=13.93 cfs 2.231 af

Time span=0.00-36.00 hrs, dt=0.03 hrs, 1201 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment1: Subcat 1 Runoff Area=8.682 ac 34.40% Impervious Runoff Depth=2.22"
Flow Length=1,695' Tc=17.2 min CN=72 Runoff=14.12 cfs 1.607 af

Subcatchment1A: Subcat 1A Runoff Area=34.442 ac 0.00% Impervious Runoff Depth=2.39"
Flow Length=3,050' Tc=32.4 min CN=74 Runoff=42.91 cfs 6.855 af

Subcatchment1B: Subcat 1B Runoff Area=25.931 ac 0.32% Impervious Runoff Depth=1.98"
Flow Length=2,270' Tc=26.0 min CN=69 Runoff=29.64 cfs 4.277 af

Subcatchment1c: Subcat 1c Runoff Area=6.168 ac 19.68% Impervious Runoff Depth=0.60"
Flow Length=950' Tc=12.3 min CN=48 Runoff=1.44 cfs 0.308 af

Subcatchment1D: Subcat 1D Runoff Area=1.032 ac 57.42% Impervious Runoff Depth=1.98"
Tc=5.0 min CN=69 Runoff=2.51 cfs 0.170 af

Subcatchment2: Subcat 2 Runoff Area=3.653 ac 26.70% Impervious Runoff Depth=0.60"
Tc=10.0 min CN=48 Runoff=0.92 cfs 0.182 af

Subcatchment3: Subcat 3 Runoff Area=1.168 ac 1.89% Impervious Runoff Depth=0.28"
Tc=5.0 min CN=41 Runoff=0.04 cfs 0.027 af

Subcatchment4: Subcat 4 Runoff Area=18.089 ac 14.18% Impervious Runoff Depth=0.55"
Flow Length=910' Tc=11.7 min CN=47 Runoff=3.44 cfs 0.826 af

Reach 1S: Swale (Site Runoff) Avg. Flow Depth=0.80' Max Vel=4.38 fps Inflow=15.38 cfs 2.013 af
n=0.022 L=382.6' S=0.0107 '/' Capacity=48.13 cfs Outflow=15.22 cfs 2.013 af

Reach 4R: Avg. Flow Depth=0.00' Max Vel=0.00 fps Inflow=0.00 cfs 0.000 af
n=0.030 L=120.2' S=0.0348 '/' Capacity=10.56 cfs Outflow=0.00 cfs 0.000 af

Pond 1P: Stormwater Basin 1 Peak Elev=485.90' Storage=1,340 cf Inflow=1.44 cfs 0.308 af
Discarded=0.02 cfs 0.039 af Primary=0.80 cfs 0.268 af Outflow=0.82 cfs 0.308 af

Pond 2P: Stormwater Basin 2 Peak Elev=482.93' Storage=1,165 cf Inflow=2.51 cfs 0.170 af
Discarded=0.02 cfs 0.031 af Primary=1.82 cfs 0.138 af Outflow=1.83 cfs 0.170 af

Pond 4P: Retention Pond Peak Elev=497.08' Storage=906,558 cf Inflow=45.48 cfs 7.680 af
Outflow=0.00 cfs 0.000 af

Link DP1: DP1 Inflow=43.66 cfs 6.290 af
Primary=43.66 cfs 6.290 af

Time span=0.00-36.00 hrs, dt=0.03 hrs, 1201 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment1: Subcat 1 Runoff Area=8.682 ac 34.40% Impervious Runoff Depth=3.19"
Flow Length=1,695' Tc=17.2 min CN=72 Runoff=20.57 cfs 2.308 af

Subcatchment1A: Subcat 1A Runoff Area=34.442 ac 0.00% Impervious Runoff Depth=3.39"
Flow Length=3,050' Tc=32.4 min CN=74 Runoff=61.39 cfs 9.723 af

Subcatchment1B: Subcat 1B Runoff Area=25.931 ac 0.32% Impervious Runoff Depth=2.90"
Flow Length=2,270' Tc=26.0 min CN=69 Runoff=44.40 cfs 6.269 af

Subcatchment1c: Subcat 1c Runoff Area=6.168 ac 19.68% Impervious Runoff Depth=1.11"
Flow Length=950' Tc=12.3 min CN=48 Runoff=4.24 cfs 0.572 af

Subcatchment1D: Subcat 1D Runoff Area=1.032 ac 57.42% Impervious Runoff Depth=2.90"
Tc=5.0 min CN=69 Runoff=3.76 cfs 0.250 af

Subcatchment2: Subcat 2 Runoff Area=3.653 ac 26.70% Impervious Runoff Depth=1.11"
Tc=10.0 min CN=48 Runoff=2.78 cfs 0.339 af

Subcatchment3: Subcat 3 Runoff Area=1.168 ac 1.89% Impervious Runoff Depth=0.64"
Tc=5.0 min CN=41 Runoff=0.30 cfs 0.062 af

Subcatchment4: Subcat 4 Runoff Area=18.089 ac 14.18% Impervious Runoff Depth=1.04"
Flow Length=910' Tc=11.7 min CN=47 Runoff=11.25 cfs 1.568 af

Reach 1S: Swale (Site Runoff) Avg. Flow Depth=0.99' Max Vel=4.95 fps Inflow=24.68 cfs 3.056 af
n=0.022 L=382.6' S=0.0107 '/' Capacity=48.13 cfs Outflow=24.42 cfs 3.056 af

Reach 4R: Avg. Flow Depth=0.00' Max Vel=0.00 fps Inflow=0.00 cfs 0.000 af
n=0.030 L=120.2' S=0.0348 '/' Capacity=10.56 cfs Outflow=0.00 cfs 0.000 af

Pond 1P: Stormwater Basin 1 Peak Elev=486.30' Storage=2,269 cf Inflow=4.24 cfs 0.572 af
Discarded=0.03 cfs 0.041 af Primary=2.92 cfs 0.531 af Outflow=2.95 cfs 0.572 af

Pond 2P: Stormwater Basin 2 Peak Elev=483.09' Storage=1,392 cf Inflow=3.76 cfs 0.250 af
Discarded=0.02 cfs 0.033 af Primary=2.91 cfs 0.216 af Outflow=2.92 cfs 0.249 af

Pond 4P: Retention Pond Peak Elev=499.02' Storage=1,063,878 cf Inflow=67.40 cfs 11.292 af
Outflow=0.00 cfs 0.000 af

Link DP1: DP1 Inflow=67.25 cfs 9.325 af
Primary=67.25 cfs 9.325 af

Time span=0.00-36.00 hrs, dt=0.03 hrs, 1201 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment1: Subcat 1 Runoff Area=8.682 ac 34.40% Impervious Runoff Depth=4.78"
Flow Length=1,695' Tc=17.2 min CN=72 Runoff=30.97 cfs 3.460 af

Subcatchment1A: Subcat 1A Runoff Area=34.442 ac 0.00% Impervious Runoff Depth=5.02"
Flow Length=3,050' Tc=32.4 min CN=74 Runoff=90.97 cfs 14.394 af

Subcatchment1B: Subcat 1B Runoff Area=25.931 ac 0.32% Impervious Runoff Depth=4.43"
Flow Length=2,270' Tc=26.0 min CN=69 Runoff=68.61 cfs 9.583 af

Subcatchment1c: Subcat 1c Runoff Area=6.168 ac 19.68% Impervious Runoff Depth=2.10"
Flow Length=950' Tc=12.3 min CN=48 Runoff=9.89 cfs 1.079 af

Subcatchment1D: Subcat 1D Runoff Area=1.032 ac 57.42% Impervious Runoff Depth=4.43"
Tc=5.0 min CN=69 Runoff=5.79 cfs 0.381 af

Subcatchment2: Subcat 2 Runoff Area=3.653 ac 26.70% Impervious Runoff Depth=2.10"
Tc=10.0 min CN=48 Runoff=6.48 cfs 0.639 af

Subcatchment3: Subcat 3 Runoff Area=1.168 ac 1.89% Impervious Runoff Depth=1.39"
Tc=5.0 min CN=41 Runoff=1.43 cfs 0.135 af

Subcatchment4: Subcat 4 Runoff Area=18.089 ac 14.18% Impervious Runoff Depth=2.00"
Flow Length=910' Tc=11.7 min CN=47 Runoff=27.59 cfs 3.008 af

Reach 1S: Swale (Site Runoff) Avg. Flow Depth=1.25' Max Vel=5.64 fps Inflow=40.89 cfs 4.842 af
n=0.022 L=382.6' S=0.0107 '/' Capacity=48.13 cfs Outflow=40.54 cfs 4.842 af

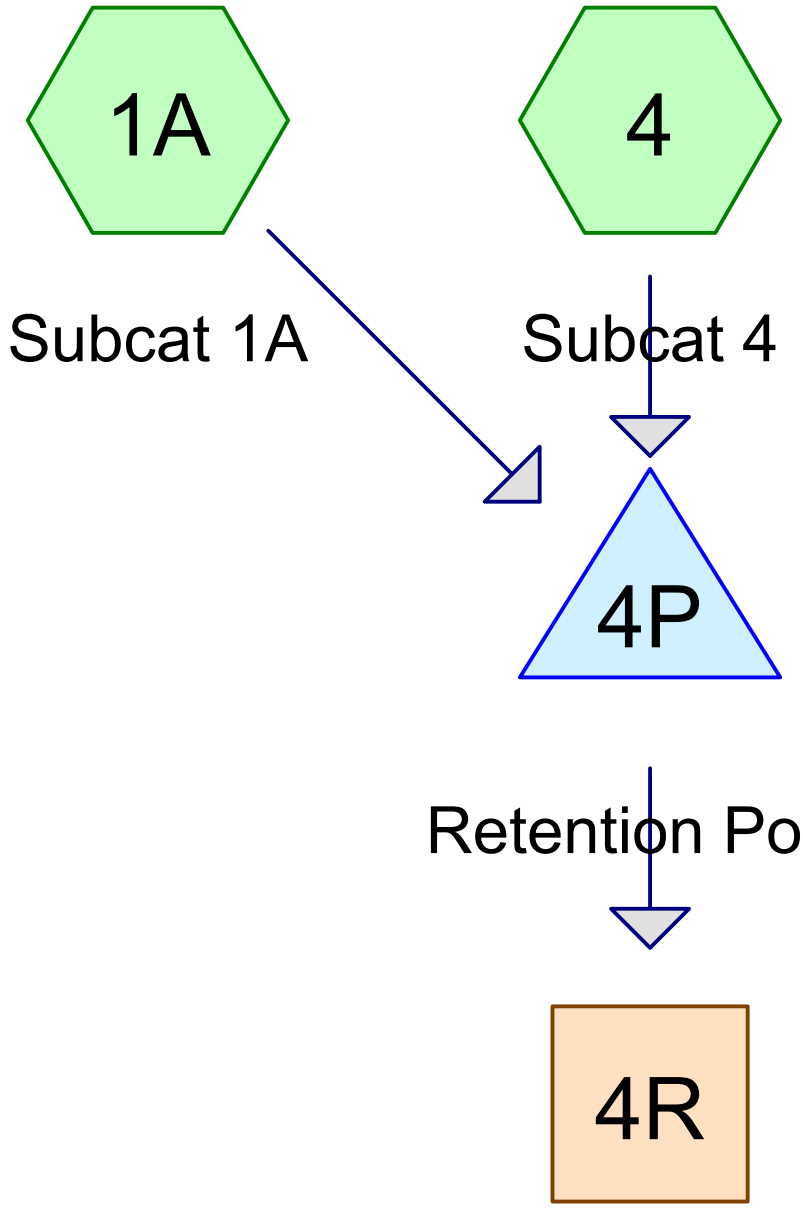
Reach 4R: Avg. Flow Depth=0.00' Max Vel=0.00 fps Inflow=0.00 cfs 0.000 af
n=0.030 L=120.2' S=0.0348 '/' Capacity=10.56 cfs Outflow=0.00 cfs 0.000 af

Pond 1P: Stormwater Basin 1 Peak Elev=487.00' Storage=4,166 cf Inflow=9.89 cfs 1.079 af
Discarded=0.03 cfs 0.044 af Primary=7.38 cfs 1.036 af Outflow=7.41 cfs 1.079 af

Pond 2P: Stormwater Basin 2 Peak Elev=483.31' Storage=1,716 cf Inflow=5.79 cfs 0.381 af
Discarded=0.02 cfs 0.035 af Primary=4.64 cfs 0.346 af Outflow=4.66 cfs 0.381 af

Pond 4P: Retention Pond Peak Elev=502.00' Storage=1,330,050 cf Inflow=103.47 cfs 17.402 af
Outflow=0.00 cfs 0.000 af

Link DP1: DP1 Inflow=105.97 cfs 14.425 af
Primary=105.97 cfs 14.425 af



Subcat Reach Pond Link

Routing Diagram for Siland_PR
Prepared by VHB, Inc, Printed 2/27/2025
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Rainfall Events Listing (selected events)

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	100-yr	NY-Amenia 24-hr S1	100-yr	Default	24.00	1	8.10	2
2	200-yr	NY-Amenia 24-hr S1	100-yr	Default	24.00	1	9.37	2
3	500-yr	NY-Amenia 24-hr S1	100-yr	Default	24.00	1	11.40	2
4	1000-yr	NY-Amenia 24-hr S1	100-yr	Default	24.00	1	13.30	2

Area Listing (selected nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.134	30	Brush, Good, HSG A (4)
2.686	76	Gravel roads, HSG A (4)
12.234	30	Meadow, non-grazed, HSG A (1A, 4)
0.555	71	Meadow, non-grazed, HSG C (1A, 4)
0.040	98	Paved parking, HSG C (4)
2.524	98	Water Surface, HSG A (4)
0.015	30	Woods, Good, HSG A (1A)
14.290	70	Woods, Good, HSG C (1A)
19.691	77	Woods, Good, HSG D (1A)
0.361	32	Woods/grass comb., Good, HSG A (4)
52.530	**65**	**TOTAL AREA**

Soil Listing (selected nodes)

Area (acres)	Soil Group	Subcatchment Numbers
17.955	HSG A	1A, 4
0.000	HSG B	
14.885	HSG C	1A, 4
19.691	HSG D	1A
0.000	Other	
52.530		**TOTAL AREA**

Ground Covers (selected nodes)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
0.134	0.000	0.000	0.000	0.000	0.134	Brush, Good	4
2.686	0.000	0.000	0.000	0.000	2.686	Gravel roads	4
12.234	0.000	0.555	0.000	0.000	12.789	Meadow, non-grazed	1A, 4
0.000	0.000	0.040	0.000	0.000	0.040	Paved parking	4
2.524	0.000	0.000	0.000	0.000	2.524	Water Surface	4
0.015	0.000	14.290	19.691	0.000	33.996	Woods, Good	1A
0.361	0.000	0.000	0.000	0.000	0.361	Woods/grass comb., Good	4
17.955	**0.000**	**14.885**	**19.691**	**0.000**	**52.530**	**TOTAL AREA**	

Time span=0.00-36.00 hrs, dt=0.03 hrs, 1201 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment1A: Subcat 1A Runoff Area=34.442 ac 0.00% Impervious Runoff Depth=5.02"
Flow Length=3,050' Tc=32.4 min CN=74 Runoff=90.97 cfs 14.394 af

Subcatchment4: Subcat 4 Runoff Area=18.089 ac 14.18% Impervious Runoff Depth=2.00"
Flow Length=910' Tc=11.7 min CN=47 Runoff=27.59 cfs 3.008 af

Reach 4R: Avg. Flow Depth=0.00' Max Vel=0.00 fps Inflow=0.00 cfs 0.000 af
n=0.030 L=120.2' S=0.0348 '/' Capacity=10.56 cfs Outflow=0.00 cfs 0.000 af

Pond 4P: Retention Pond Peak Elev=502.00' Storage=1,330,050 cf Inflow=103.47 cfs 17.402 af
Outflow=0.00 cfs 0.000 af

Total Runoff Area = 52.530 ac Runoff Volume = 17.402 af Average Runoff Depth = 3.98"
95.12% Pervious = 49.966 ac 4.88% Impervious = 2.564 ac

Summary for Subcatchment 1A: Subcat 1A

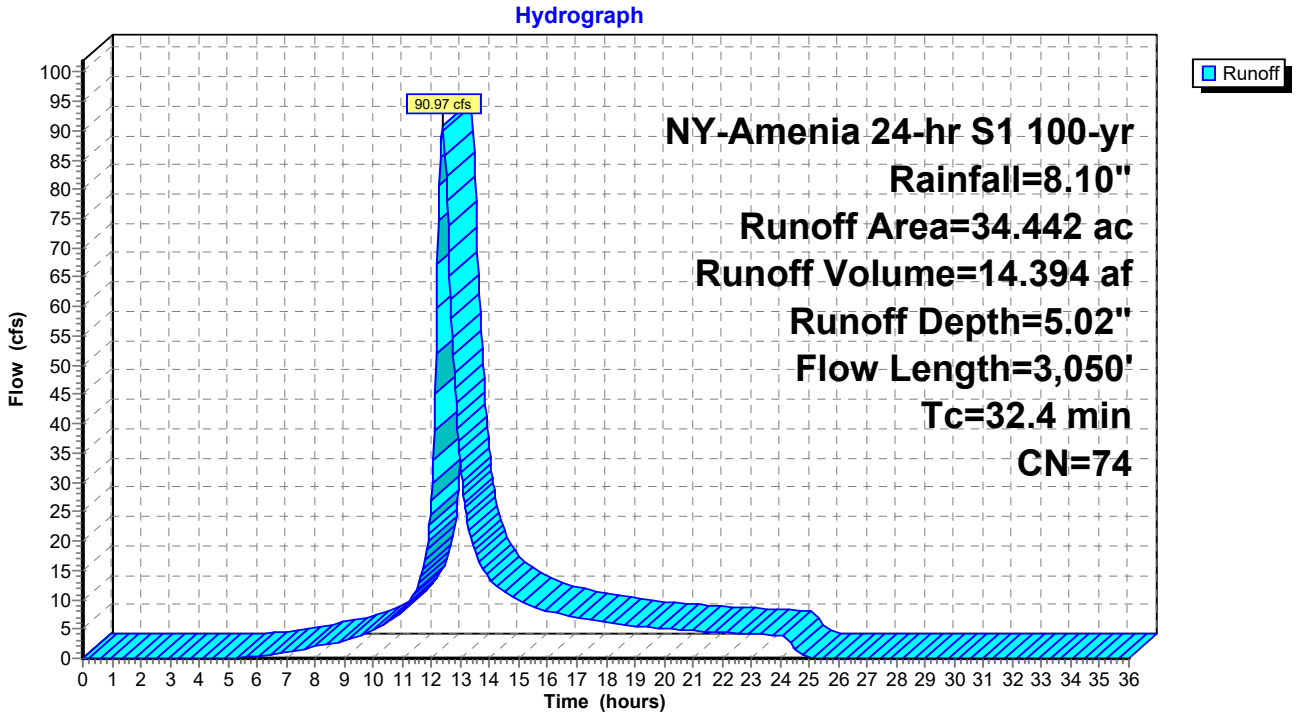
Runoff = 90.97 cfs @ 12.38 hrs, Volume= 14.394 af, Depth= 5.02"
Routed to Pond 4P : Retention Pond

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.03 hrs
NY-Amenia 24-hr S1 100-yr Rainfall=8.10"

Area (ac)	CN	Description
0.046	30	Meadow, non-grazed, HSG A
0.400	71	Meadow, non-grazed, HSG C
0.015	30	Woods, Good, HSG A
14.290	70	Woods, Good, HSG C
19.691	77	Woods, Good, HSG D
34.442	74	Weighted Average
34.442		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.5	50	0.0400	0.05		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.10"
9.3	1,580	0.3200	2.83		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
5.6	680	0.0838	2.03		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
1.0	740	0.0466	12.83	22.68	**Pipe Channel,** 18.0" Round Area= 1.8 sf Perim= 4.7' r= 0.38' n= 0.013
32.4	3,050	Total			

Subcatchment 1A: Subcat 1A



Summary for Subcatchment 4: Subcat 4

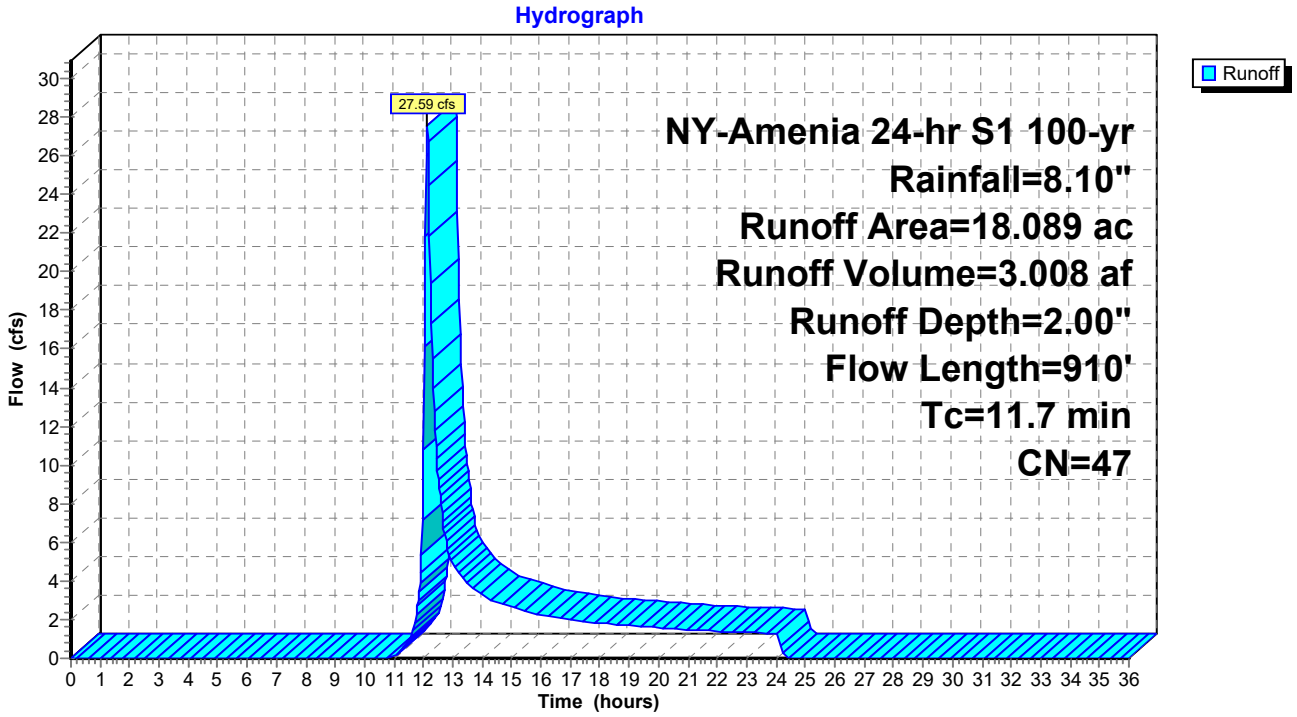
Runoff = 27.59 cfs @ 12.12 hrs, Volume= 3.008 af, Depth= 2.00"
Routed to Pond 4P : Retention Pond

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.03 hrs
NY-Amenia 24-hr S1 100-yr Rainfall=8.10"

Area (ac)	CN	Description
0.134	30	Brush, Good, HSG A
2.686	76	Gravel roads, HSG A
12.188	30	Meadow, non-grazed, HSG A
0.155	71	Meadow, non-grazed, HSG C
0.040	98	Paved parking, HSG C
2.524	98	Water Surface, HSG A
0.361	32	Woods/grass comb., Good, HSG A
18.089	47	Weighted Average
15.525		85.82% Pervious Area
2.564		14.18% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.3	50	0.0400	0.13		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.10"
4.2	640	0.1300	2.52		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
1.2	220	0.0360	3.05		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
11.7	910	Total			

Subcatchment 4: Subcat 4



Summary for Reach 4R:

Inflow Area = 52.530 ac, 4.88% Impervious, Inflow Depth = 0.00" for 100-yr event
Inflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min

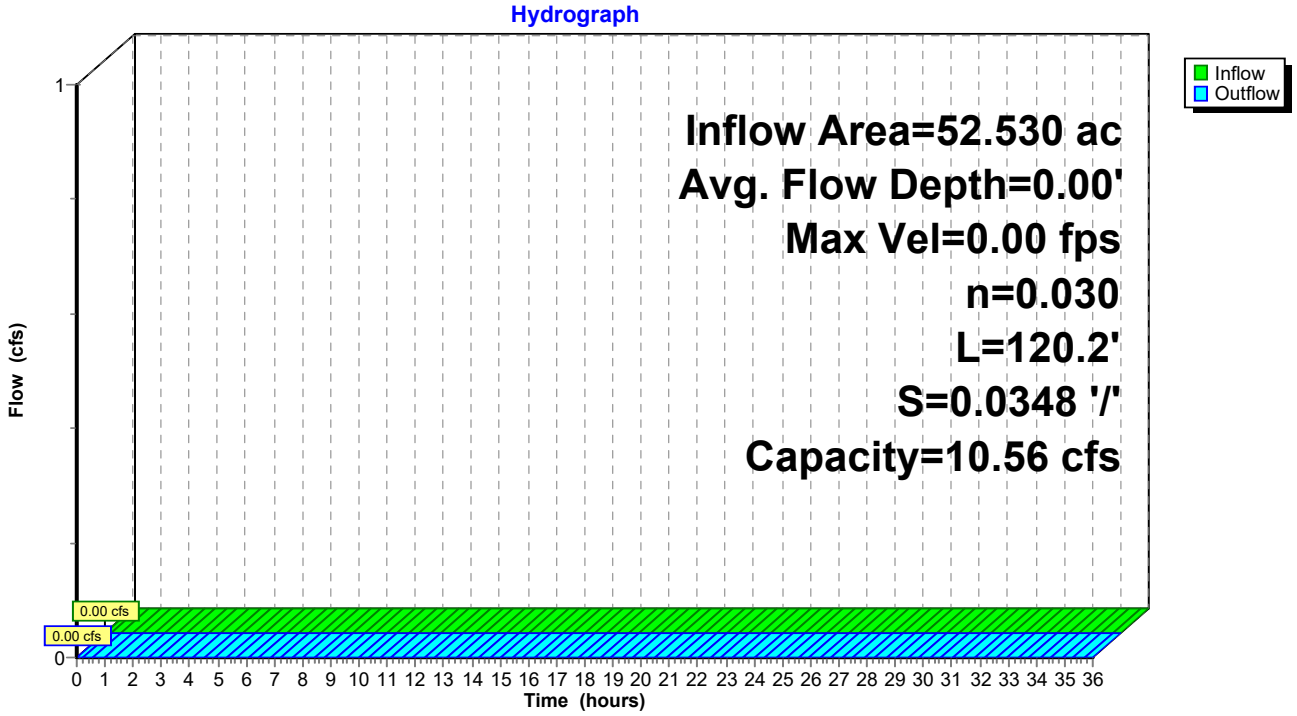
Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.03 hrs
Max. Velocity= 0.00 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 0.00 fps, Avg. Travel Time= 0.0 min

Peak Storage= 0 cf @ 0.00 hrs
Average Depth at Peak Storage= 0.00'
Bank-Full Depth= 0.50' Flow Area= 2.5 sf, Capacity= 10.56 cfs

2.00' x 0.50' deep channel, n= 0.030 Earth, grassed & winding
Side Slope Z-value= 6.0 '/' Top Width= 8.00'
Length= 120.2' Slope= 0.0348 '/'
Inlet Invert= 507.18', Outlet Invert= 503.00'

‡

Reach 4R:



Summary for Pond 4P: Retention Pond

Inflow Area = 52.530 ac, 4.88% Impervious, Inflow Depth = 3.98" for 100-yr event
Inflow = 103.47 cfs @ 12.36 hrs, Volume= 17.402 af
Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Atten= 100%, Lag= 0.0 min
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Routed to Reach 4R :

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.03 hrs
Starting Elev= 492.30' Surf.Area= 62,810 sf Storage= 572,023 cf
Peak Elev= 502.00' @ 25.89 hrs Surf.Area= 94,685 sf Storage= 1,330,050 cf (758,027 cf above start)

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)
Center-of-Mass det. time= (not calculated: no outflow)

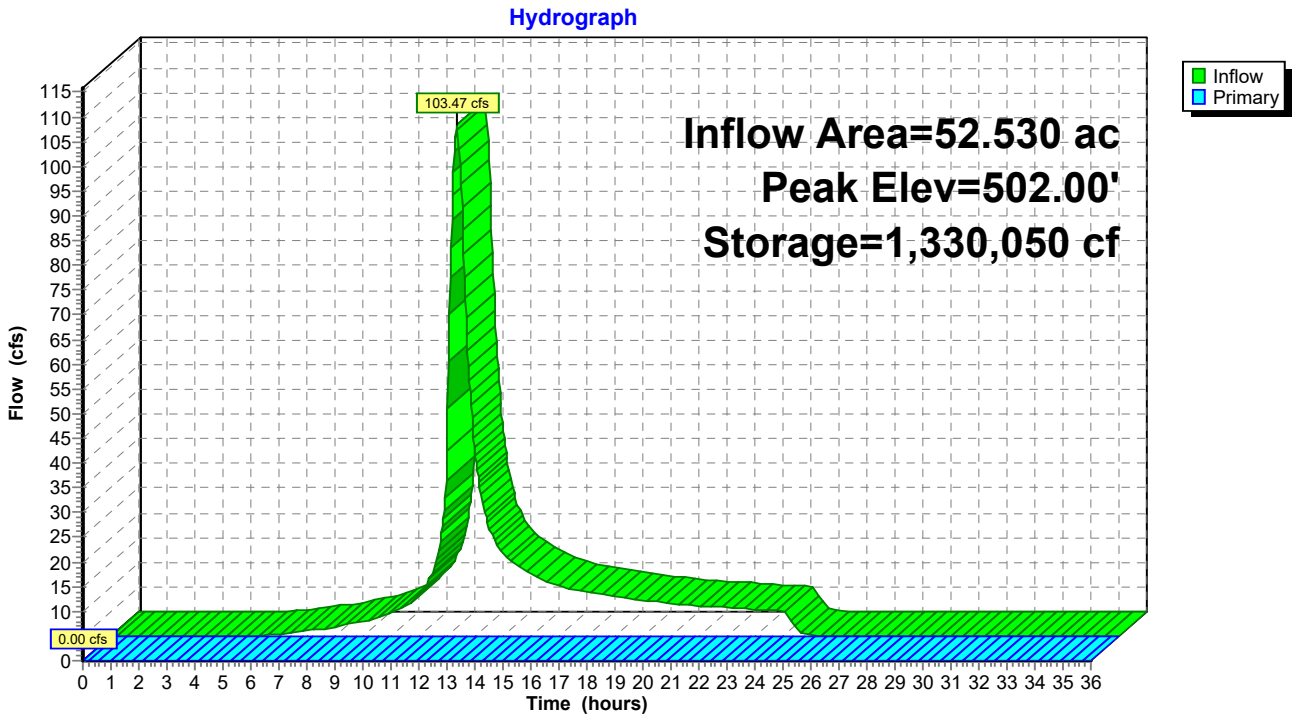
Volume	Invert	Avail.Storage	Storage Description
#1	479.00'	1,974,954 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
479.00	20,134	0	0
480.00	24,882	22,508	22,508
481.00	29,083	26,983	49,491
482.00	32,555	30,819	80,310
483.00	35,690	34,123	114,432
484.00	38,624	37,157	151,589
485.00	41,493	40,059	191,648
486.00	44,398	42,946	234,593
487.00	47,283	45,841	280,434
488.00	50,182	48,733	329,166
489.00	53,093	51,638	380,804
490.00	56,029	54,561	435,365
491.00	58,974	57,502	492,866
492.00	61,921	60,448	553,314
493.00	64,884	63,403	616,716
494.00	67,880	66,382	683,098
495.00	70,934	69,407	752,505
496.00	74,074	72,504	825,009
497.00	77,331	75,703	900,712
498.00	80,719	79,025	979,737
499.00	84,192	82,456	1,062,192
500.00	87,688	85,940	1,148,132
501.00	91,183	89,436	1,237,568
502.00	94,702	92,943	1,330,510
503.00	98,243	96,473	1,426,983
504.00	101,849	100,046	1,527,029
505.00	105,758	103,804	1,630,832
506.00	113,569	109,664	1,740,496
506.50	113,569	56,785	1,797,280
507.00	116,675	57,561	1,854,841
508.00	123,551	120,113	1,974,954

Device	Routing	Invert	Outlet Devices
#1	Primary	507.18'	**4.0' long + 3.0 '/' SideZ x 2.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=492.30' (Free Discharge)
1=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Pond 4P: Retention Pond



Time span=0.00-36.00 hrs, dt=0.03 hrs, 1201 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment1A: Subcat 1A Runoff Area=34.442 ac 0.00% Impervious Runoff Depth=6.17"
Flow Length=3,050' Tc=32.4 min CN=74 Runoff=111.54 cfs 17.701 af

Subcatchment4: Subcat 4 Runoff Area=18.089 ac 14.18% Impervious Runoff Depth=2.75"
Flow Length=910' Tc=11.7 min CN=47 Runoff=40.54 cfs 4.149 af

Reach 4R: Avg. Flow Depth=0.00' Max Vel=0.00 fps Inflow=0.00 cfs 0.000 af
n=0.030 L=120.2' S=0.0348 '/' Capacity=10.56 cfs Outflow=0.00 cfs 0.000 af

Pond 4P: Retention Pond Peak Elev=503.97' Storage=1,523,795 cf Inflow=129.14 cfs 21.850 af
Outflow=0.00 cfs 0.000 af

Total Runoff Area = 52.530 ac Runoff Volume = 21.850 af Average Runoff Depth = 4.99"
95.12% Pervious = 49.966 ac 4.88% Impervious = 2.564 ac

Summary for Subcatchment 1A: Subcat 1A

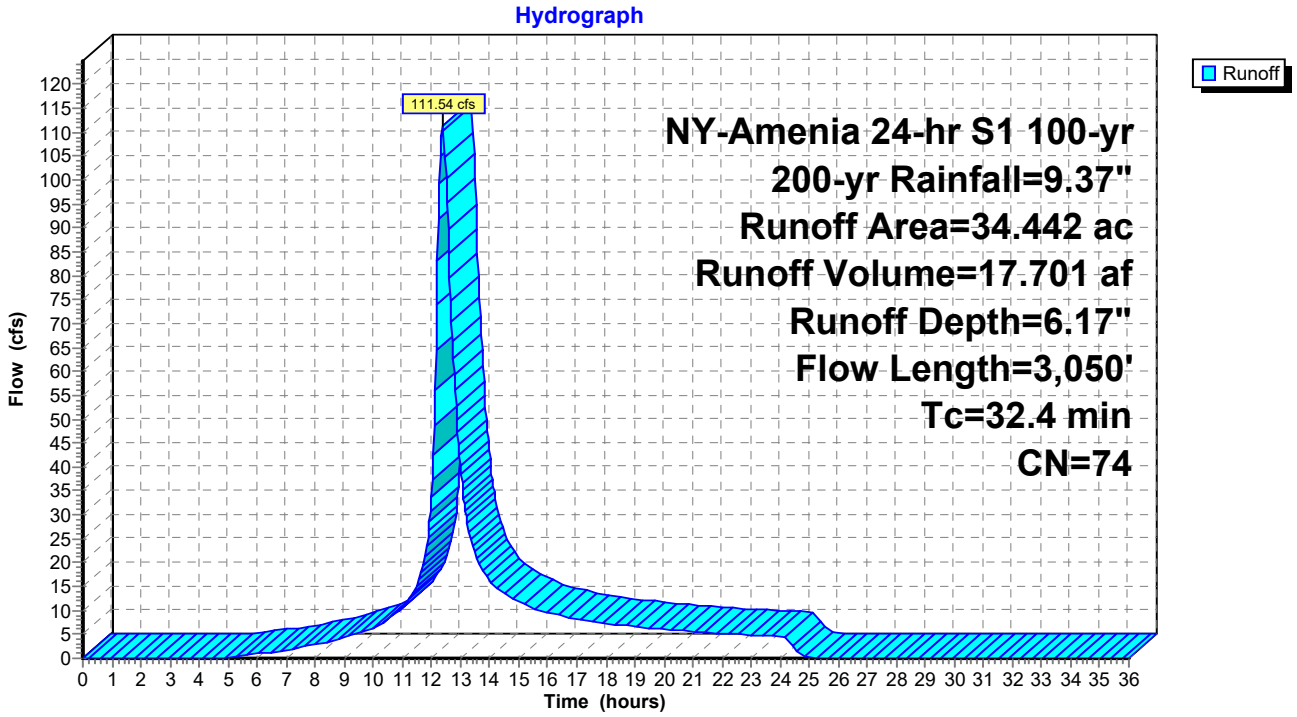
Runoff = 111.54 cfs @ 12.38 hrs, Volume= 17.701 af, Depth= 6.17"
Routed to Pond 4P : Retention Pond

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.03 hrs
NY-Amenia 24-hr S1 100-yr 200-yr Rainfall=9.37"

Area (ac)	CN	Description
0.046	30	Meadow, non-grazed, HSG A
0.400	71	Meadow, non-grazed, HSG C
0.015	30	Woods, Good, HSG A
14.290	70	Woods, Good, HSG C
19.691	77	Woods, Good, HSG D
34.442	74	Weighted Average
34.442		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.5	50	0.0400	0.05		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.10"
9.3	1,580	0.3200	2.83		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
5.6	680	0.0838	2.03		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
1.0	740	0.0466	12.83	22.68	**Pipe Channel,** 18.0" Round Area= 1.8 sf Perim= 4.7' r= 0.38' n= 0.013
32.4	3,050	Total			

Subcatchment 1A: Subcat 1A



Summary for Subcatchment 4: Subcat 4

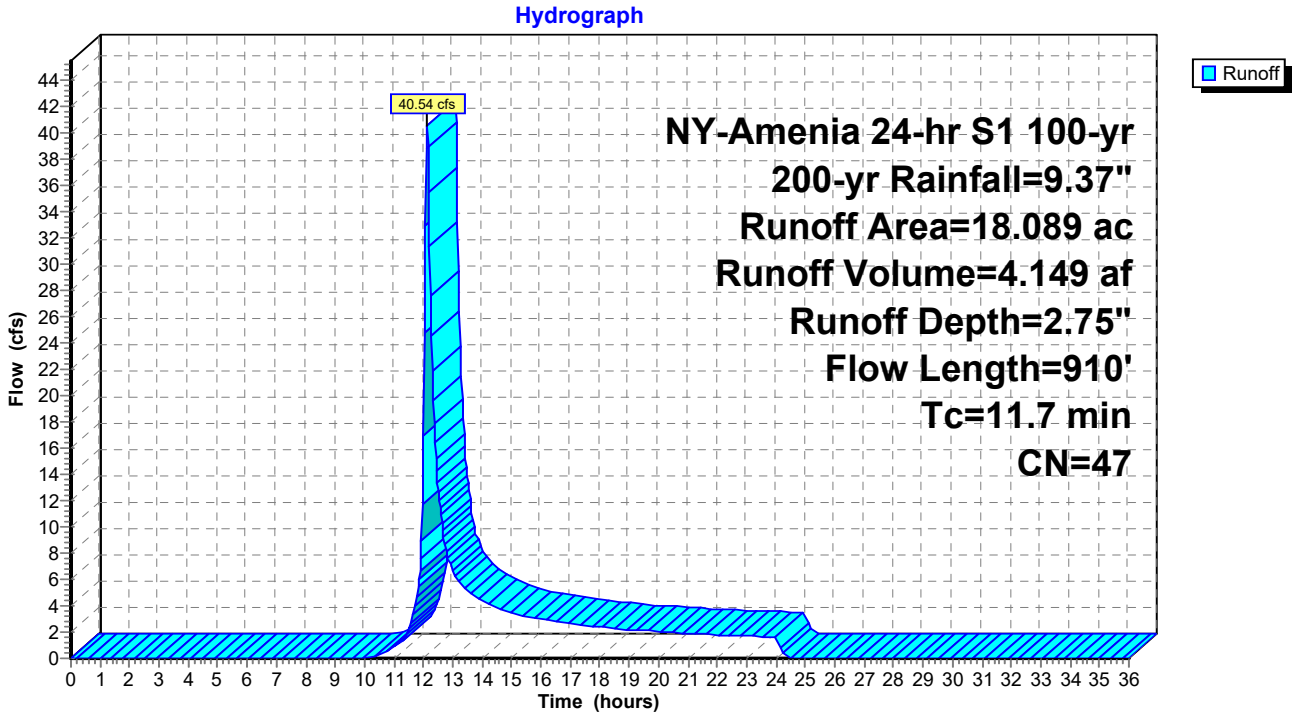
Runoff = 40.54 cfs @ 12.12 hrs, Volume= 4.149 af, Depth= 2.75"
Routed to Pond 4P : Retention Pond

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.03 hrs
NY-Amenia 24-hr S1 100-yr 200-yr Rainfall=9.37"

Area (ac)	CN	Description
0.134	30	Brush, Good, HSG A
2.686	76	Gravel roads, HSG A
12.188	30	Meadow, non-grazed, HSG A
0.155	71	Meadow, non-grazed, HSG C
0.040	98	Paved parking, HSG C
2.524	98	Water Surface, HSG A
0.361	32	Woods/grass comb., Good, HSG A
18.089	47	Weighted Average
15.525		85.82% Pervious Area
2.564		14.18% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.3	50	0.0400	0.13		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.10"
4.2	640	0.1300	2.52		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
1.2	220	0.0360	3.05		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
11.7	910	Total			

Subcatchment 4: Subcat 4



Summary for Reach 4R:

Inflow Area = 52.530 ac, 4.88% Impervious, Inflow Depth = 0.00" for 200-yr event
Inflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min

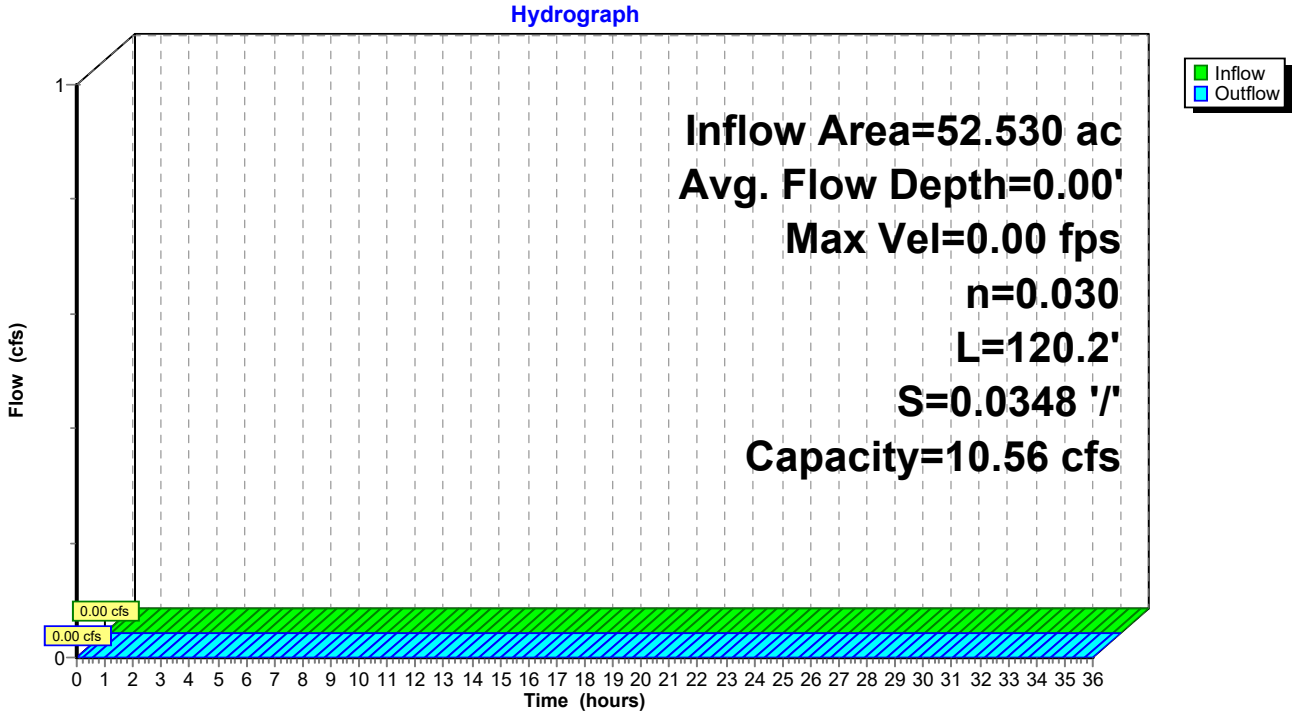
Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.03 hrs
Max. Velocity= 0.00 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 0.00 fps, Avg. Travel Time= 0.0 min

Peak Storage= 0 cf @ 0.00 hrs
Average Depth at Peak Storage= 0.00'
Bank-Full Depth= 0.50' Flow Area= 2.5 sf, Capacity= 10.56 cfs

2.00' x 0.50' deep channel, n= 0.030 Earth, grassed & winding
Side Slope Z-value= 6.0 '/' Top Width= 8.00'
Length= 120.2' Slope= 0.0348 '/'
Inlet Invert= 507.18', Outlet Invert= 503.00'

‡

Reach 4R:



Summary for Pond 4P: Retention Pond

Inflow Area = 52.530 ac, 4.88% Impervious, Inflow Depth = 4.99" for 200-yr event
Inflow = 129.14 cfs @ 12.35 hrs, Volume= 21.850 af
Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Atten= 100%, Lag= 0.0 min
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Routed to Reach 4R :

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.03 hrs
Starting Elev= 492.30' Surf.Area= 62,810 sf Storage= 572,023 cf
Peak Elev= 503.97' @ 25.89 hrs Surf.Area= 101,734 sf Storage= 1,523,795 cf (951,772 cf above start)

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)
Center-of-Mass det. time= (not calculated: no outflow)

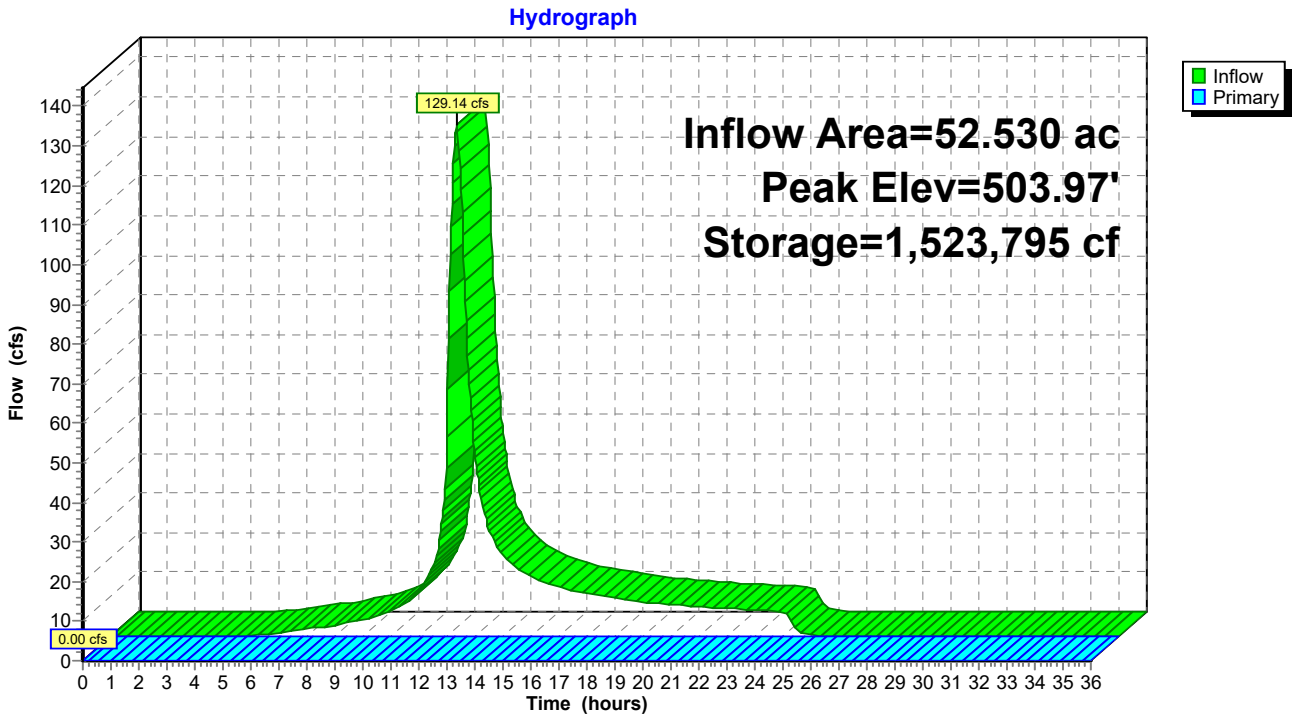
Volume	Invert	Avail.Storage	Storage Description
#1	479.00'	1,974,954 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
479.00	20,134	0	0
480.00	24,882	22,508	22,508
481.00	29,083	26,983	49,491
482.00	32,555	30,819	80,310
483.00	35,690	34,123	114,432
484.00	38,624	37,157	151,589
485.00	41,493	40,059	191,648
486.00	44,398	42,946	234,593
487.00	47,283	45,841	280,434
488.00	50,182	48,733	329,166
489.00	53,093	51,638	380,804
490.00	56,029	54,561	435,365
491.00	58,974	57,502	492,866
492.00	61,921	60,448	553,314
493.00	64,884	63,403	616,716
494.00	67,880	66,382	683,098
495.00	70,934	69,407	752,505
496.00	74,074	72,504	825,009
497.00	77,331	75,703	900,712
498.00	80,719	79,025	979,737
499.00	84,192	82,456	1,062,192
500.00	87,688	85,940	1,148,132
501.00	91,183	89,436	1,237,568
502.00	94,702	92,943	1,330,510
503.00	98,243	96,473	1,426,983
504.00	101,849	100,046	1,527,029
505.00	105,758	103,804	1,630,832
506.00	113,569	109,664	1,740,496
506.50	113,569	56,785	1,797,280
507.00	116,675	57,561	1,854,841
508.00	123,551	120,113	1,974,954

Device	Routing	Invert	Outlet Devices
#1	Primary	507.18'	**4.0' long + 3.0 '/' SideZ x 2.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=492.30' (Free Discharge)
↑—**1=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond 4P: Retention Pond



Time span=0.00-36.00 hrs, dt=0.03 hrs, 1201 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment1A: Subcat 1A Runoff Area=34.442 ac 0.00% Impervious Runoff Depth=8.05"
Flow Length=3,050' Tc=32.4 min CN=74 Runoff=144.67 cfs 23.112 af

Subcatchment4: Subcat 4 Runoff Area=18.089 ac 14.18% Impervious Runoff Depth=4.10"
Flow Length=910' Tc=11.7 min CN=47 Runoff=63.46 cfs 6.173 af

Reach 4R: Avg. Flow Depth=0.00' Max Vel=0.00 fps Inflow=0.00 cfs 0.000 af
n=0.030 L=120.2' S=0.0348 '/' Capacity=10.56 cfs Outflow=0.00 cfs 0.000 af

Pond 4P: Retention Pond Peak Elev=506.94' Storage=1,847,639 cf Inflow=171.22 cfs 29.285 af
Outflow=0.00 cfs 0.000 af

Total Runoff Area = 52.530 ac Runoff Volume = 29.285 af Average Runoff Depth = 6.69"
95.12% Pervious = 49.966 ac 4.88% Impervious = 2.564 ac

Summary for Subcatchment 1A: Subcat 1A

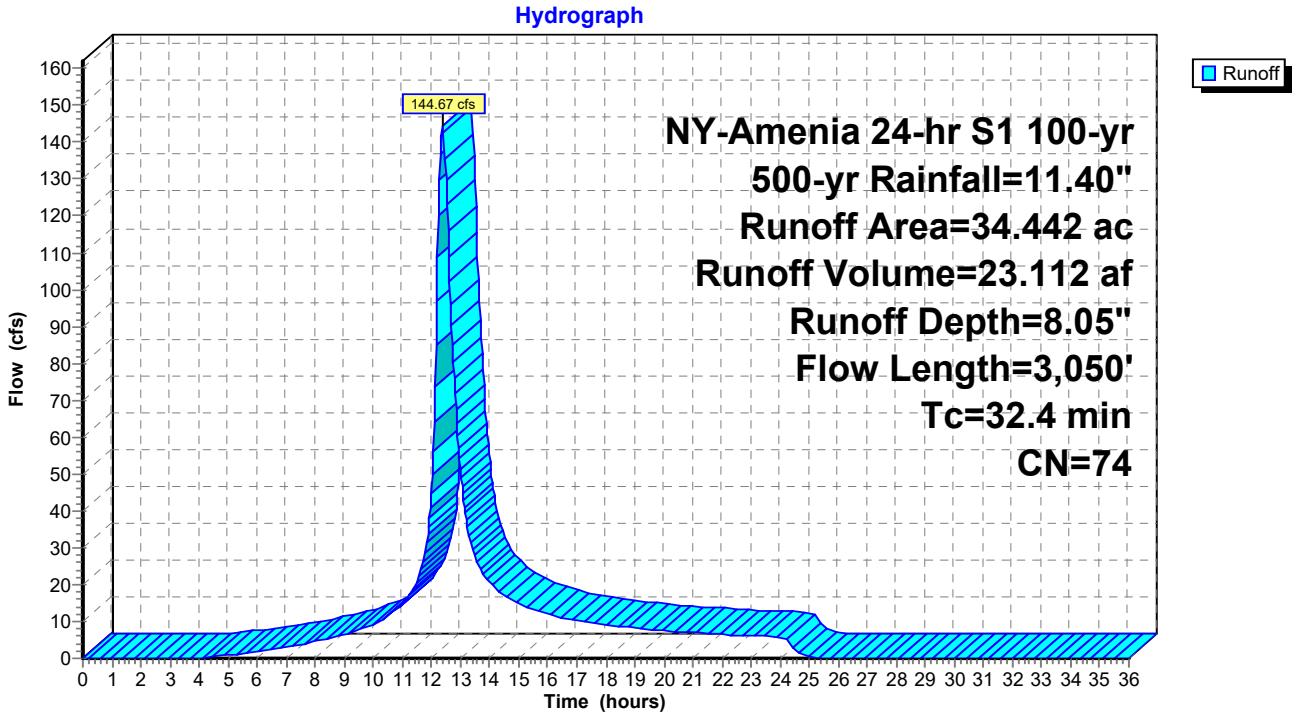
Runoff = 144.67 cfs @ 12.38 hrs, Volume= 23.112 af, Depth= 8.05"
Routed to Pond 4P : Retention Pond

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.03 hrs
NY-Amenia 24-hr S1 100-yr 500-yr Rainfall=11.40"

Area (ac)	CN	Description
0.046	30	Meadow, non-grazed, HSG A
0.400	71	Meadow, non-grazed, HSG C
0.015	30	Woods, Good, HSG A
14.290	70	Woods, Good, HSG C
19.691	77	Woods, Good, HSG D
34.442	74	Weighted Average
34.442		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.5	50	0.0400	0.05		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.10"
9.3	1,580	0.3200	2.83		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
5.6	680	0.0838	2.03		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
1.0	740	0.0466	12.83	22.68	**Pipe Channel,** 18.0" Round Area= 1.8 sf Perim= 4.7' r= 0.38' n= 0.013
32.4	3,050	Total			

Subcatchment 1A: Subcat 1A



Summary for Subcatchment 4: Subcat 4

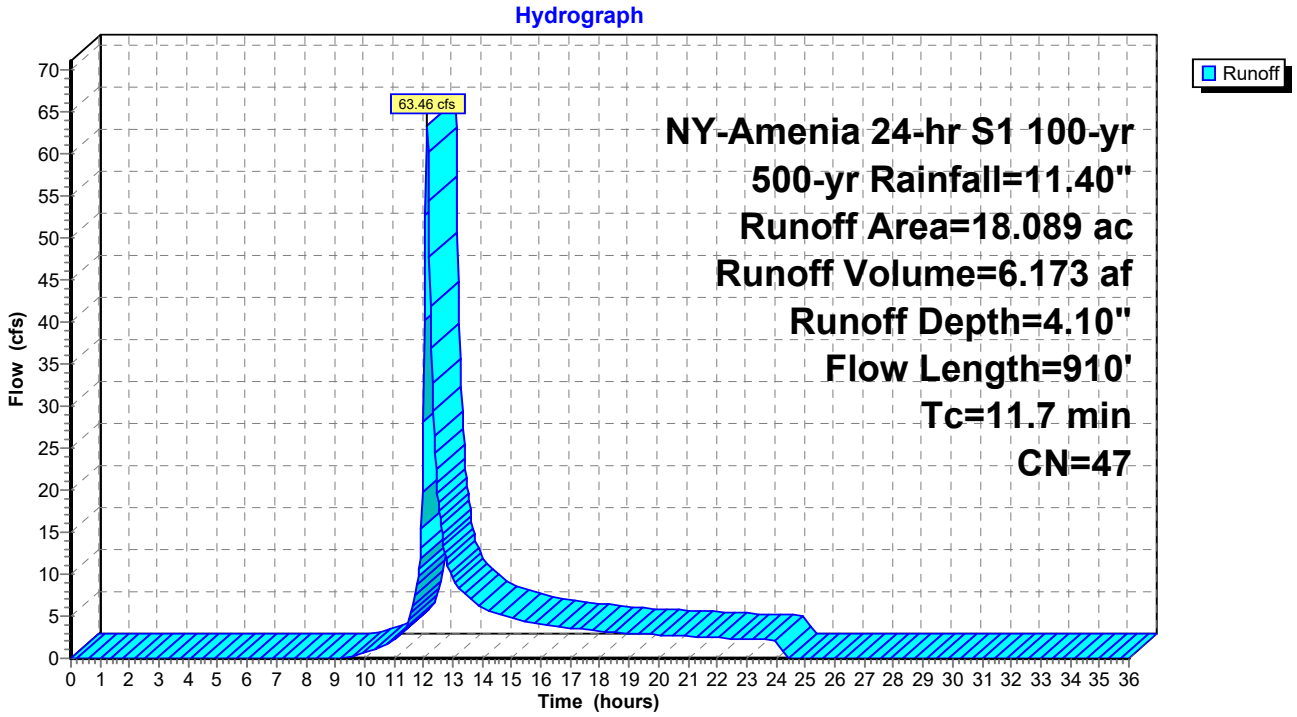
Runoff = 63.46 cfs @ 12.12 hrs, Volume= 6.173 af, Depth= 4.10"
Routed to Pond 4P : Retention Pond

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.03 hrs
NY-Amenia 24-hr S1 100-yr 500-yr Rainfall=11.40"

Area (ac)	CN	Description
0.134	30	Brush, Good, HSG A
2.686	76	Gravel roads, HSG A
12.188	30	Meadow, non-grazed, HSG A
0.155	71	Meadow, non-grazed, HSG C
0.040	98	Paved parking, HSG C
2.524	98	Water Surface, HSG A
0.361	32	Woods/grass comb., Good, HSG A
18.089	47	Weighted Average
15.525		85.82% Pervious Area
2.564		14.18% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.3	50	0.0400	0.13		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.10"
4.2	640	0.1300	2.52		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
1.2	220	0.0360	3.05		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
11.7	910	Total			

Subcatchment 4: Subcat 4



Summary for Reach 4R:

Inflow Area = 52.530 ac, 4.88% Impervious, Inflow Depth = 0.00" for 500-yr event
Inflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min

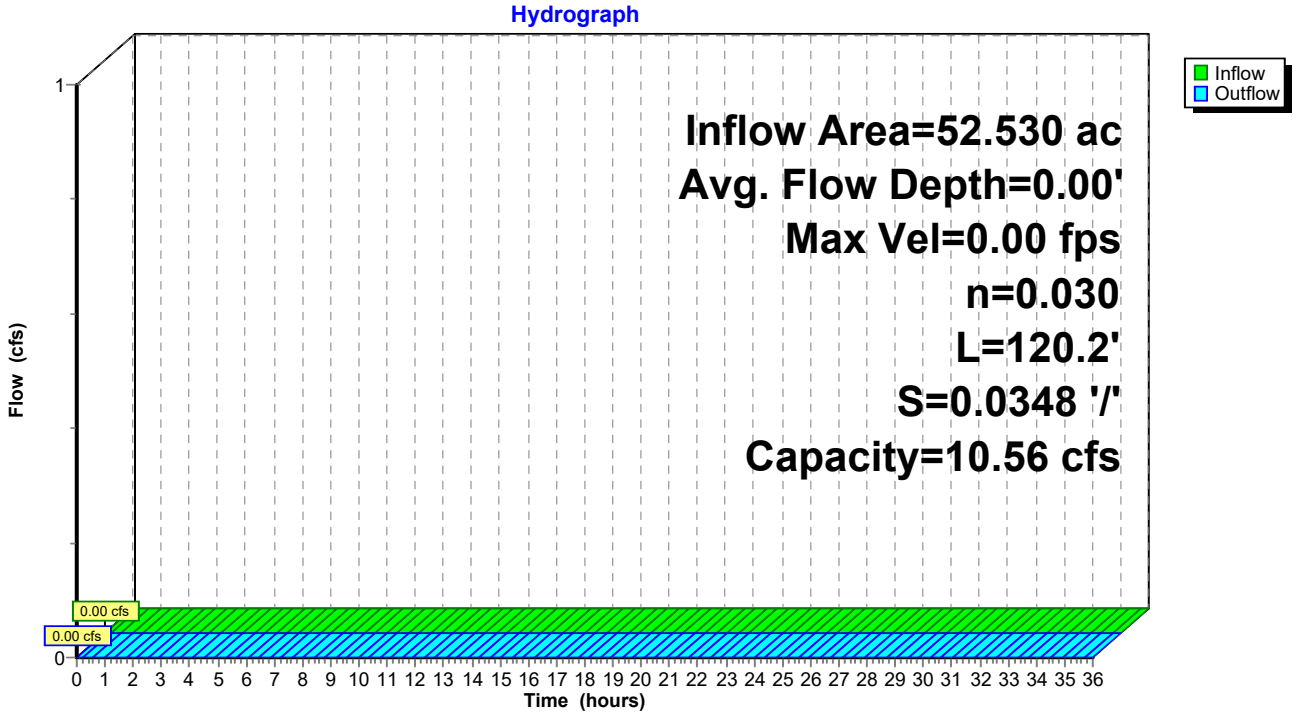
Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.03 hrs
Max. Velocity= 0.00 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 0.00 fps, Avg. Travel Time= 0.0 min

Peak Storage= 0 cf @ 0.00 hrs
Average Depth at Peak Storage= 0.00'
Bank-Full Depth= 0.50' Flow Area= 2.5 sf, Capacity= 10.56 cfs

2.00' x 0.50' deep channel, n= 0.030 Earth, grassed & winding
Side Slope Z-value= 6.0 '/' Top Width= 8.00'
Length= 120.2' Slope= 0.0348 '/'
Inlet Invert= 507.18', Outlet Invert= 503.00'

‡

Reach 4R:



Summary for Pond 4P: Retention Pond

Inflow Area = 52.530 ac, 4.88% Impervious, Inflow Depth = 6.69" for 500-yr event
Inflow = 171.22 cfs @ 12.34 hrs, Volume= 29.285 af
Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Atten= 100%, Lag= 0.0 min
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Routed to Reach 4R :

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.03 hrs
Starting Elev= 492.30' Surf.Area= 62,810 sf Storage= 572,023 cf
Peak Elev= 506.94' @ 25.89 hrs Surf.Area= 116,291 sf Storage= 1,847,639 cf (1,275,616 cf above start)

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)
Center-of-Mass det. time= (not calculated: no outflow)

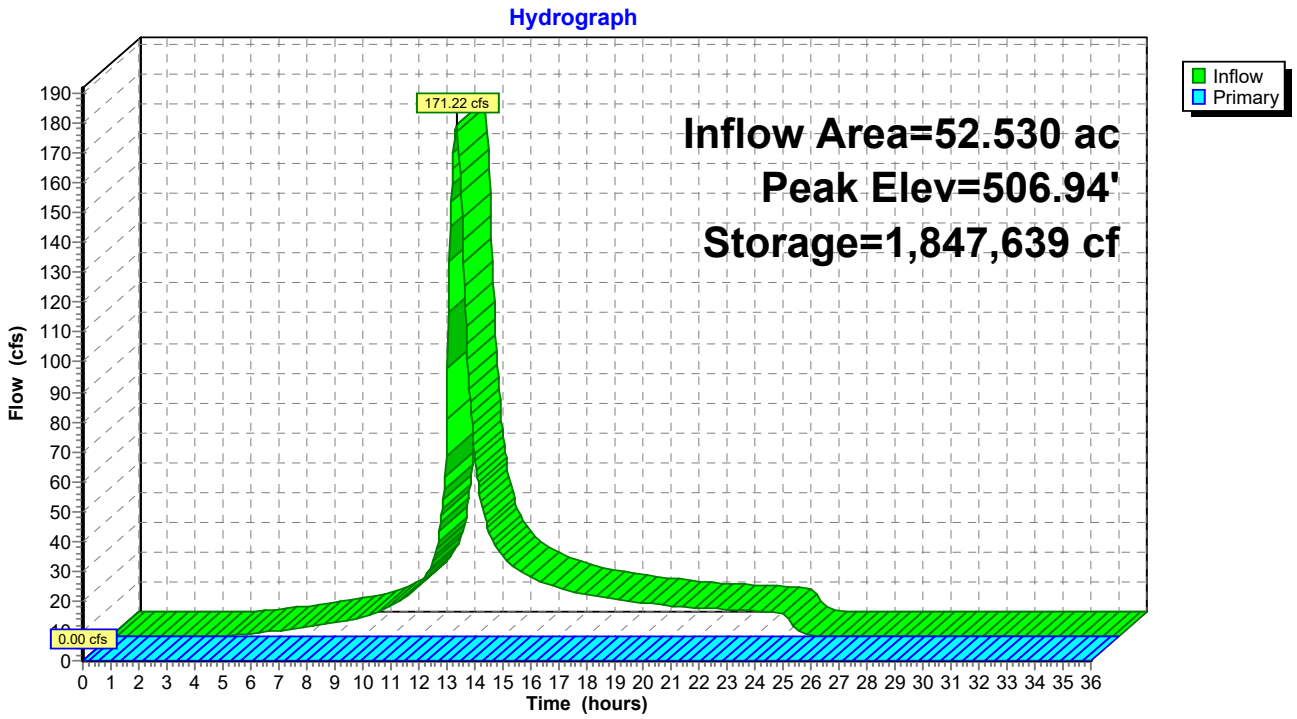
Volume	Invert	Avail.Storage	Storage Description
#1	479.00'	1,974,954 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
479.00	20,134	0	0
480.00	24,882	22,508	22,508
481.00	29,083	26,983	49,491
482.00	32,555	30,819	80,310
483.00	35,690	34,123	114,432
484.00	38,624	37,157	151,589
485.00	41,493	40,059	191,648
486.00	44,398	42,946	234,593
487.00	47,283	45,841	280,434
488.00	50,182	48,733	329,166
489.00	53,093	51,638	380,804
490.00	56,029	54,561	435,365
491.00	58,974	57,502	492,866
492.00	61,921	60,448	553,314
493.00	64,884	63,403	616,716
494.00	67,880	66,382	683,098
495.00	70,934	69,407	752,505
496.00	74,074	72,504	825,009
497.00	77,331	75,703	900,712
498.00	80,719	79,025	979,737
499.00	84,192	82,456	1,062,192
500.00	87,688	85,940	1,148,132
501.00	91,183	89,436	1,237,568
502.00	94,702	92,943	1,330,510
503.00	98,243	96,473	1,426,983
504.00	101,849	100,046	1,527,029
505.00	105,758	103,804	1,630,832
506.00	113,569	109,664	1,740,496
506.50	113,569	56,785	1,797,280
507.00	116,675	57,561	1,854,841
508.00	123,551	120,113	1,974,954

Device	Routing	Invert	Outlet Devices
#1	Primary	507.18'	**4.0' long + 3.0 '/' SideZ x 2.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=492.30' (Free Discharge)
└**1=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond 4P: Retention Pond



Time span=0.00-36.00 hrs, dt=0.03 hrs, 1201 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment1A: Subcat 1A Runoff Area=34.442 ac 0.00% Impervious Runoff Depth=9.85"
Flow Length=3,050' Tc=32.4 min CN=74 Runoff=175.74 cfs 28.271 af

Subcatchment4: Subcat 4 Runoff Area=18.089 ac 14.18% Impervious Runoff Depth=5.46"
Flow Length=910' Tc=11.7 min CN=47 Runoff=86.72 cfs 8.238 af

Reach 4R: Avg. Flow Depth=0.50' Max Vel=4.23 fps Inflow=10.58 cfs 6.389 af
n=0.030 L=120.2' S=0.0348 '/' Capacity=10.56 cfs Outflow=10.58 cfs 6.388 af

Pond 4P: Retention Pond Peak Elev=507.95' Storage=1,969,378 cf Inflow=211.39 cfs 36.509 af
Outflow=10.58 cfs 6.389 af

Total Runoff Area = 52.530 ac Runoff Volume = 36.509 af Average Runoff Depth = 8.34"
95.12% Pervious = 49.966 ac 4.88% Impervious = 2.564 ac

Summary for Subcatchment 1A: Subcat 1A

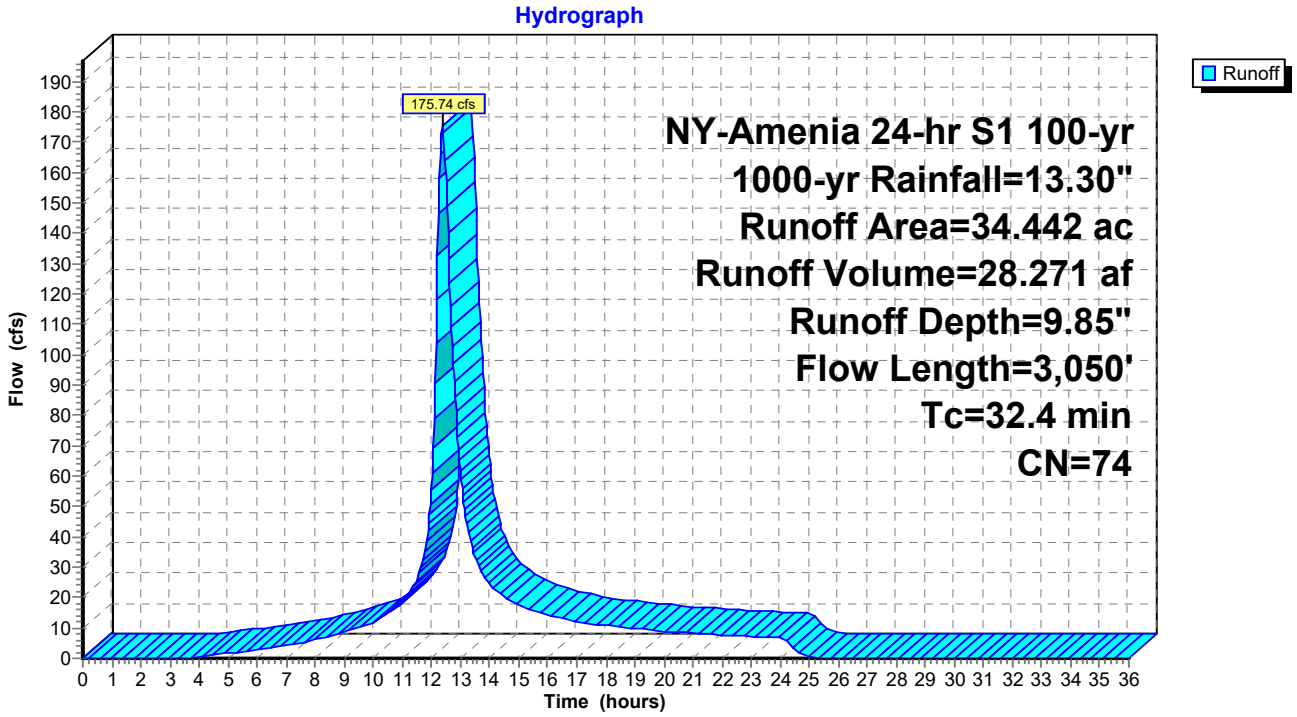
Runoff = 175.74 cfs @ 12.38 hrs, Volume= 28.271 af, Depth= 9.85"
Routed to Pond 4P : Retention Pond

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.03 hrs
NY-Amenia 24-hr S1 100-yr 1000-yr Rainfall=13.30"

Area (ac)	CN	Description
0.046	30	Meadow, non-grazed, HSG A
0.400	71	Meadow, non-grazed, HSG C
0.015	30	Woods, Good, HSG A
14.290	70	Woods, Good, HSG C
19.691	77	Woods, Good, HSG D
34.442	74	Weighted Average
34.442		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.5	50	0.0400	0.05		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.10"
9.3	1,580	0.3200	2.83		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
5.6	680	0.0838	2.03		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
1.0	740	0.0466	12.83	22.68	**Pipe Channel,** 18.0" Round Area= 1.8 sf Perim= 4.7' r= 0.38' n= 0.013
32.4	3,050	Total			

Subcatchment 1A: Subcat 1A



Summary for Subcatchment 4: Subcat 4

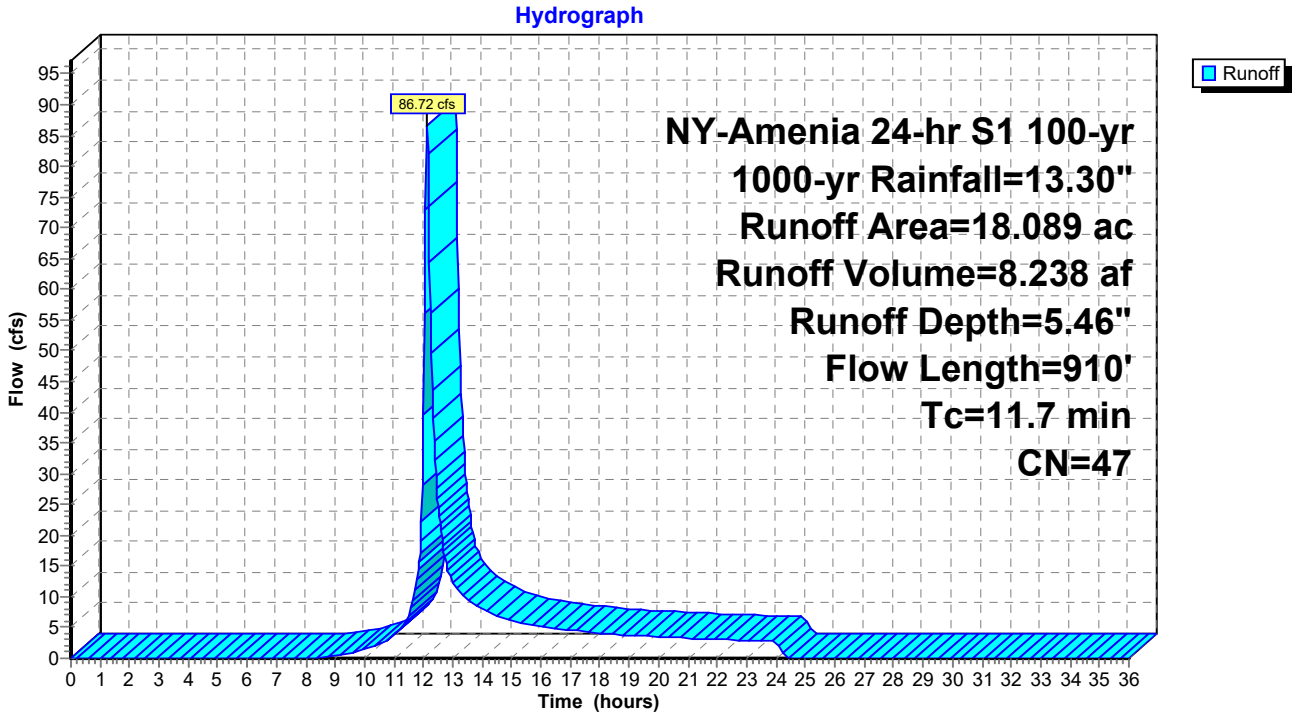
Runoff = 86.72 cfs @ 12.12 hrs, Volume= 8.238 af, Depth= 5.46"
Routed to Pond 4P : Retention Pond

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.03 hrs
NY-Amenia 24-hr S1 100-yr 1000-yr Rainfall=13.30"

Area (ac)	CN	Description
0.134	30	Brush, Good, HSG A
2.686	76	Gravel roads, HSG A
12.188	30	Meadow, non-grazed, HSG A
0.155	71	Meadow, non-grazed, HSG C
0.040	98	Paved parking, HSG C
2.524	98	Water Surface, HSG A
0.361	32	Woods/grass comb., Good, HSG A
18.089	47	Weighted Average
15.525		85.82% Pervious Area
2.564		14.18% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.3	50	0.0400	0.13		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.10"
4.2	640	0.1300	2.52		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
1.2	220	0.0360	3.05		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
11.7	910	Total			

Subcatchment 4: Subcat 4



Summary for Reach 4R:

Inflow Area = 52.530 ac, 4.88% Impervious, Inflow Depth > 1.46" for 1000-yr event
Inflow = 10.58 cfs @ 22.32 hrs, Volume= 6.389 af
Outflow = 10.58 cfs @ 22.34 hrs, Volume= 6.388 af, Atten= 0%, Lag= 0.8 min

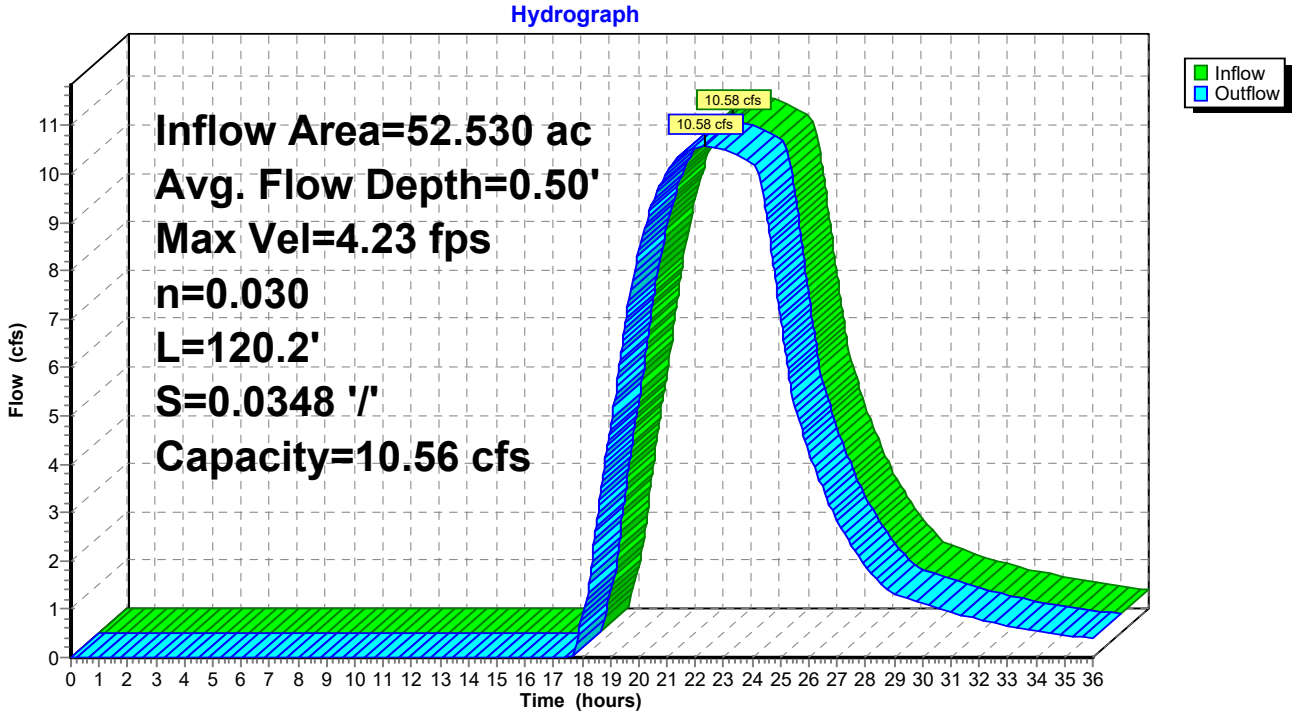
Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.03 hrs
Max. Velocity= 4.23 fps, Min. Travel Time= 0.5 min
Avg. Velocity = 2.94 fps, Avg. Travel Time= 0.7 min

Peak Storage= 301 cf @ 22.33 hrs
Average Depth at Peak Storage= 0.50' , Surface Width= 8.00'
Bank-Full Depth= 0.50' Flow Area= 2.5 sf, Capacity= 10.56 cfs

2.00' x 0.50' deep channel, n= 0.030 Earth, grassed & winding
Side Slope Z-value= 6.0 '/' Top Width= 8.00'
Length= 120.2' Slope= 0.0348 '/'
Inlet Invert= 507.18', Outlet Invert= 503.00'

‡

Reach 4R:



Summary for Pond 4P: Retention Pond

Inflow Area = 52.530 ac, 4.88% Impervious, Inflow Depth = 8.34" for 1000-yr event
Inflow = 211.39 cfs @ 12.33 hrs, Volume= 36.509 af
Outflow = 10.58 cfs @ 22.32 hrs, Volume= 6.389 af, Atten= 95%, Lag= 599.4 min
Primary = 10.58 cfs @ 22.32 hrs, Volume= 6.389 af
Routed to Reach 4R :

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.03 hrs
Starting Elev= 492.30' Surf.Area= 62,810 sf Storage= 572,023 cf
Peak Elev= 507.95' @ 22.32 hrs Surf.Area= 123,240 sf Storage= 1,969,378 cf (1,397,354 cf above start)

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)
Center-of-Mass det. time= 553.6 min (1,402.9 - 849.3)

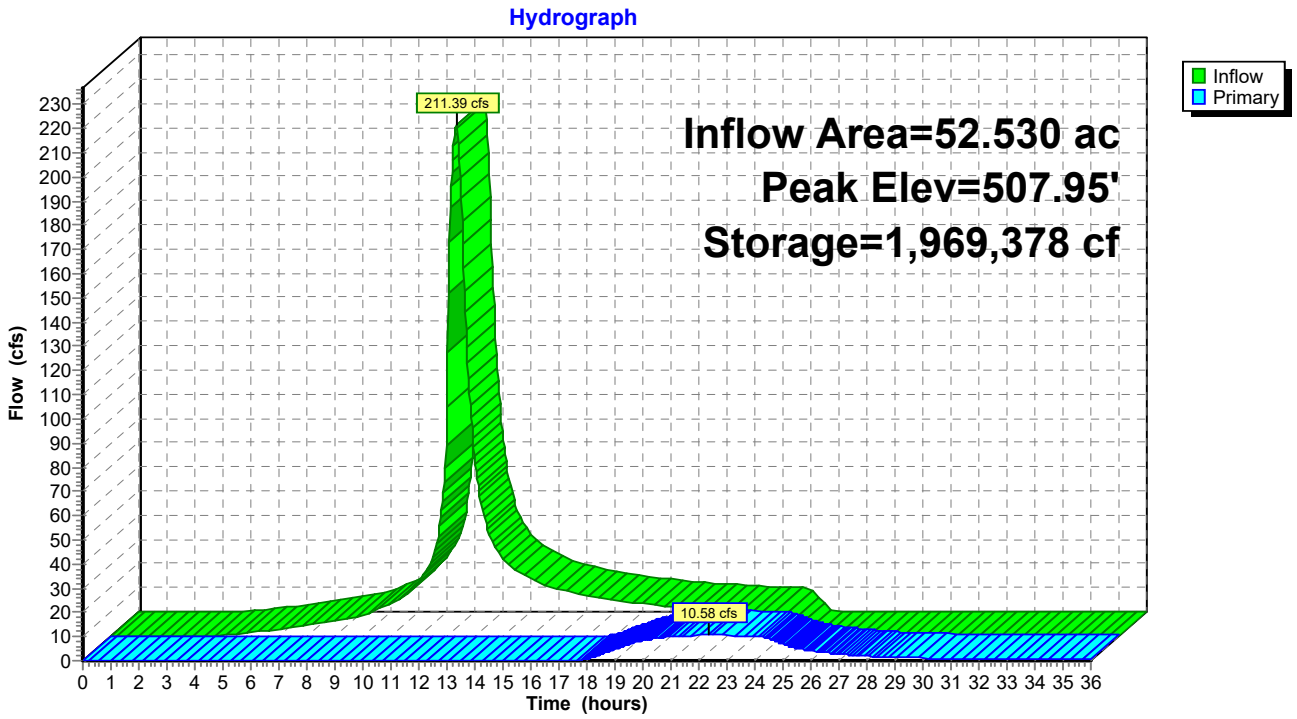
Volume	Invert	Avail.Storage	Storage Description
#1	479.00'	1,974,954 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
479.00	20,134	0	0
480.00	24,882	22,508	22,508
481.00	29,083	26,983	49,491
482.00	32,555	30,819	80,310
483.00	35,690	34,123	114,432
484.00	38,624	37,157	151,589
485.00	41,493	40,059	191,648
486.00	44,398	42,946	234,593
487.00	47,283	45,841	280,434
488.00	50,182	48,733	329,166
489.00	53,093	51,638	380,804
490.00	56,029	54,561	435,365
491.00	58,974	57,502	492,866
492.00	61,921	60,448	553,314
493.00	64,884	63,403	616,716
494.00	67,880	66,382	683,098
495.00	70,934	69,407	752,505
496.00	74,074	72,504	825,009
497.00	77,331	75,703	900,712
498.00	80,719	79,025	979,737
499.00	84,192	82,456	1,062,192
500.00	87,688	85,940	1,148,132
501.00	91,183	89,436	1,237,568
502.00	94,702	92,943	1,330,510
503.00	98,243	96,473	1,426,983
504.00	101,849	100,046	1,527,029
505.00	105,758	103,804	1,630,832
506.00	113,569	109,664	1,740,496
506.50	113,569	56,785	1,797,280
507.00	116,675	57,561	1,854,841
508.00	123,551	120,113	1,974,954

Device	Routing	Invert	Outlet Devices
#1	Primary	507.18'	**4.0' long + 3.0 '/' SideZ x 2.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=10.40 cfs @ 22.32 hrs HW=507.95' (Free Discharge)
└**1=Broad-Crested Rectangular Weir** (Weir Controls 10.40 cfs @ 2.12 fps)

Pond 4P: Retention Pond



Scenario: Base

FlexTable: Catch Basin Table

Label	Inlet Location	Elevation (Ground) (ft)	Elevation (Rim) (ft)	Elevation (Invert) (ft)	Road Cross Slope (ft/ft)	Longitudinal Slope (Inlet) (ft/ft)	Carryover Additional Flow (cfs)	Flow (Captured) (cfs)	Flow (Local Surface) (cfs)	Flow (Total Bypassed) (cfs)	Spread / Top Width (ft)	Hydraulic Grade Line (In) (ft)	Hydraulic Grade Line (Out) (ft)
EXCB3	On Grade	546.22	546.22	543.10	0.020	0.050	0.00	7.35	14.56	7.21	6.3	545.71	545.71
EXCB4	On Grade	546.00	546.00	542.50	0.020	0.050	0.00	8.13	16.65	8.52	6.6	544.92	544.92
EXCB1	On Grade	555.10	555.10	552.00	0.020	0.050	0.00	11.73	27.36	15.63	7.8	555.04	555.04
EXCB2	On Grade	554.86	554.86	551.50	0.020	0.050	0.00	14.33	36.09	21.76	8.6	554.86	554.86
EXCB5	On Grade	525.12	525.12	522.20	0.020	0.050	0.00	5.22	9.31	4.09	5.4	523.13	523.13
EXCB6	In Sag	525.10	525.10	522.00	0.020	0.050	0.00	9.44	9.44	0.00	4.1	523.17	523.17
CB1	In Sag	488.90	488.90	485.05	0.020	0.000	0.00	0.99	0.99	0.00	9.0	486.10	486.10
CB2	In Sag	488.90	488.90	484.90	0.020	0.000	0.00	2.19	2.19	0.00	14.6	485.98	485.98
CB3	In Sag	488.90	488.90	484.50	0.020	0.000	0.00	1.00	1.00	0.00	9.1	485.74	485.74
CB4	In Sag	488.90	488.90	484.10	0.020	0.000	0.00	0.88	0.88	0.00	8.4	485.47	485.47
CB5	In Sag	489.50	489.50	483.95	0.020	0.000	0.00	0.70	0.70	0.00	7.4	485.15	485.15
CB6	In Sag	489.50	489.50	483.30	0.020	0.000	0.00	0.47	0.47	0.00	5.9	484.51	484.51
CB7	In Sag	489.50	489.50	481.15	0.020	0.000	0.00	0.85	0.85	0.00	8.3	483.57	483.57
AD4	In Sag	490.70	490.70	480.50	0.020	0.000	0.00	0.83	0.83	0.00	9.1	482.99	482.99
AD5	In Sag	490.50	490.50	480.12	0.020	0.000	0.00	0.63	0.63	0.00	7.8	482.59	482.59
AD1	In Sag	490.70	490.70	486.70	0.020	0.000	0.00	0.18	0.18	0.00	3.9	486.87	486.87
EXCBA	In Sag	482.00	482.00	477.10	0.020	0.000	0.00	4.86	4.86	0.00	24.0	478.52	478.52
EXCBC	In Sag	478.90	478.90	474.60	0.020	0.000	0.00	5.17	5.17	0.00	25.0	476.78	476.78
CB11	In Sag	486.20	486.20	480.60	0.020	0.000	0.00	4.21	4.21	0.00	21.9	481.58	481.58
CB10	In Sag	488.20	488.20	483.40	0.020	0.000	0.00	1.80	1.80	0.00	13.0	483.97	483.97
EXCBB	In Sag	478.20	478.20	475.50	0.020	0.000	0.00	1.66	1.66	0.00	12.3	476.78	476.78
EXCBD	In Sag	479.30	479.30	476.20	0.020	0.000	0.00	1.13	1.13	0.00	9.8	478.00	478.00
AD2	In Sag	482.50	482.50	479.00	0.020	0.000	0.00	0.00	0.00	0.00	0.0	480.68	480.68
FES2	In Sag	489.65	489.65	485.50	0.020	0.000	0.00	0.00	0.00	0.00	0.0	486.47	486.47
EXAD	In Sag	490.70	490.70	486.40	0.020	0.000	0.00	3.71	3.71	0.00	20.3	487.18	487.18
CO7	In Sag	490.40	490.40	486.20	0.020	0.000	0.00	1.99	1.99	0.00	(N/A)	486.83	486.83
EXCBE	In Sag	477.90	477.90	474.00	0.020	0.000	0.00	0.43	0.43	0.00	5.7	476.26	476.26
CB12	In Sag	494.20	494.20	487.00	0.020	0.000	0.00	1.12	1.12	0.00	9.7	487.44	487.44
AD3	In Sag	490.50	490.50	486.70	0.020	0.000	0.00	0.24	0.24	0.00	4.6	486.90	486.90
RD	In Sag	490.20	490.20	486.27	0.020	0.000	0.00	1.53	1.53	0.00	(N/A)	486.80	486.80
RD2	In Sag	490.05	490.05	487.00	0.020	0.000	0.00	0.54	0.54	0.00	(N/A)	487.37	487.37
RD3	In Sag	490.30	490.30	486.22	0.020	0.000	0.00	1.53	1.53	0.00	(N/A)	486.75	486.75

FlexTable: Conduit Table

Label	Start Node	Elevation Ground (Start) (ft)	Invert (Start) (ft)	Stop Node	Invert (Stop) (ft)	Length (User Defined) (ft)	Slope (Calculated) (ft/ft)	Diameter (in)	Manning's n	Flow (cfs)	Velocity (ft/s)	Depth (Out) (ft)	Capacity (Full Flow) (cfs)	Flow / Capacity (Design) (%)	Depth (Normal) / Rise (%)	Hydraulic Grade Line (In) (ft)	Hydraulic Grade Line (Out) (ft)
AD1-DMH2	AD1	490.70	486.70	DMH2	486.50	18.5	0.011	12.0	0.012	0.18	2.58	0.15	4.01	4.5	14.5	486.87	486.65
AD2-DMH14	AD2	482.50	479.00	DMH14	478.11	39.9	0.022	12.0	0.012	4.66	5.93	1.99	5.76	80.9	68.2	480.68	480.10
AD3-DMH2	AD3	490.50	486.70	DMH2	486.50	12.9	0.015	12.0	0.012	0.24	3.20	0.15	4.80	5.1	15.3	486.90	486.65
AD4-AD5	AD4	490.70	480.50	AD5	480.22	41.8	0.007	18.0	0.012	11.09	6.27	2.37	9.31	119.1	(N/A)	482.99	482.59
AD5-DMH2	AD5	490.50	480.12	DMH2	479.72	56.5	0.007	18.0	0.012	11.37	6.43	2.31	9.57	118.8	(N/A)	482.59	482.03
CB1-CB2	CB1	488.90	485.05	CB2	484.90	29.5	0.005	18.0	0.012	6.78	5.14	1.08	8.12	83.5	69.9	486.10	485.98
CB2-CB3	CB2	488.90	484.90	CB3	484.50	48.0	0.008	18.0	0.012	7.78	6.45	1.24	10.39	74.9	64.6	485.98	485.74
CB3-CB4	CB3	488.90	484.50	CB4	484.10	69.8	0.006	18.0	0.012	8.24	5.55	1.37	8.61	95.7	78.3	485.74	485.47
CB4-CB5	CB4	488.90	484.10	CB5	483.95	32.9	0.005	18.0	0.012	9.31	5.27	1.20	7.68	121.2	(N/A)	485.47	485.15
CB5-CB6	CB5	489.50	483.95	CB6	483.30	53.6	0.012	18.0	0.012	9.63	7.82	1.21	12.53	76.8	65.7	485.15	484.51
CB6-CB7	CB6	489.50	483.30	CB7	482.65	64.9	0.010	18.0	0.012	9.84	7.25	1.08	11.39	86.4	71.7	484.51	483.73
CB7-DMH1	CB7	489.50	481.15	DMH1	481.02	19.6	0.007	18.0	0.012	10.21	5.78	2.39	9.28	110.1	(N/A)	483.57	483.41
CB10-CB11	CB10	488.20	483.40	CB11	480.60	156.6	0.018	12.0	0.012	1.80	5.98	0.98	5.16	35.0	40.8	483.97	481.58
CB11-DMH10	CB11	486.20	480.60	DMH10	479.60	67.4	0.015	15.0	0.012	5.86	7.49	0.77	8.53	68.7	60.9	481.58	480.37
CB12-DMH1	CB12	494.20	487.00	DMH1	486.50	9.8	0.051	12.0	0.012	1.12	7.62	0.27	8.72	12.8	24.2	487.44	486.77
CO-39	EXCBA	482.00	477.10	EXCBC	474.60	67.6	0.037	18.0	0.012	15.61	13.44	2.18	21.87	71.4	62.5	478.52	476.78
CO-76	DMH3	522.60	518.00	DMH7	514.50		0.013	24.0	0.013	9.29	7.63	1.98	26.20	35.5	41.1	519.09	516.48
CO7-FES6	CO7	490.40	486.20	FES6	486.00	39.6	0.005	12.0	0.012	1.99	3.81	0.60	2.74	72.6	63.2	486.83	486.60
DMH1-AD4	DMH1	490.70	480.92	AD4	480.60	47.8	0.007	18.0	0.012	10.72	6.07	2.39	9.31	115.1	(N/A)	483.41	482.99
DMH2-DMH13	DMH2	490.60	479.62	DMH13	479.18	69.9	0.006	18.0	0.012	12.19	6.90	2.05	9.03	135.0	(N/A)	482.03	481.23
DMH4-DMH5	DMH4	541.50	530.40	DMH5	529.70	35.0	0.020	24.0	0.013	28.58	11.51	1.58	31.99	89.3	73.7	532.24	531.28
DMH5-DMH6	DMH5	533.00	522.70	DMH6	522.30		0.020	24.0	0.013	28.54	11.49	1.62	31.92	89.4	73.8	524.54	523.92
DMH6-DMH7	DMH6	526.20	517.00	DMH7	516.50	18.2	0.027	24.0	0.013	28.52	13.13	1.53	37.49	76.1	65.3	518.84	518.03
DMH7-DMH8	DMH7	520.00	514.41	DMH8	512.66		0.011	30.0	0.013	37.44	9.84	1.81	42.85	87.4	72.4	516.48	514.47
DMH8-DMH11	DMH8	517.10	512.66	DMH11	510.75	107.3	0.018	30.0	0.013	37.15	11.98	1.55	54.73	67.9	60.4	514.72	512.30
DMH10-EXCBA	DMH10	485.10	479.60	EXCBA	477.10	129.5	0.019	18.0	0.012	5.81	8.26	1.42	15.81	36.7	41.9	480.53	478.52
DMH11-DMH15	DMH11	515.40	510.75	DMH15	509.50	94.1	0.013	30.0	0.013	37.00	10.66	1.70	47.27	78.3	66.6	512.81	511.20
DMH12-FES4	DMH12	486.60	483.12	FES4	483.00	21.4	0.006	15.0	0.012	4.29	4.77	0.84	5.24	81.9	68.8	483.98	483.84
DMH13-EXCBA	DMH13	490.20	479.08	EXCBA	478.10	150.0	0.007	18.0	0.012	12.18	6.89	1.32	9.20	132.4	(N/A)	481.23	479.42
DMH14-EXCBD	DMH14	480.10	478.11	EXCBD	476.20	172.8	0.011	12.0	0.012	4.66	5.93	1.80	4.06	114.9	(N/A)	480.52	478.00
DMH15-DMH16	DMH15	513.80	509.50	DMH16	506.20	235.9	0.014	30.0	0.013	36.84	10.87	1.63	48.51	76.0	65.2	511.56	507.83
DMH16-FES1	DMH16	510.00	506.20	FES1	506.00		0.010	30.0	0.013	36.47	9.60	1.89	41.82	87.2	72.3	508.25	507.89
EXAD-FES7	EXAD	490.70	486.40	FES7	486.00	32.2	0.012	15.0	0.012	3.71	6.28	0.62	7.80	47.5	48.5	487.18	486.62
EXCB1-EXCB2	EXCB1	555.10	552.00	EXCB2	551.80	6.3	0.032	15.0	0.012	11.73	9.56	3.06	12.43	94.3	77.3	555.04	554.86
EXCB2-EXCB3	EXCB2	554.86	551.50	EXCB3	543.20	181.2	0.046	15.0	0.012	17.93	14.61	2.51	14.98	119.7	(N/A)	557.60	545.71
EXCB3-EXCB4	EXCB3	546.22	543.10	EXCB4	543.10	6.1	0.000	15.0	0.012	25.13	20.48	1.82	0.07	35,917.9	(N/A)	545.71	544.92
EXCB4-DMH4	EXCB4	546.00	542.50	DMH4	538.80	62.2	0.059	18.0	0.013	28.63	16.20	1.49	25.62	111.8	(N/A)	544.92	540.29
EXCB5-EXCB6	EXCB5	525.12	522.20	EXCB6	522.00	5.7	0.035	15.0	0.012	5.22	10.09	1.17	13.14	39.7	43.8	523.13	523.17
EXCB6-DMH3	EXCB6	525.10	522.00	DMH3	519.17	59.2	0.048	15.0	0.012	9.31	13.07	0.74	15.30	60.8	56.3	523.17	519.91
EXCBB-EXCBC	EXCBB	478.20	475.50	EXCBC	474.80	47.5	0.015	24.0	0.012	1.66	5.10	1.98	29.75	5.6	16.0	476.78	476.78
EXCBC-EXCBE	EXCBC	478.90	474.60	EXCBE	474.10	60.8	0.008	24.0	0.012	22.79	7.26	2.16	22.22	102.6	84.5	476.78	476.26
EXCBD-EXCBC	EXCBD	479.30	476.20	EXCBC	475.00	62.7	0.019	12.0	0.012	5.37	6.84	1.78	5.34	100.5	82.5	478.00	476.78
EXCBE-EXDMH1	EXCBE	477.90	474.00	EXDMH1	473.70	80.5	0.004	24.0	0.012	22.90	7.29	1.70	14.96	153.1	(N/A)	476.26	475.40
EXDMH1-FES3	EXDMH1	477.70	473.70	FES3	473.10	55.3	0.011	24.0	0.012	22.87	9.19	1.51	25.54	89.6	73.9	475.40	474.61
FES2-CB1	FES2	489.65	485.50	CB1	485.05	44.2	0.010	18.0	0.012	6.32	6.65	1.05	11.48	55.0	52.9	486.47	486.10
RD-CB4	RD	490.20	486.27	CB4	486.00	17.5	0.015	12.0	0.012	1.53	5.43	0.40	4.79	32.0	38.9	486.80	486.40
RD2-CB4	RD2	490.05	487.00	CB4	486.00	43.5	0.023	6.0	0.012	0.54	4.87	0.27	0.92	58.2	54.8	487.37	486.27
RD3-DMH2	RD3	490.30	486.22	DMH2	486.00	42.9	0.005	12.0	0.012	1.53	3.58	0.53	2.73	56.1	53.6	486.75	486.52

Attachment E
Water Quality Calculations

Runoff Reduction Volume (RRv) Calculations

Project: Proposed Recreation Facility
Location: 4651 Route 22, Town of Amenia, Dutchess County, New York

By: MGR Date: 2/27/25

90% Rainfall Storm Event
Drainage Area 1

Minimum Runoff Reduction (RRv min)			
P	1.3	in.	a
Rv	0.051		b
Aic	76.7	acres	c
S	0.55		d
RRv min	**0.232**	**af**	e
	10,127	**cf**	

Infiltration footprint	1,243	sf	f
Required infiltration rate over 24 hours to percolate RRv min	**4.07**	**in./hr**	g

← N/A DUE TO DIVERSION OF AREA, SEE HYDROCAD PRINTOUTS, NEXT SHEETS.

a Derived from Figure 4.1 from NYS Stormwater Management Design Manual July 2024

b R_v=0.05+0.009*I; Section 4.2 NYS Stormwater Management Design Manual July 2024

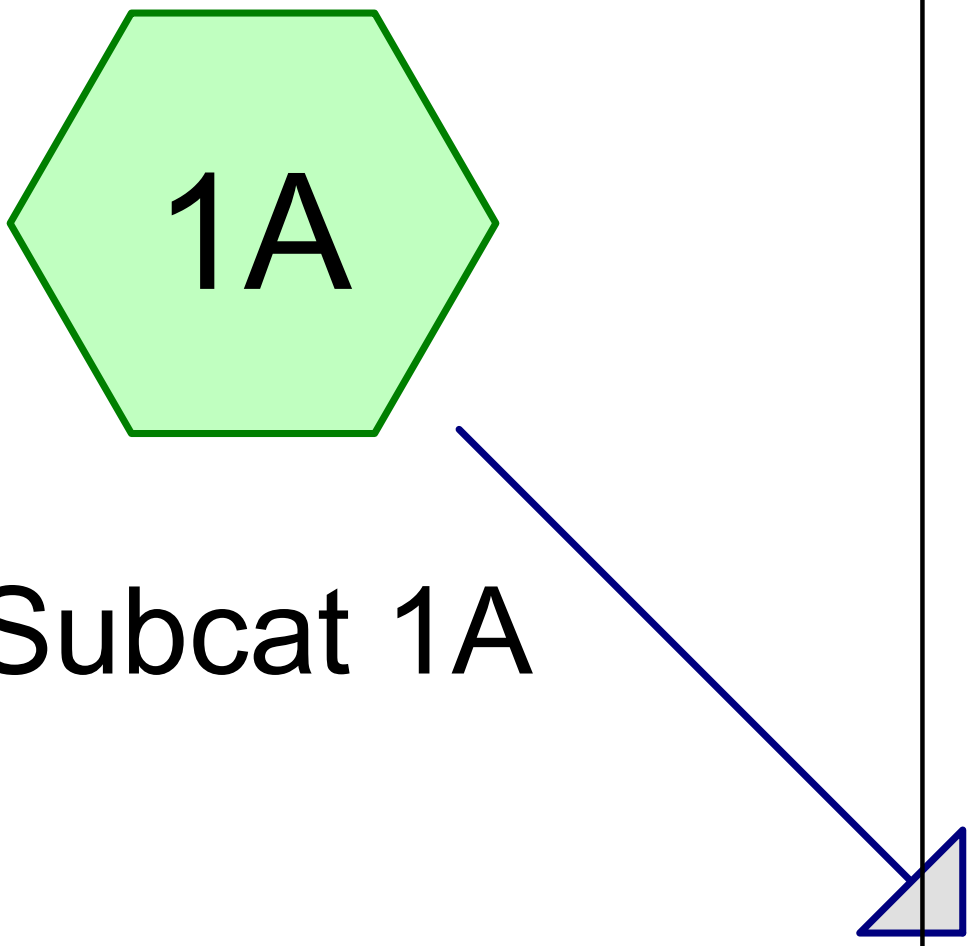
c Aic = Total area of new impervious cover

d S = Hydrologic Soil Group Specific Reduction Factor, from NYS Stormwater Management Design Manual July 2024 Section 4.4

e RRv min = (P * Rv * Aic * S) / 12, from NYS Stormwater Management Design Manual July 2024 Section 4.4

f Derived from site plans and/or hydrologic model

g Required rate = (RRv min / 24) / Infiltration footprint * 12



Subcat Reach Pond Link

Routing Diagram for Siland_PR
Prepared by VHB, Inc, Printed 2/27/2025
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Rainfall Events Listing (selected events)

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	90th Percentile	NY-Amenia 24-hr S1	100-yr	Default	24.00	1	1.30	2

Summary for Subcatchment 1A: Subcat 1A

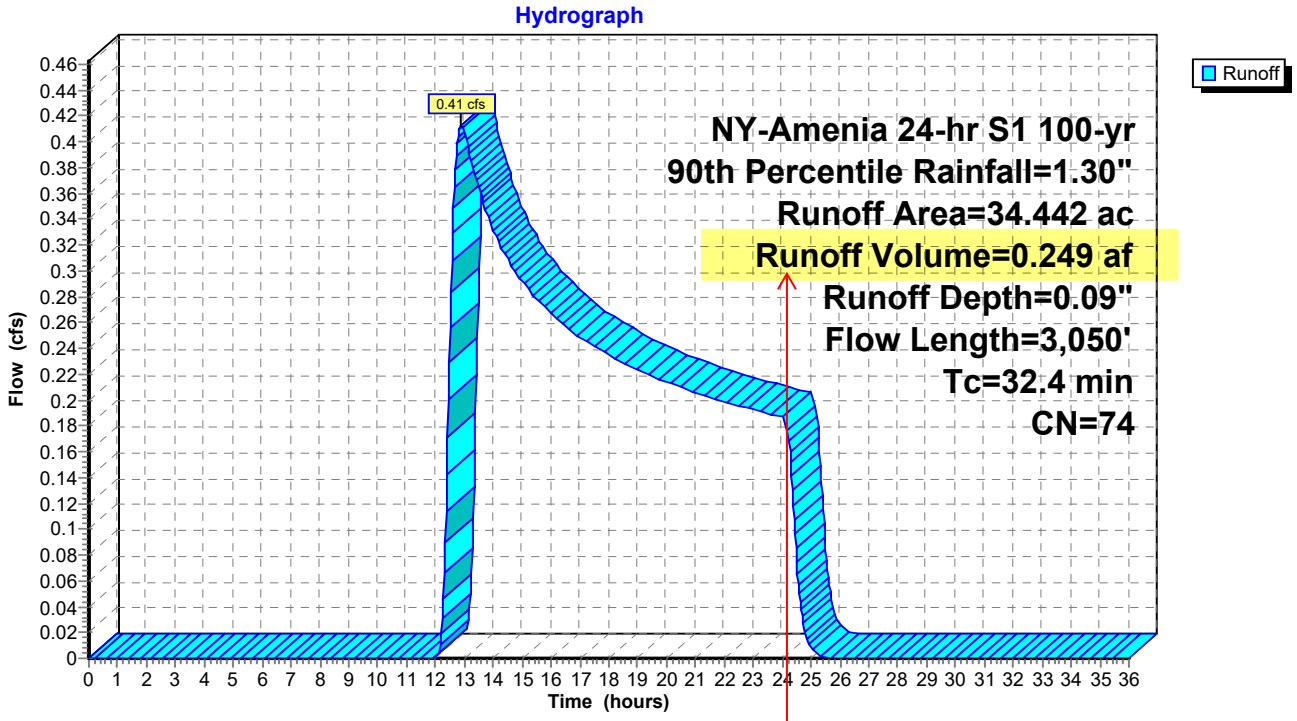
Runoff = 0.41 cfs @ 12.88 hrs, Volume= 0.249 af, Depth= 0.09"
Routed to Pond 4P : Retention Pond

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.03 hrs
NY-Amenia 24-hr S1 100-yr 90th Percentile Rainfall=1.30"

Area (ac)	CN	Description
0.046	30	Meadow, non-grazed, HSG A
0.400	71	Meadow, non-grazed, HSG C
0.015	30	Woods, Good, HSG A
14.290	70	Woods, Good, HSG C
19.691	77	Woods, Good, HSG D
34.442	74	Weighted Average
34.442		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.5	50	0.0400	0.05		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.10"
9.3	1,580	0.3200	2.83		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
5.6	680	0.0838	2.03		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
1.0	740	0.0466	12.83	22.68	**Pipe Channel,** 18.0" Round Area= 1.8 sf Perim= 4.7' r= 0.38' n= 0.013
32.4	3,050	Total			

Subcatchment 1A: Subcat 1A



req'd RRv = 0.232 ac*ft

The proposed design diverts the 90th percentile rainfall volume from Area 1A to the Retention Pond = 0.249 ac*ft. Volume from Retention Pond will be used for onsite irrigation.

0.249 > 0.232, OK!

Water Quality Volume (WQV) Calculations

Project: Proposed Recreation Facility
Location: 4651 Route 22, Town of Amenia, Dutchess County, New York

By: MRG Date: 2/27/25

Basin Name	Proposed Facility				
Rainfall, P	1.3 in.				a
Area, A	15.882 ac				b
Impervious Cover Area	4.701 ac				c
% Impervious, I	29.60% %				
Volumetric Runoff Coeff., R	0.053				d
Required Water Quality Volume, WQV	0.091 ac-ft				e
	3,947 cf				

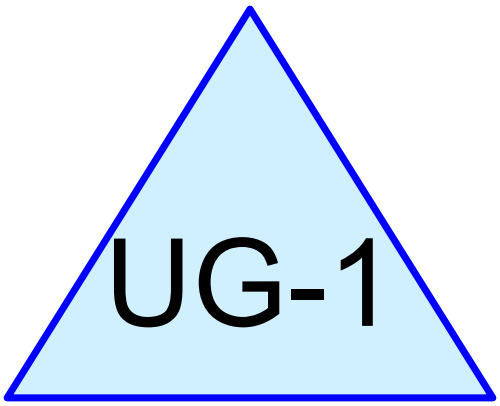
[a] 90% Rainfall Event Number; derived from Figure 4.1 NYS Stormwater Management Design Manual July 2024

[b] Area tributary to the water quality measure

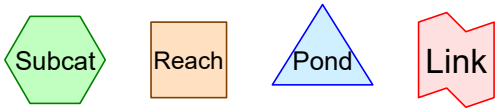
[c] Impervious cover area tributary to the water quality measure

[d] R_v=0.05+0.009*I; Section 4.2 NYS Stormwater Management Design Manual July 2024

[e] WQV=P*R*A/12; Section 4.2 NYS Stormwater Management Design Manual July 2024



Underground Infiltration Chambers - ST MC3500



Routing Diagram for Siland_PR
Prepared by VHB, Inc, Printed 2/27/2025
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Summary for Pond UG-1: Underground Infiltration Chambers - ST MC3500

Volume	Invert	Avail.Storage	Storage Description
#1A	0.00'	0.041 af	**29.92'W x 41.55'L x 5.50'H Field A** 0.157 af Overall - 0.053 af Embedded = 0.104 af x 40.0% Voids
#2A	0.75'	0.053 af	**ADS_StormTech MC-3500 d +Cap**x 20 Inside #1 Effective Size= 70.4"W x 45.0"H => 15.33 sf x 7.17'L = 110.0 cf Overall Size= 77.0"W x 45.0"H x 7.50'L with 0.33' Overlap 20 Chambers in 4 Rows Cap Storage= 14.9 cf x 2 x 4 rows = 119.2 cf
		0.095 af	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Discarded	0.00'	**0.500 in/hr Exfiltration over Surface area** Phase-In= 0.01'

Discarded OutFlow Max=0.00 cfs @ 0.00 hrs HW=0.00' (Free Discharge)
↑└**1=Exfiltration** (Controls 0.00 cfs)

Pond UG-1: Underground Infiltration Chambers - ST MC3500 - Chamber Wizard Field A

Chamber Model = ADS_StormTechMC-3500 d +Cap (ADS StormTech®MC-3500 d rev 03/14 with Cap volume)
Effective Size= 70.4"W x 45.0"H => 15.33 sf x 7.17'L = 110.0 cf
Overall Size= 77.0"W x 45.0"H x 7.50'L with 0.33' Overlap
Cap Storage= 14.9 cf x 2 x 4 rows = 119.2 cf

77.0" Wide + 9.0" Spacing = 86.0" C-C Row Spacing

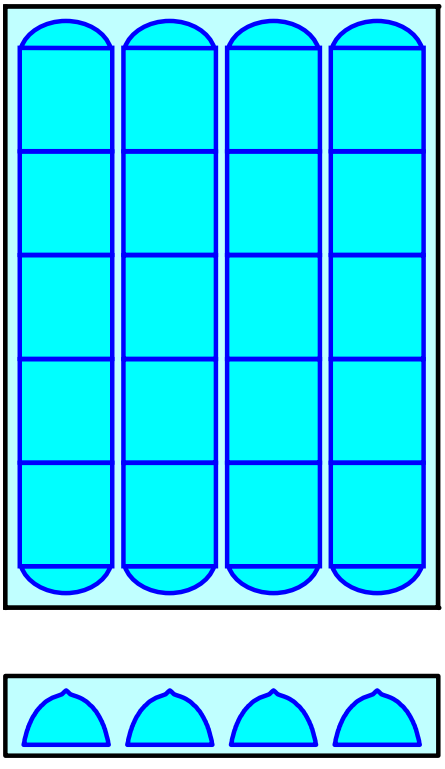
5 Chambers/Row x 7.17' Long +1.85' Cap Length x 2 = 39.55' Row Length +12.0" End Stone x 2 = 41.55' Base Length
4 Rows x 77.0" Wide + 9.0" Spacing x 3 + 12.0" Side Stone x 2 = 29.92' Base Width
9.0" Stone Base + 45.0" Chamber Height + 12.0" Stone Cover = 5.50' Field Height

20 Chambers x 110.0 cf + 14.9 cf Cap Volume x 2 x 4 Rows = 2,318.2 cf Chamber Storage

6,836.7 cf Field - 2,318.2 cf Chambers = 4,518.5 cf Stone x 40.0% Voids = 1,807.4 cf Stone Storage

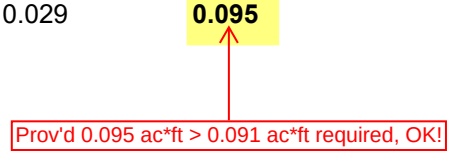
Chamber Storage + Stone Storage = 4,125.6 cf = 0.095 af
Overall Storage Efficiency = 60.3%
Overall System Size = 41.55' x 29.92' x 5.50'

20 Chambers
253.2 cy Field
167.4 cy Stone



Stage-Area-Storage for Pond UG-1: Underground Infiltration Chambers - ST MC3500

Elevation (feet)	Surface (acres)	Storage (acre-feet)
0.00	**0.029**	0.000
0.10	0.029	0.001
0.20	0.029	0.002
0.30	0.029	0.003
0.40	0.029	0.005
0.50	0.029	0.006
0.60	0.029	0.007
0.70	0.029	0.008
0.80	0.029	0.010
0.90	0.029	0.012
1.00	0.029	0.014
1.10	0.029	0.017
1.20	0.029	0.019
1.30	0.029	0.021
1.40	0.029	0.024
1.50	0.029	0.026
1.60	0.029	0.028
1.70	0.029	0.031
1.80	0.029	0.033
1.90	0.029	0.035
2.00	0.029	0.037
2.10	0.029	0.040
2.20	0.029	0.042
2.30	0.029	0.044
2.40	0.029	0.046
2.50	0.029	0.048
2.60	0.029	0.050
2.70	0.029	0.052
2.80	0.029	0.055
2.90	0.029	0.057
3.00	0.029	0.059
3.10	0.029	0.061
3.20	0.029	0.063
3.30	0.029	0.065
3.40	0.029	0.066
3.50	0.029	0.068
3.60	0.029	0.070
3.70	0.029	0.072
3.80	0.029	0.074
3.90	0.029	0.075
4.00	0.029	0.077
4.10	0.029	0.078
4.20	0.029	0.080
4.30	0.029	0.081
4.40	0.029	0.082
4.50	0.029	0.083
4.60	0.029	0.084
4.70	0.029	0.086
4.80	0.029	0.087
4.90	0.029	0.088
5.00	0.029	0.089
5.10	0.029	0.090
5.20	0.029	0.091
5.30	0.029	0.092
5.40	0.029	0.094
5.50	0.029	**0.095**



Attachment F
Soil Restoration

Landscaped areas shall be permanently stabilized with vegetation in accordance with the approved landscape plan and all disturbed soil shall be restored per Table 5.2 – Soil Restoration Requirements from the New York State Storm Water Management Design Manual below:

Table 5.2 Soil Restoration Requirements

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

*Aeration includes the use of machines such as tractor-drawn implements with coulters making a narrow slit in the soil, a roller with many spikes making indentations in the soil, or prongs which function like a mini-subsoiler.

** Refer to latest version of NYSDEC Deep-Ripping and Decompaction.

Source: New York State Department of Environmental Conservation Stormwater Management Design Manual July, 31, 2024

Soil Restoration is required on redevelopment projects in areas where there are proposed pervious areas. During periods of relatively low to moderate subsoil moisture, the disturbed subsoils are returned to rough grade and the following Soil Restoration steps applied:

1. Apply 3 inches of compost over subsoil
2. Till compost into subsoil to a depth of at least 12 inches using a cat-mounted ripper, tractor-mounted disc, or tiller, mixing, and circulating air and compost into subsoils

3. Rock-pick until uplifted stone/rock materials of four inches and larger size are cleaned off the site
4. Apply topsoil to a depth of 6 inches
5. Vegetate as required by approved plan.

At the end of the project an inspector should be able to push a 3/8" metal bar 12 inches into the soil just with body weight. Figures 5.16 and 5.17 show two attachments used for soil decompaction. Tilling (step 2 above) should not be performed within the drip line of any existing trees or over utility installations that are within 24 inches of the surface.

COMPOST SPECIFICATIONS

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

MAINTAINENCE

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

First year maintenance operations includes:

- Initial inspections for the first six months (once after each storm greater than a half inch)
- Reseeding to repair bare or eroding areas to assure grass stabilization
- Develop a watering plan specific to the species and size of the planting(s) to prevent over/under watering.
- Fertilization may be needed in the fall after the first growing season to increase plan vigor
- Ongoing Maintenance:
    - Planting the appropriate ground cover with deep roots to maintain the soil structure
    - Keeping the site free of vehicular and foot traffic or other weight loads. Consider pedestrian footpaths.

- Ongoing Maintenance:

  Two points help ensure lasting results of decompaction:

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

Attachment G
SWPPP Amendment Log

Attachment H – SWPPP Amendment Log

No.	Description of the Amendment	Date of Amendment	Amendment Prepared by [Name(s) and Title]
1			

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

1/20/2021

HARLEM VALLEY LLC
JUAN TORRES
N 14605 73RD STREET
SCOTTSDALE , AZ 85260

RE: ACKNOWLEDGMENT of NOTICE OF INTENT for Coverage Under SPDES General Permit for Storm Water Discharges from CONSTRUCTION ACTIVITY – General Permit No. GP-0-20-001

Dear Prospective Permittee:

This is to acknowledge that the New York State Department of Environmental Conservation (Department) has received a complete Notice of Intent (NOI) for coverage under General Permit No. GP-0-20-001 for the construction activities located at:

HVLN STORAGE POND
4429 ROUTE 22
AMENIA , NY 12501 County: **DUTCHESS**

Pursuant to Environmental Conservation Law (ECL) Article 17, Titles 7 and 8, and ECL Article 70, discharges in accordance with GP-0-20-001 from the above construction site will be authorized **5** business days from **,** which is the date we received your final NOI, unless notified differently by the Department.

The permit identification number for this site is: **NYR11H597**. Be sure to include this permit identification number on any forms or correspondence you send us. When coverage under the permit is no longer needed, you must submit a Notice of Termination to the Department.

This authorization is conditioned upon the following:

1. The information submitted in the NOI received by the Department on is accurate and complete.

2. You have developed a Stormwater Pollution Prevention Plan (SWPPP) that complies with GP-0-20 -001 which must be implemented as the first element of construction at the above-noted construction site.

3. Activities related to the above construction site comply with all other requirements of GP-0-20-001.

4. Payment of the annual $110 regulatory fee, which is billed separately by the Department in the late fall. The regulatory fee covers a period of one calendar year. In addition, since September 1, 2004, construction stormwater permittees have been assessed an initial authorization fee which is now $110 per acre of land disturbed and $675 per acre of future impervious area. The initial authorization fee covers the duration of the authorized disturbance.

5. When applicable, project review pursuant to the State Environmental Quality Review Act (SEQRA) has been satisfied.

6. You have obtained all necessary Department permits subject to the Uniform Procedures Act (UPA). You should check with your Regional Permit Administrator for further information.

***Note: Construction activities cannot commence until project review pursuant to SEQRA has been satisfied, when SEQRA is applicable; and, where required, all necessary Department permits subject to the UPA have been obtained.**

Please be advised that the Department may request a copy of your SWPPP for review.

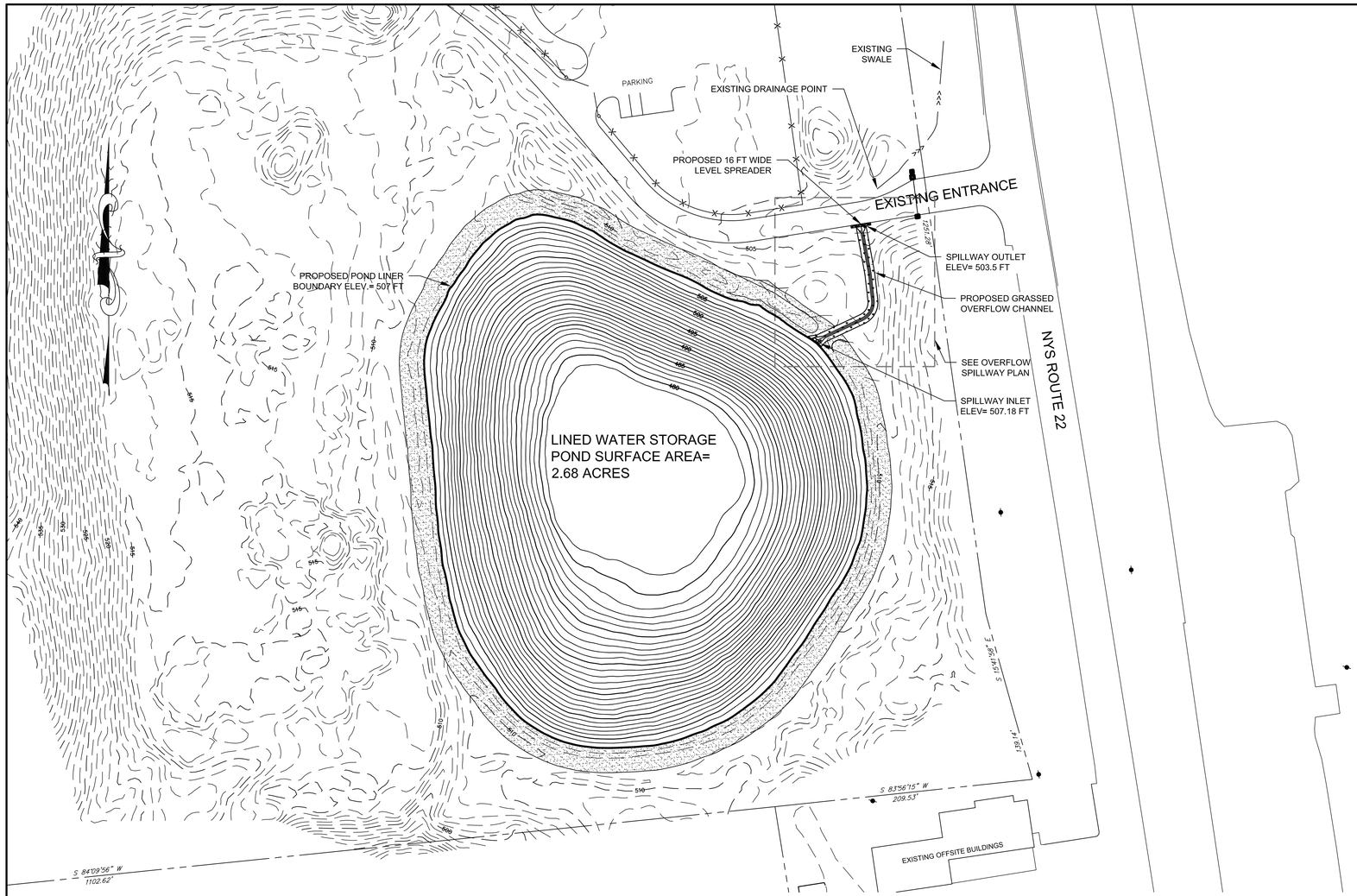
Should you have any questions regarding any aspect of the requirements specified in GP-0-20-001, please contact Dave Gasper at (518) 402-8114.

Sincerely,

David Gasper

Environmental Engineer

cc: RWE - **3**
SWPPP Preparer
RENNIA ENGINEERING DESIGN PLLC
RICHARD RENNIA
PO BOX 400
DOVER PLAINS , NY 12522



LEGEND

- EXISTING CONTOUR — 500
- PROPOSED CONTOUR — 500
- PROPOSED OVERFLOW CHANNEL
- PROPOSED STONE WEIR/RIPRAP

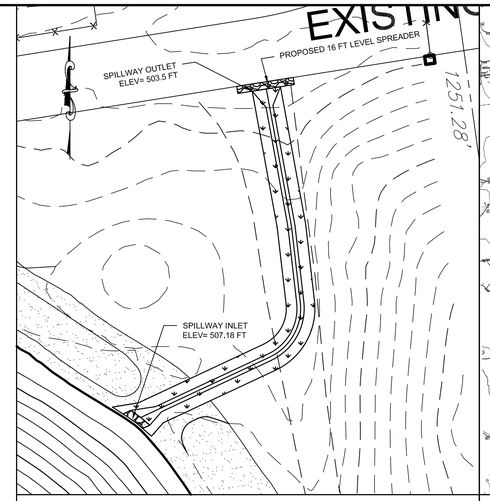
SITE PLAN

SCALE: 1" = 50'

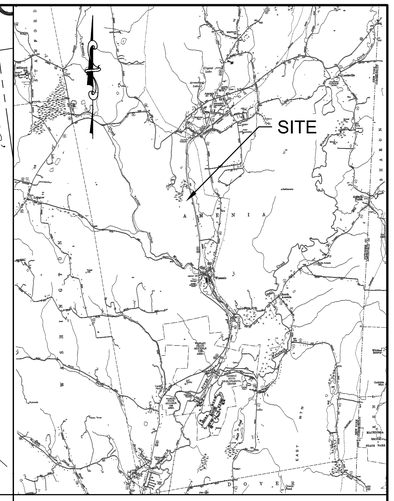
0 50' 100'
1" = 50'
GRAPHIC SCALE

MAP NOTES:

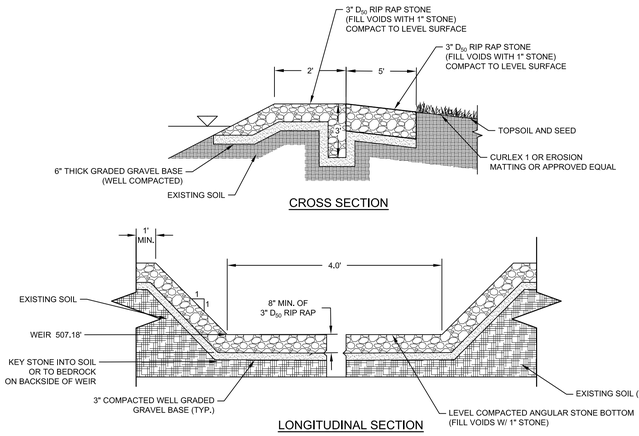
1. TOPOGRAPHIC DATA BASED UPON AN ACTUAL SURVEY PREPARED BY KIRK K. HORTON LICENSED LAND SURVEYOR ON OR BEFORE OCTOBER 06, 2020.
2. OTHER SITE FEATURES BASED ON UTILITY DRAWINGS PREPARED BY VHB.



OVERFLOW SPILLWAY PLAN SCALE: 1" = 20'

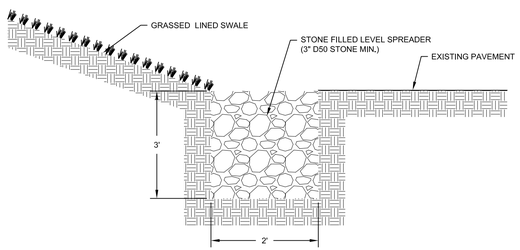


VICINITY PLAN SCALE: 1" = 2,000'



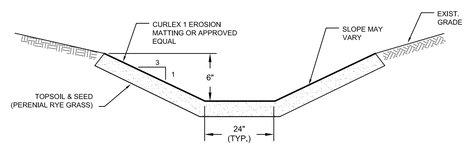
OVERFLOW SPILLWAY WEIR SECTION

N.T.S.



STONE LEVEL SPREADER DETAIL

N.T.S.



GRASS LINED SWALE DETAIL

N.T.S.

SITE DATA

ZONING DISTRICT: OC, OFFICE COMMERCIAL/INDUSTRIAL
LOT SIZE: 81.61 ACRES
TAX GRID No. : 132000-7066-00-870350
PROPERTY ADDRESS: 4429 ROUTE 22
AMENIA, NY 12501
PROPERTY OWNER: HARLEM VALLEY LLC
N 14605 73RD ST
SCOTTSDALE, AZ 85260

DATE	REVISION

ENGINEERING, DESIGN, & PLANS PREPARED BY:
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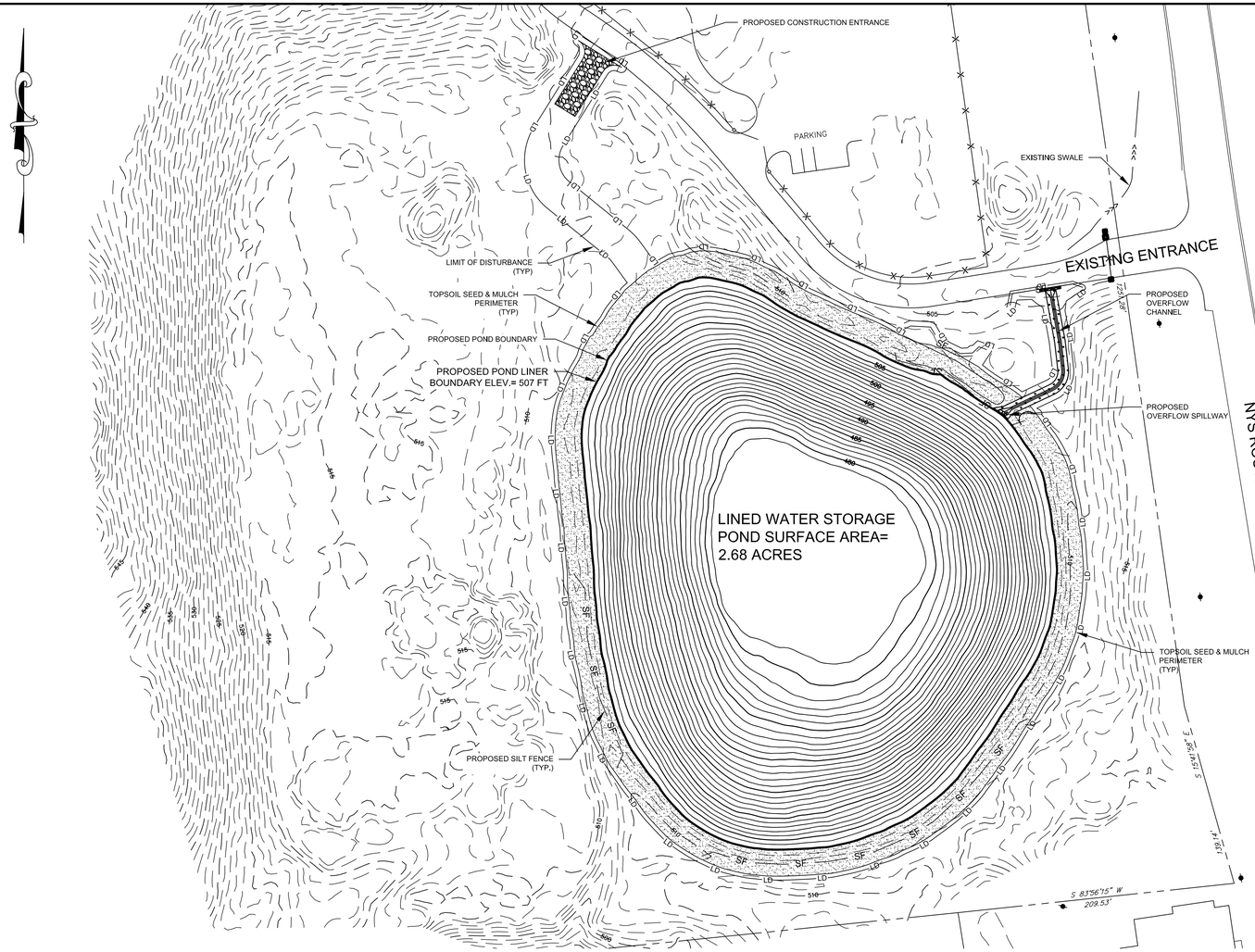
HVLF STORAGE POND

TOWN OF AMENIA — DUTCHESS COUNTY, NY

SITE PLAN

DATE	SCALE	DESIGNED BY:	DRAWN BY:	CHECKED BY:	JOB NO.	SHEET NO.
11/18/2020	1"=50'	RED	RED	RAR	17-007	1 of 2



LEGEND

- EXISTING CONTOUR — 500
- PROPOSED CONTOUR — 500
- PROPOSED SILT FENCE — SF
- PROPOSED LIMIT OF DISTURBANCE — LD
- PROPOSED CONSTRUCTION ENTRANCE
- PROPOSED OVERFLOW CHANNEL
- PROPOSED STONE WEIR/RIPRAP
- PROPOSED SEED/MULCH AREA

MAP NOTES:

1. TOPOGRAPHIC DATA BASED UPON AN ACTUAL SURVEY PREPARED BY KIRK K. HORTON LICENSED LAND SURVEYOR ON OR BEFORE OCTOBER 06, 2020.
2. OTHER SITE FEATURES BASED ON UTILITY DRAWINGS PREPARED BY VHB.

EROSION & SEDIMENT CONTROL PLAN

SCALE: 1" = 50'

0 50' 100'

1" = 50'
GRAPHIC SCALE

MINIMIZATION OF DISTURBED AREA:

TOTAL DISTURBED AREA OF SITE: 3.57 ACRES.

SOIL EROSION AND SEDIMENT CONTROL NOTES:

1. ALL SOIL EROSION AND SEDIMENT CONTROL DEVICES SHALL BE INSTALLED IN ACCORDANCE WITH THE NEW YORK STANDARD AND SPECIFICATIONS FOR EROSION AND SEDIMENT CONTROL MANUAL, (REFERRED TO IN REMAINING TEXT AS "NEW YORK STANDARDS AND SPECIFICATIONS".)

2. ANY DISTURBED AREAS THAT WILL BE LEFT EXPOSED MORE THAN FOURTEEN (14) DAYS, AND ARE NOT SUBJECT TO CONSTRUCTION TRAFFIC, SHALL IMMEDIATELY RECEIVE A TEMPORARY SEEDING. IF THE SEASON PREVENTS THE ESTABLISHMENT OF A TEMPORARY COVER, THE DISTURBED AREAS SHALL BE MULCHED WITH STRAW OR EQUIVALENT MATERIAL. THE SEEDING SHALL BE DONE IN ACCORDANCE WITH THE NEW YORK STANDARDS AND SPECIFICATIONS, AS FOLLOWS:
   A) FERTILIZER: THE FERTILIZER SHALL BE APPLIED AT A RATE OF FOURTEEN (14) POUNDS PER ONE THOUSAND SQUARE FEET, USING 5-10-10 OR EQUAL.
   B) SEED: ANNUAL RYE GRASS APPLIED AT A RATE OF 30 LBS./ACRE OR OTHER SELECT MIXTURE AS DESCRIBED IN THE NEW YORK GUIDELINES.
   C) MULCH: SALT-HAY OR SMALL GRAIN STRAW APPLIED AT A RATE OF NINETY (90) POUNDS PER ONE THOUSAND SQUARE FT, OR TWO (2) TONS PER ACRE, TO BE APPLIED AND ANCHORED ACCORDING TO THE NEW YORK STANDARDS AND SPECIFICATIONS.
   D) IN AREAS OF SLOPES STEEPER THAN ONE ON THREE AND IN DRAINAGE CHANNELS WHERE RUNOFF VELOCITIES EXCEED 2.5 FEET PER SECOND, JUTE MATTING SHALL BE USED TO STABILIZE SEEDED AND/OR PLANTED AREAS. JUTE MATTING SHALL BE INSTALLED AND ANCHORED IN ACCORDANCE WITH THE NEW YORK STANDARDS AND SPECIFICATIONS.

3. ANY GRADED AREAS NOT SUBJECT TO FURTHER DISTURBANCE OR CONSTRUCTION TRAFFIC SHALL, WITHIN TEN (10) DAYS AFTER FINAL GRADING, RECEIVE PERMANENT VEGETATIVE COVER IN COMBINATION WITH A SUITABLE MULCH AS FOLLOWS:
   A) FERTILIZER: FERTILIZER APPLIED AT A RATE OF TWENTY (20) POUNDS PER ONE THOUSAND SQUARE FEET USING 14-28-15 OR EQUAL.
   B) SEED MIXTURE: TO BE PLANTED BETWEEN APRIL 1ST AND MAY 15TH OR BETWEEN AUGUST 15TH AND OCTOBER 15TH. MIXTURE SHALL BE 30% KENTUCKY BLUEGRASS BLEND, 50% PERENNIAL RYE GRASS AND 20% FINE FESCUE. SEED AT RATE OF 4 LBS./1000 SQUARE FEET.
   C) MULCH: SALT-HAY OR SMALL GRAIN STRAW APPLIED AT A RATE OF NINETY (90) POUNDS PER ONE THOUSAND SQUARE FEET OR TWO (2) TONS PER ACRE TO BE APPLIED AND ANCHORED ACCORDING TO THE NEW YORK STANDARDS AND SPECIFICATIONS.
   D) IN AREAS OF SLOPES STEEPER THAN ONE ON THREE AND IN DRAINAGE CHANNELS WHERE RUNOFF VELOCITIES EXCEED 2.5 FEET PER SECOND, "BioNet SC150BN" OR EQUAL EROSION CONTROL MATTING SHALL BE USED TO STABILIZE SEEDED AND/OR PLANTED AREAS. "BioNet SC150BN" SHALL BE INSTALLED AND ANCHORED IN ACCORDANCE WITH THE MANUFACTURES INSTRUCTIONS AS WELL AS THE NEW YORK STANDARDS AND SPECIFICATIONS.

4. SLOPES STEEPER THAN ONE ON THREE SHALL BE STABILIZED IMMEDIATELY AFTER GRADING.

5. PAVED ROADWAYS SHALL BE KEPT CLEAN AT ALL TIMES.

6. THE SITE SHALL AT ALL TIMES BE GRADED AND MAINTAINED SUCH THAT ALL STORM WATER RUNOFF IS DIVERTED TO SOIL EROSION OR SEDIMENT CONTROL FACILITIES. EXCEPT FOR MINOR PERIMETER EMBANKMENT AREAS, ALL GRADED AREAS SHALL BE DIRECTED THROUGH ONE OF THE SEDIMENT BARRIERS. DIVERSION SWALES MAY BE USED TO DIRECT DRAINAGE RUNOFF UNTIL THE PERMANENT STORM DRAINAGE SYSTEM IS IN PLACE.

7. DUST SHALL BE CONTROLLED BY SPRINKLING OR OTHER APPROVED METHODS.

8. STOCKPILES SHALL NOT BE LOCATED WITHIN FIFTY FEET (50') OF ROADWAYS OR DRAINAGE FACILITIES. THE BASE OF ALL STOCKPILES SHALL BE PROTECTED BY SILT FENCE.

9. SOIL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSPECTED AND MAINTAINED BY THE CONTRACTOR ON A DAILY BASIS TO ENSURE THAT TEMPORARY AND PERMANENT DITCHES, PIPES AND STRUCTURES ARE CLEAR OF DEBRIS, THAT EMBANKMENTS AND BERMS ARE NOT BREACHED, AND THAT ALL BARRIERS ARE INTACT.

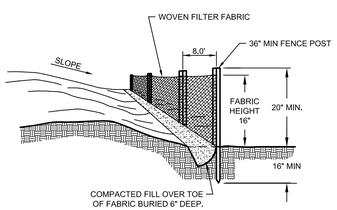
10. ALL SOIL EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE MAINTAINED BY THE CONTRACTOR UNTIL FINAL ACCEPTANCE OF THE SITE WORK BY THE OWNER. UPON CERTIFICATION OF FINAL ACCEPTANCE, THE OWNER WILL ASSUME RESPONSIBILITY FOR THE CONTINUED MAINTENANCE OF PERMANENT SOIL EROSION AND SEDIMENTATION CONTROL MEASURES.

11. THE STABILIZED CONSTRUCTION ENTRANCE SHALL BE INSTALLED PRIOR TO ANY GRADING WORK BEING DONE ON SITE. MULTIPLE STABILIZED CONSTRUCTION ENTRANCES WILL BE REQUIRED AS THE WORK PROGRESSES AROUND THE SITE.

12. SWEEP AND WASH DOWN EXISTING PAVEMENT AREAS AS NEEDED DURING CONSTRUCTION TO MAINTAIN SEDIMENT DURING CONSTRUCTION.

CONSTRUCTION SEQUENCE:

1. SUBMIT THE NOI FIVE DAYS PRIOR TO STARTING CONSTRUCTION.
2. LOCATE AND STAKE ALL GRADE IMPROVEMENTS.
3. CONSTRUCTION OF TEMPORARY CONTROLS USED DURING CONSTRUCTION.
   A. INSTALL SILT FENCE AND CONSTRUCTION FENCING.
   B. INSTALL STABILIZED CONSTRUCTION ENTRANCE.
   C. CLEAR AND GRUB THE SITE.
6. GRADE POND AREA SMOOTH AND INSTALL POND LINER.
7. INSTALL OVERFLOW OUTLET.
8. TEMPORARY SEED AS NEEDED TO CONTROL SEDIMENT RUNOFF.
9. FINISH MISCELLANEOUS GRADING AS REQUIRED.
10. INSTALL TOPSOIL, AND SEED AND MULCH AS NEEDED.
11. REMOVE TEMPORARY E&SC PRACTICES ONCE SITE IS STABILIZED.
12. SUBMIT NOT.

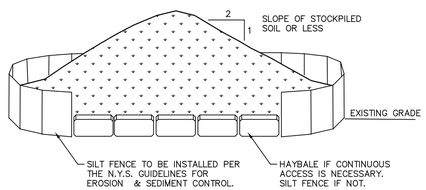


TYPICAL SILT FENCE DETAIL

N.T.S.

NOTES:

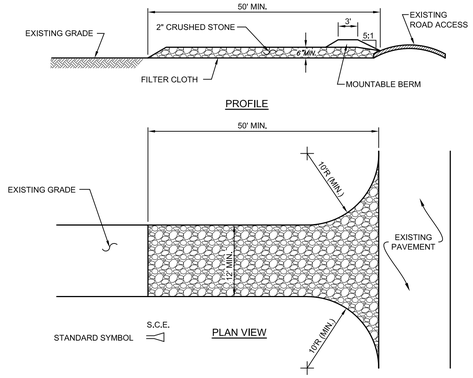
1. LOCATE POSTS DOWNSIDE OF FABRIC TO HELP SUPPORT FENCING.
2. BURY TOE OF FENCE APPROXIMATELY 8" DEEP TO PREVENT UNDERCUTTING.
3. WHEN JOINTS ARE NECESSARY, SECURELY FASTEN THE FABRIC AT A SUPPORT POST WITH OVERLAP TO THE NEXT POST.



TEMPORARY SOIL STOCKPILE STABILIZATION DETAIL

NOTES:

1. AREA CHOSEN FOR STOCKPILING SHALL BE DRY AND STABLE.
2. MAXIMUM SLOPE OF STOCKPILE SHALL BE 2:1.
3. UPON COMPLETION OF SOIL STOCKPILING, EACH PILE SHALL BE SURROUNDED WITH EITHER SILT FENCING OR HAY BALES AND STABILIZED SEED AND MULCH OR JUTE MESH.
4. SEE SPECIFICATIONS FOR INSTALLATION OF SILT FENCE.
5. SIZE OF STOCKPILE SHALL NOT EXCEED THE LIMITATIONS OF DRAINAGE AREA PER SILT FENCE SPECIFICATIONS.
6. INSTALL SILT FENCE A MINIMUM OF 10' FROM THE TOE OF THE STOCKPILE.



STABILIZED CONSTRUCTION ENTRANCE DETAIL

N.T.S.

CONSTRUCTION SPECIFICATIONS

1. STONE SIZE - USE 2" STONE, OR RECLAIMED OR RECYCLED CONCRETE EQUIVALENT
2. LENGTH - AS REQUIRED, BUT NOT LESS THAN 50' (EXCEPT ON A SINGLE RESIDENCE LOT WHERE A 30' MINIMUM LENGTH WOULD APPLY).
3. THICKNESS - NOT LESS THAN 6".
4. WIDTH - 10' MINIMUM, BUT NOT LESS THAN THE FULL WIDTH AT POINTS WHERE INGRESS OR EGRESS OCCURS.
5. FILTER CLOTH - WILL BE PLACED OVER THE ENTIRE AREA PRIOR TO THE PLACING OF STONE. FILTER WILL NOT BE REQUIRED ON A SINGLE FAMILY RESIDENCE LOT.
6. SURFACE WATER - ALL SURFACE WATER FLOWING OR DIVERTED TOWARD CONSTRUCTION ENTRANCES SHALL BE PIPED ACROSS THE ENTRANCE. IF PIPING IS IMPRACTICAL, A MOUNTABLE BERM WITH 5:1 SLOPES SHALL BE PERMITTED.
7. MAINTENANCE - THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHTS-OF-WAY MUST BE REMOVED IMMEDIATELY.
8. WASHING - WHEELS SHALL BE CLEANED TO REMOVE SEDIMENT PRIOR TO ENTRANCE ONTO PUBLIC RIGHTS-OF-WAY. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH STONE AND WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE.
9. PERIODIC INSPECTION AND NEEDED MAINTENANCE SHALL BE PROVIDED AFTER EACH RAIN.

SITE DATA

ZONING DISTRICT: OC, OFFICE COMMERCIAL/INDUSTRIAL
LOT SIZE: 81.61 ACRES
TAX GRID No. : 132000-7066-00-870350
PROPERTY ADDRESS: 4429 ROUTE 22
AMENIA, NY 12501
PROPERTY OWNER: HARLEM VALLEY LLC
N 14605 73RD ST
SCOTTSDALE, AZ 85260

DATE	REVISION

ENGINEERING, DESIGN, & PLANS PREPARED BY:
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HVLF STORAGE POND

TOWN OF AMENIA — DUTCHESS COUNTY, NY

EROSION & SEDIMENT CONTROL PLAN

DATE	SCALE	DESIGNED BY:	DRAWN BY:	CHECKED BY:	JOB NO.	SHEET NO.
11/18/2020	1"=50'	RED	RED	RAR	17-007	2 of 2

DRAINAGE PLAN

SCALE: 1" = 100'

0 100' 200'
1" = 100'
GRAPHIC SCALE

LEGEND

- EXISTING CONTOUR 500
- PROPOSED CONTOUR 500
- PROPOSED OVERFLOW CHANNEL
- PROPOSED STONE WEIR/RIPRAP

SITE DATA

ZONING DISTRICT: OC, OFFICE COMMERCIAL/INDUSTRIAL
LOT SIZE: 81.61 ACRES
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HVLF STORAGE POND

TOWN OF AMENIA — DUTCHESS COUNTY, NY

DRAINAGE PLAN

DATE	SCALE	DESIGNED BY:	DRAWN BY:	CHECKED BY:	JOB NO.	SHEET NO.
11/18/20	1"=100'	RED	RED	RAR	#17-007	1 of 1

BASIC STORMWATER POLLUTION PREVENTION PLAN WITH EROSION AND SEDIMENT CONTROL ONLY

for

Harlem Valley LLC.

WATER STORAGE POND

APPLICANT : **Harlem Valley LLC.**
N 14605 73rd St
Scottsdale, AZ 85260

LOCATION: **Harlem Valley LLC. Water Storage Pond**
4429 Route 22
Town of Amenia
Dutchess County, NY 12501

PROJECT No.: **17-007**

DATE: **December 2, 2020**

PREPARED BY:

RENNIA ENGINEERING DESIGN, PLLC
CIVIL ▪ ENVIRONMENTAL ▪ STRUCTURAL

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APPENDIX A

NYSDEC SPDES General Permit for Stormwater Discharges from Construction Activity
Permit No. GP-0-20-001

APPENDIX B

HVLF Water Storage Pond – Site Plan
HVLF Water Storage Pond - Erosion & Sediment Control Plan
HVLF Water Storage Pond – Drainage Plan

APPENDIX C

Site Inspection Log Book components which includes:

- NYSDEC Notice of Intent (NOI)
- Acknowledgment of Notice of Intent
- Pre-Construction Documents
- Owner/Operator Certification
- Contractor Certification
- Subcontractor Certification
- Qualified Professional Certification
- Construction Inspection Reports
- Monthly Summary
- SWPPP Modification Form
- NYSDEC Notice of Termination (NOT)

APPENDIX D

CRIS Map
FIRM Map
ERM Map
Site Historical Aerial Photo Review

APPENDIX E

HydroCAD 10.0 Report

1.0 INTRODUCTION

The Harlem Valley Landfill Corp. has initiated a project to create a water storage pond adjacent to the closed Harlem Valley Landfill in the town of Amenia. This pond is proposed to be used as an area of auxiliary water storage that will be used by the adjacent community garden, athletic fields, and nearby golf course.

The New York State Department of Environmental Conservation (NYSDEC) requires that a State Pollution Discharge and Elimination System General Permit (SPDES GP# 0-20-001) be obtained when greater than one (1) acre of land is disturbed. This SPDES permit requires that a Full Stormwater Pollution Prevention Plan (SWPPP) be prepared for any project that includes an area greater than 1 acre of disturbance. The area of disturbance for this site is 3.12 acres. A copy of the permit is included in Appendix A of this report.

Table 1 in Appendix B of the SPDES permit lists exemptions to the above noted requirement. Table 1 states that for pond construction projects that involve a soil disturbance of one (1) or more acres of land, a SWPPP be provided that includes only erosion and sediment controls. This is generally referred to as a "Basic SWPPP".

In terms of stormwater management and pollution prevention, the project will disturb more than 1 acre of land or vegetation, therefore it is subject to the requirements of the SPDES GP#-0-20-001. As part of obtaining permit coverage for this project, this "Basic SWPPP" has been developed and is to be used as a design tool and guide for the property owner, site contractor, and town for the proposed project site development.

This SWPPP provides a brief engineering narrative for the project of the Harlem Valley Landfill Corp. in the town of Amenia.

1.1 LOCATION

The project site discussed in this report is located at 4429 NYS Route 22 in the town of Amenia, Dutchess County, NY, and is shown in Figure 1-1 Site Location Map below.

Figure 1-1 Site Location Map

1.2 PROJECT DESCRIPTIONS

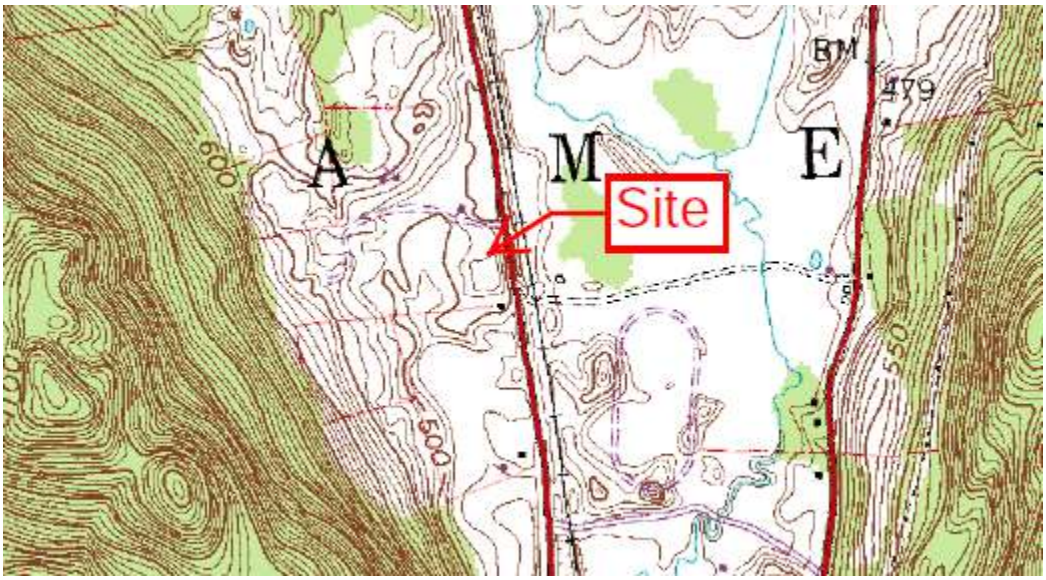
The drainage area for this project consists of the area of the proposed water storage pond, and a small surrounding area. The proposed pond is in a low part of the site surrounded by existing berms to maintain a small drainage area. The drainage area is 3.69 acres. There is a larger irrigation pond on the adjacent property that is connected to this storage pond via a pumped pipe system. An emergency spillway was designed to direct large storm events greater than 100-year events into an existing stabilized channel that drains to the north.

therefore, my assumption is they worked backwards and found out at what 'permanent pool' elevation resulted in a 100yr additional volume to bring the elevation of water up to the outlet (not over). so they can store enough water in the pond that would not overtop the 100yr storm elevation/volume.

2.0 EXISTING CONDITIONS

The Harlem Valley Landfill Corporation operated a municipal solid waste facility on this site from the mid-1970s through the mid-1990s. Prior to the landfill operation the site was open farm fields. During the time of the landfill operation the entire site was disturbed as soils were moved (cut/fill), processed and ultimately the landfill was closed and capped. The waste cells are located on the western portion of the site. The storage pond will be located on the eastern side of the site that was utilized as a soil borrow area for the landfill while it was active and then later used as material storage and sediment runoff collection. A review of the USGS Topographic Map (Amenia Quad, rev. 1984) indicates that approximately 15 - 20 feet of soil was previously excavated from the area where the proposed storage pond will be constructed. Ultimately as part of the landfill closure it appears that the area was also utilized as an interim sediment trap / stormwater management basin which can be seen in the aerial photo log 1955 – 2016, included in Appendix D. A review of the landfill closure grading plan completed by Dewkett Engineering, dated 7/1/1992 reveals that no stormwater practice was intended to be placed in this area.

Figure 2-1 USGS Map



2.1 ARCHEOLOGICAL SENSITIVITY

The Cultural Resource Information System (CRIS) web site was reviewed to determine if there were any National Registered and Archeological Sensitive areas associated with the project site. The information depicted for this site shows that the project is not located within any Archeological Sensitive Areas. The CRIS map is shown in Appendix D of this report.

2.2 FLOOD PLAIN

A review of the FEMA Flood Insurance Rate Map (FIRM) information for the project site shows no flood hazard areas on or near to the site. The site is not located within a 100-year flood plain. The FIRM Map is included in Appendix D.

2.3 HABITAT

The NYSDEC Environmental Resource Mapper (ERM) is a screening tool to determine if any threatened or endangered species are located on a project site. A copy of the ERM map is located in Appendix D. The ERM showed that the Timber Rattlesnake may be a species of concern. Due to past disturbance however, the area would no longer be a suitable habitat for these animals.

2.4 SITE SOILS

Based on a review of the USDA Natural Resources Conservation Service's Soil Survey of Dutchess County, New York, the soils listed below in Figure 2-2 are present on the project site.

Figure 2-2 Project Site Soils Map

The USDA Natural Resource Conservation Service assigns each soil series to a hydrologic soil group (HSG). The HSG is a four-letter index (A-D) that is intended to show the relative potential for a soil to generate runoff. HSG A soils have a high infiltration rate (low runoff potential) when thoroughly wet. These consist of deep, well drained to excessively drained sands and gravels. HSG B has a moderate infiltration rate when thoroughly wet. These consist of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. HSG C soils have a slow infiltration rate when thoroughly wet. These consist of soils that have a layer that impedes the downward movement of water. HSG D have a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clay soils that have a high shrink-swell potential, soils that have a clay-pan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. The project site that is proposed for development is made up of Hydrologic Soil Group A.

Table 2-1 Site Soils Information

Map Unit symbol	Map unit name	Rating	Percent of AOI
CuC	Copake gravelly silt loam, rolling	A	5.8%
Ud	Udorthents, smoothed	A	94.2%
Totals for Area of Interest			**100%**

3.0 GRASS LINED OVERFLOW CHANNEL

A grass lined swale was developed as an emergency overflow outlet for the proposed storage pond. The design point that the grass lined swale discharges to is an existing stone-lined swale across the entrance road from the storage pond.

The grass swale was designed to convey overflow water in storms larger than the 100-year storm. The elevation for the overflow spillway weir from the storage pond was set at the water elevation for the 100-year storm, assuming a starting water elevation of 506.5 ft. The water in these large storms will flow over the spillway weir into the 5 ft wide grass lined swale where it will flow to the entrance road. It will enter a level spreader before discharging over the roadway and into an existing stone-lined swale that leads northwest offsite. The swale and weir sizing was verified using HydroCAD 10.0, a copy of the report is included in Appendix E of this report.

4.0 POLLUTION PREVENTION

The maintenance of all pollution prevention methods will be the responsibility of the contractor during the course of construction and will be the property owner's/operator's responsibility after construction is complete. Maintenance of the various components of the system is described below.

4.1 POLLUTION PREVENTION MEASURES

"Good housekeeping" practices shall be used to prevent these pollutants from entering the site stormwater discharges. The following measures are to be taken to control the accidental exposure of materials and substances to stormwater runoff.

- Solid waste shall be disposed of in waste receptacles of adequate capacity at convenient locations to site workers. Regular collection and disposal of the collected wastes shall occur as needed.
- Storage areas will be protected from stormwater in accordance with any manufacturer's guidelines for storage of chemicals, paints, solvents, acids, pesticides, fertilizers, or other potential pollutants.
- Raw construction materials shall be stored in areas controlled by retention-type sediment control devices.
- Equipment wash down areas shall be designated on site and in areas draining to regularly maintained sediment control devices. Equipment maintenance areas are to be protected from stormwater and shall be designated and shall include appropriate waste receptacles for spent oils, gasoline, grease and solvents. Accumulated waste shall be regularly collected as needed.
- Sanitary facilities shall be provided in convenient locations to site workers and shall be adequately maintained.
- Any spill of chemicals including oil, hazardous materials, chemicals, etc. should be reported as required and the necessary clean-up measures put in place.

5.0 EROSION AND SEDIMENT CONTROL

All practices are to be designed and installed in accordance with the New York Standards and Specifications for Erosion and Sediment Control (2016). The E&SC measures noted in Tables 5-1, 5-2 and 5-3 are shown on the Erosion and Sediment Control Plan located in Appendix B.

A description of the temporary structural measures proposed is as follows:

Table 5-1 Temporary Erosion Control Measures

Erosion Control Measure	In Use	Description
Dust Control	X	The control of dust from disturbance.
Silt Fence	X	Temporary geo-textile fabric barrier.
Stabilized Construction Entrance	X	Aggregate underlain with geo-textile where traffic enters site.

A description of the vegetative measures proposed is as follows:

Table 5-2 Vegetative Erosion Control Measures

Vegetative Measures	In Use	Description
Mulching	X	Use of straw along with vegetation.
Protection of Vegetation	X	Protection of existing plants.
Seeding	X	Use of grass seed for stabilization.
Topsoiling	X	Spreading and depth of topsoil.

A description of the permanent structural measures proposed is as follows:

Table 5-3 Permanent Erosion Control Measures

Permanent Measures	In Use	Description
Land Grading	X	Grading of sloped to prevent erosion.

5.1 INSPECTION AND MAINTAINANCE

The proposed temporary stormwater management practices (SMPs) on site will be inspected on a weekly basis by the owner/operator. During the inspection, the Site Inspection Log Book should be utilized to properly document that all SMPs (both temporary and permanent) are functioning as required and that the SMPs are properly maintained while in use. The maintenance of all stormwater management practices will be the responsibility of the contractor during the course of construction, and will be the property owner's/operator's responsibility after construction is complete. Maintenance of the various components of the system is described below.

Inspection schedules for temporary and permanent SMPs are shown in Table 5-4 and Table 5-5 below.

Table 5-4 Temporary SMP Maintenance Schedule

E&S Control Measure	Inspection & Maintenance Intervals	Inspection/Maintenance Requirements
Stabilized Construction Entrance	Daily	Periodic top dressing with additional aggregate as required. Clean sediment in public right-of-ways immediately.
Silt Fence	Weekly	Remove & redistribute sediment when bulges develop in the silt fence.

Table 5-5 Permanent SMP Maintenance Schedule

E&S Control Measure	Inspection & Maintenance Intervals	Inspection/Maintenance Requirements
Land Grading Areas	Bi-Annually (Spring and Fall)	Check for uneven settling and cavities, re-contour where necessary, then seed and mulch.
Emergency Overflow Swale	Bi-Annually (Spring and Fall)	Check for sediment buildup and remove debris as necessary.

On completion of site work and stabilization, all temporary erosion and sediment control measures shall be removed by the contractor.

6.0 CONSTRUCTION SCHEDULE

Construction will begin after a SPDES General Permit #0-20-001 “Notice of Intent” has been filed with the New York State Department of Environmental Conservation. Following the filing of the permit and upon receiving notice that the permit has been filed all erosion and sediment control measures are to be installed in accordance with the plans and the New York Standards and Specifications for Erosion and Sediment Control (2005). Following their installation, site work shall begin. During the course of construction, all stormwater management practices shall be maintained and replaced as required by subsequent stormwater inspections and as deemed necessary for the adequate function of all practices. When construction is complete all temporary stormwater management practices shall be removed, all permanent stormwater practices shall be inspected, fixed, and or regraded as necessary per the plans provided. Once construction is complete and the site has been permanently stabilized, a “Notice of Termination” shall be filed with the New York State Department of Environmental Conservation.

The Site Inspection Log book contains the Acknowledgement Letter from the NYSDEC, a Pre-construction checklist, the Owner-Contractor-Subcontractor and Qualified Professional Certification Form, a Site Inspection Form, a Monthly Report Summary Form, a SWPPP Modification Form, a signed copy of the NOI and a copy of the NOT. The log book is Appendix C of this report.

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APPENDIX A

NYSDEC SPDES General Permit for Stormwater Discharges from Construction Activity
Permit No. GP-0-20-001

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NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SPDES GENERAL PERMIT
FOR STORMWATER DISCHARGES

From

CONSTRUCTION ACTIVITY

Permit No. GP- 0-20-001

Issued Pursuant to Article 17, Titles 7, 8 and Article 70

of the Environmental Conservation Law

Effective Date: January 29, 2020 Expiration Date: January 28, 2025

John J. Ferguson

Chief Permit Administrator

1-23-20

Authorized Signature Date

Address: NYS DEC
Division of Environmental Permits
625 Broadway, 4th Floor
Albany, N.Y. 12233-1750

PREFACE

Pursuant to Section 402 of the Clean Water Act ("CWA"), stormwater *discharges* from certain *construction activities* are unlawful unless they are authorized by a *National Pollutant Discharge Elimination System ("NPDES")* permit or by a state permit program. New York administers the approved State Pollutant Discharge Elimination System (SPDES) program with permits issued in accordance with the New York State Environmental Conservation Law (ECL) Article 17, Titles 7, 8 and Article 70.

An *owner or operator* of a *construction activity* that is eligible for coverage under this permit must obtain coverage prior to the *commencement of construction activity*. Activities that fit the definition of "*construction activity*", as defined under 40 CFR 122.26(b)(14)(x), (15)(i), and (15)(ii), constitute construction of a *point source* and therefore, pursuant to ECL section 17-0505 and 17-0701, the *owner or operator* must have coverage under a SPDES permit prior to *commencing construction activity*. The *owner or operator* cannot wait until there is an actual *discharge* from the *construction site* to obtain permit coverage.

***Note: The italicized words/phrases within this permit are defined in Appendix A.**

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
SPDES GENERAL PERMIT FOR STORMWATER DISCHARGES FROM CONSTRUCTION ACTIVITIES

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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

*Discharge*s authorized by this permit must achieve, at a minimum, the effluent limitations in Part I.B.1. (a) – (f) of this permit. These limitations represent the degree of effluent reduction attainable by the application of best practicable technology currently available.

1. Erosion and Sediment Control Requirements - The *owner or operator* must select, design, install, implement and maintain control measures to *minimize* the *discharge* of *pollutants* and prevent a violation of the *water quality standards*. The selection, design, installation, implementation, and maintenance of these control measures must meet the non-numeric effluent limitations in Part I.B.1.(a) – (f) of this permit and be in accordance with the New York State Standards and Specifications for Erosion and Sediment Control, dated November 2016, using sound engineering judgment. Where control measures are not designed in conformance with the design criteria included in the technical standard, the *owner or operator* must include in the *Stormwater Pollution Prevention Plan* (“SWPPP”) the reason(s) for the

deviation or alternative design and provide information which demonstrates that the deviation or alternative design is *equivalent* to the technical standard.

a. **Erosion and Sediment Controls.** Design, install and maintain effective erosion and sediment controls to *minimize* the *discharge* of *pollutants* and prevent a violation of the *water quality standards*. At a minimum, such controls must be designed, installed and maintained to:

   (i) *Minimize* soil erosion through application of runoff control and soil stabilization control measure to *minimize pollutant discharge*s;

   (ii) Control stormwater *discharge*s, including both peak flowrates and total stormwater volume, to *minimize* channel and *streambank* erosion and scour in the immediate vicinity of the *discharge* points;

   (iii) *Minimize* the amount of soil exposed during *construction activity*;

   (iv) *Minimize* the disturbance of *steep slopes*;

   (v) *Minimize* sediment *discharge*s from the site;

   (vi) Provide and maintain *natural buffer*s around surface waters, direct stormwater to vegetated areas and maximize stormwater infiltration to reduce *pollutant discharge*s, unless *infeasible*;

   (vii) *Minimize* soil compaction. Minimizing soil compaction is not required where the intended function of a specific area of the site dictates that it be compacted;

   (viii) Unless *infeasible*, preserve a sufficient amount of topsoil to complete soil restoration and establish a uniform, dense vegetative cover; and

   (ix) *Minimize* dust. On areas of exposed soil, *minimize* dust through the appropriate application of water or other dust suppression techniques to control the generation of pollutants that could be discharged from the site.

b. **Soil Stabilization**. In areas where soil disturbance activity has temporarily or permanently ceased, the application of soil stabilization measures must be initiated by the end of the next business day and completed within fourteen (14) days from the date the current soil disturbance activity ceased. For construction sites that *directly discharge* to one of the 303(d) segments

listed in Appendix E or is located in one of the watersheds listed in Appendix C, the application of soil stabilization measures must be initiated by the end of the next business day and completed within seven (7) days from the date the current soil disturbance activity ceased. See Appendix A for definition of *Temporarily Ceased*.

c. **Dewatering**. *Discharge*s from *dewatering* activities, including *discharge*s from *dewatering* of trenches and excavations, must be managed by appropriate control measures.

d. **Pollution Prevention Measures**. Design, install, implement, and maintain effective pollution prevention measures to *minimize* the *discharge* of *pollutants* and prevent a violation of the *water quality standards*. At a minimum, such measures must be designed, installed, implemented and maintained to:

(i) *Minimize* the *discharge* of *pollutants* from equipment and vehicle washing, wheel wash water, and other wash waters. This applies to washing operations that use clean water only. Soaps, detergents and solvents cannot be used;

(ii) *Minimize* the exposure of building materials, building products, construction wastes, trash, landscape materials, fertilizers, pesticides, herbicides, detergents, sanitary waste, hazardous and toxic waste, and other materials present on the site to precipitation and to stormwater. Minimization of exposure is not required in cases where the exposure to precipitation and to stormwater will not result in a *discharge* of *pollutants*, or where exposure of a specific material or product poses little risk of stormwater contamination (such as final products and materials intended for outdoor use) ; and

(iii) Prevent the *discharge* of *pollutants* from spills and leaks and implement chemical spill and leak prevention and response procedures.

e. **Prohibited *Discharges*.** The following *discharge*s are prohibited:

(i) Wastewater from washout of concrete;

(ii) Wastewater from washout and cleanout of stucco, paint, form release oils, curing compounds and other construction materials;

(iii) Fuels, oils, or other *pollutants* used in vehicle and equipment operation and maintenance;

(iv) Soaps or solvents used in vehicle and equipment washing; and

(v) Toxic or hazardous substances from a spill or other release.

f. Surface Outlets. When discharging from basins and impoundments, the outlets shall be designed, constructed and maintained in such a manner that sediment does not leave the basin or impoundment and that erosion at or below the outlet does not occur.

C. Post-construction Stormwater Management Practice Requirements

1. The *owner or operator* of a *construction activity* that requires post-construction stormwater management practices pursuant to Part III.C. of this permit must select, design, install, and maintain the practices to meet the *performance criteria* in the New York State Stormwater Management Design Manual ("Design Manual"), dated January 2015, using sound engineering judgment. Where post-construction stormwater management practices ("SMPs") are not designed in conformance with the *performance criteria* in the Design Manual, the *owner or operator* must include in the SWPPP the reason(s) for the deviation or alternative design and provide information which demonstrates that the deviation or alternative design is *equivalent* to the technical standard.

2. The *owner or operator* of a *construction activity* that requires post-construction stormwater management practices pursuant to Part III.C. of this permit must design the practices to meet the applicable *sizing criteria* in Part I.C.2.a., b., c. or d. of this permit.

a. Sizing Criteria for New Development

(i) Runoff Reduction Volume ("RRv"): Reduce the total Water Quality Volume ("WQv") by application of RR techniques and standard SMPs with RRv capacity. The total WQv shall be calculated in accordance with the criteria in Section 4.2 of the Design Manual.

(ii) Minimum RRv and Treatment of Remaining Total WQv: Construction activities that cannot meet the criteria in Part I.C.2.a.(i) of this permit due to site limitations shall direct runoff from all newly constructed impervious areas to a RR technique or standard SMP with RRv capacity unless infeasible. The specific site limitations that prevent the reduction of 100% of the WQv shall be documented in the SWPPP.

For each impervious area that is not directed to a RR technique or standard SMP with RRv capacity, the SWPPP must include documentation which demonstrates that all options were considered and for each option explains why it is considered infeasible.

In no case shall the runoff reduction achieved from the newly constructed impervious areas be less than the Minimum RRv as calculated using the criteria in Section 4.3 of the Design Manual. The remaining portion of the total WQv that cannot be reduced shall be treated by application of standard SMPs.

(iii) Channel Protection Volume ("Cpv"): Provide 24 hour extended detention of the post-developed 1-year, 24-hour storm event; remaining after runoff reduction. The Cpv requirement does not apply when:
(1) Reduction of the entire Cpv is achieved by application of runoff reduction techniques or infiltration systems, or
(2) The site discharges directly to tidal waters, or fifth order or larger streams.

(iv) *Overbank* Flood Control Criteria ("Qp"): Requires storage to attenuate the post-development 10-year, 24-hour peak discharge rate (Qp) to predevelopment rates. The Qp requirement does not apply when:
(1) the site discharges directly to tidal waters or fifth order or larger streams, or
(2) A downstream analysis reveals that *overbank* control is not required.

(v) Extreme Flood Control Criteria ("Qf"): Requires storage to attenuate the post-development 100-year, 24-hour peak discharge rate (Qf) to predevelopment rates. The Qf requirement does not apply when:
(1) the site discharges directly to tidal waters or fifth order or larger streams, or
(2) A downstream analysis reveals that *overbank* control is not required.

b. *Sizing Criteria* for *New Development* in Enhanced Phosphorus Removal Watershed

(i) Runoff Reduction Volume (RRv): Reduce the total Water Quality Volume (WQv) by application of RR techniques and standard SMPs with RRv capacity. The total WQv is the runoff volume from the 1-year, 24 hour design storm over the post-developed watershed and shall be

calculated in accordance with the criteria in Section 10.3 of the Design Manual.

(ii) Minimum RRv and Treatment of Remaining Total WQv: *Construction activities* that cannot meet the criteria in Part I.C.2.b.(i) of this permit due to *site limitations* shall direct runoff from all newly constructed *impervious areas* to a RR technique or standard SMP with RRv capacity unless *infeasible*. The specific *site limitations* that prevent the reduction of 100% of the WQv shall be documented in the SWPPP. For each *impervious area* that is not directed to a RR technique or standard SMP with RRv capacity, the SWPPP must include documentation which demonstrates that all options were considered and for each option explains why it is considered *infeasible.*

In no case shall the runoff reduction achieved from the newly constructed *impervious areas* be less than the Minimum RRv as calculated using the criteria in Section 10.3 of the Design Manual. The remaining portion of the total WQv that cannot be reduced shall be treated by application of standard SMPs.

(iii) Channel Protection Volume (Cpv): Provide 24 hour extended detention of the post-developed 1-year, 24-hour storm event; remaining after runoff reduction. The Cpv requirement does not apply when:
(1) Reduction of the entire Cpv is achieved by application of runoff reduction techniques or infiltration systems, or
(2) The site *discharge*s directly to tidal waters, or fifth order or larger streams.

(iv) *Overbank* Flood Control Criteria (Qp): Requires storage to attenuate the post-development 10-year, 24-hour peak *discharge* rate (Qp) to predevelopment rates. The Qp requirement does not apply when:
(1) the site *discharge*s directly to tidal waters or fifth order or larger streams, or
(2) A downstream analysis reveals that *overbank* control is not required.

(v) Extreme Flood Control Criteria (Qf): Requires storage to attenuate the post-development 100-year, 24-hour peak *discharge* rate (Qf) to predevelopment rates. The Qf requirement does not apply when:
(1) the site *discharge*s directly to tidal waters or fifth order or larger streams, or
(2) A downstream analysis reveals that *overbank* control is not required.

c. Sizing Criteria for Redevelopment Activity

(i) Water Quality Volume (WQv): The WQv treatment objective for *redevelopment activity* shall be addressed by one of the following options. *Redevelopment activities* located in an Enhanced Phosphorus Removal Watershed (see Part III.B.3. and Appendix C of this permit) shall calculate the WQv in accordance with Section 10.3 of the Design Manual. All other *redevelopment activities* shall calculate the WQv in accordance with Section 4.2 of the Design Manual.

(1) Reduce the existing *impervious cover* by a minimum of 25% of the total disturbed, *impervious area*. The Soil Restoration criteria in Section 5.1.6 of the Design Manual must be applied to all newly created pervious areas, or

(2) Capture and treat a minimum of 25% of the WQv from the disturbed, *impervious area* by the application of standard SMPs; or reduce 25% of the WQv from the disturbed, *impervious area* by the application of RR techniques or standard SMPs with RRv capacity., or

(3) Capture and treat a minimum of 75% of the WQv from the disturbed, *impervious area* as well as any additional runoff from tributary areas by application of the alternative practices discussed in Sections 9.3 and 9.4 of the Design Manual., or

(4) Application of a combination of 1, 2 and 3 above that provide a weighted average of at least two of the above methods. Application of this method shall be in accordance with the criteria in Section 9.2.1(B) (IV) of the Design Manual.

If there is an existing post-construction stormwater management practice located on the site that captures and treats runoff from the *impervious area* that is being disturbed, the WQv treatment option selected must, at a minimum, provide treatment equal to the treatment that was being provided by the existing practice(s) if that treatment is greater than the treatment required by options 1 – 4 above.

(ii) Channel Protection Volume (Cpv): Not required if there are no changes to hydrology that increase the *discharge* rate from the project site.

(iii) *Overbank* Flood Control Criteria (Qp): Not required if there are no changes to hydrology that increase the *discharge* rate from the project site.

(iv) Extreme Flood Control Criteria (Qf): Not required if there are no changes to hydrology that increase the *discharge* rate from the project site

d. Sizing Criteria for Combination of Redevelopment Activity and New Development

Construction projects that include both New Development and Redevelopment Activity shall provide post-construction stormwater management controls that meet the sizing criteria calculated as an aggregate of the Sizing Criteria in Part I.C.2.a. or b. of this permit for the New Development portion of the project and Part I.C.2.c of this permit for Redevelopment Activity portion of the project.

D. Maintaining Water Quality

The Department expects that compliance with the conditions of this permit will control *discharge*s necessary to meet applicable *water quality standards*. It shall be a violation of the *ECL* for any discharge to either cause or contribute to a violation of *water quality standards* as contained in Parts 700 through 705 of Title 6 of the Official Compilation of Codes, Rules and Regulations of the State of New York, such as:

1. There shall be no increase in turbidity that will cause a substantial visible contrast to natural conditions;

2. There shall be no increase in suspended, colloidal or settleable solids that will cause deposition or impair the waters for their best usages; and

3. There shall be no residue from oil and floating substances, nor visible oil film, nor globules of grease.

If there is evidence indicating that the stormwater *discharge*s authorized by this permit are causing, have the reasonable potential to cause, or are contributing to a violation of the *water quality standards*; the *owner or operator* must take appropriate corrective action in accordance with Part IV.C.5. of this general permit and document in accordance with Part IV.C.4. of this general permit. To address the *water quality standard* violation the *owner or operator* may need to provide additional information, include and implement appropriate controls in the SWPPP to correct the problem, or obtain an individual SPDES permit.

If there is evidence indicating that despite compliance with the terms and conditions of this general permit it is demonstrated that the stormwater *discharge*s authorized by this permit are causing or contributing to a violation of *water quality standards*, or if the Department determines that a modification of the permit is necessary to prevent a violation of *water quality standards*, the authorized *discharge*s will no longer be eligible for coverage under this permit. The Department may require the *owner or operator* to obtain an individual SPDES permit to continue discharging.

E. Eligibility Under This General Permit

1. This permit may authorize all *discharges* of stormwater from *construction activity* to *surface waters of the State* and *groundwaters* except for ineligible *discharges* identified under subparagraph F. of this Part.

2. Except for non-stormwater *discharges* explicitly listed in the next paragraph, this permit only authorizes stormwater *discharge*s; including stormwater runoff, snowmelt runoff, and surface runoff and drainage, from *construction activities*.

3. Notwithstanding paragraphs E.1 and E.2 above, the following non-stormwater discharges are authorized by this permit: those listed in 6 NYCRR 750-1.2(a)(29)(vi), with the following exception: "Discharges from firefighting activities are authorized only when the firefighting activities are emergencies/unplanned"; waters to which other components have not been added that are used to control dust in accordance with the SWPPP; and uncontaminated *discharge*s from *construction site* de-watering operations. All non-stormwater discharges must be identified in the SWPPP. Under all circumstances, the *owner or operator* must still comply with *water quality standards* in Part I.D of this permit.

4. The *owner or operator* must maintain permit eligibility to *discharge* under this permit. Any *discharges* that are not compliant with the eligibility conditions of this permit are not authorized by the permit and the *owner or operator* must either apply for a separate permit to cover those ineligible *discharges* or take steps necessary to make the *discharge* eligible for coverage.

F. Activities Which Are Ineligible for Coverage Under This General Permit

All of the following are **not** authorized by this permit:

1. *Discharge*s after *construction activities* have been completed and the site has undergone *final stabilization*;

2. *Discharge*s that are mixed with sources of non-stormwater other than those expressly authorized under subsection E.3. of this Part and identified in the SWPPP required by this permit;

3. *Discharges* that are required to obtain an individual SPDES permit or another SPDES general permit pursuant to Part VII.K. of this permit;

4. *Construction activities* or *discharges* from *construction activities* that may adversely affect an *endangered or threatened species* unless the *owner or*

operator has obtained a permit issued pursuant to 6 NYCRR Part 182 for the project or the Department has issued a letter of non-jurisdiction for the project. All documentation necessary to demonstrate eligibility shall be maintained on site in accordance with Part II.D.2 of this permit;

5. *Discharges* which either cause or contribute to a violation of *water quality standards* adopted pursuant to the *ECL* and its accompanying regulations;

6. *Construction activities* for residential, commercial and institutional projects:

   a. Where the *discharge*s from the *construction activities* are tributary to waters of the state classified as AA or AA-s; and

   b. Which are undertaken on land with no existing *impervious cover*; and

   c. Which disturb one (1) or more acres of land designated on the current United States Department of Agriculture ("USDA") Soil Survey as Soil Slope Phase "D", (provided the map unit name is inclusive of slopes greater than 25%), or Soil Slope Phase "E" or "F" (regardless of the map unit name), or a combination of the three designations.

7. *Construction activities* for linear transportation projects and linear utility projects:

   a. Where the *discharge*s from the *construction activities* are tributary to waters of the state classified as AA or AA-s; and

   b. Which are undertaken on land with no existing *impervious cover*; and

   c. Which disturb two (2) or more acres of land designated on the current USDA Soil Survey as Soil Slope Phase "D" (provided the map unit name is inclusive of slopes greater than 25%), or Soil Slope Phase "E" or "F" (regardless of the map unit name), or a combination of the three designations.

8. *Construction activities* that have the potential to affect an *historic property*, unless there is documentation that such impacts have been resolved. The following documentation necessary to demonstrate eligibility with this requirement shall be maintained on site in accordance with Part II.D.2 of this permit and made available to the Department in accordance with Part VII.F of this permit:

   a. Documentation that the *construction activity* is not within an archeologically sensitive area indicated on the sensitivity map, and that the *construction activity* is not located on or immediately adjacent to a property listed or determined to be eligible for listing on the National or State Registers of Historic Places, and that there is no new permanent building on the *construction site* within the following distances from a building, structure, or object that is more than 50 years old, or if there is such a new permanent building on the *construction site* within those parameters that NYS Office of Parks, Recreation and Historic Preservation (OPRHP), a Historic Preservation Commission of a Certified Local Government, or a qualified preservation professional has determined that the building, structure, or object more than 50 years old is not historically/archeologically significant.

      - 1-5 acres of disturbance - 20 feet
      - 5-20 acres of disturbance - 50 feet
      - 20+ acres of disturbance - 100 feet, or

   b. DEC consultation form sent to OPRHP, and copied to the NYS DEC Agency Historic Preservation Officer (APO), and
      (i) the State Environmental Quality Review (SEQR) Environmental Assessment Form (EAF) with a negative declaration or the Findings Statement, with documentation of OPRHP's agreement with the resolution; or
      (ii) documentation from OPRHP that the *construction activity* will result in No Impact; or
      (iii) documentation from OPRHP providing a determination of No Adverse Impact; or
      (iv) a Letter of Resolution signed by the owner/operator, OPRHP and the DEC APO which allows for this *construction activity* to be eligible for coverage under the general permit in terms of the State Historic Preservation Act (SHPA); or

   c. Documentation of satisfactory compliance with Section 106 of the National Historic Preservation Act for a coterminous project area:

(i) No Affect
(ii) No Adverse Affect
(iii) Executed Memorandum of Agreement, or

d. Documentation that:

(i) SHPA Section 14.09 has been completed by NYS DEC or another state agency.

9. *Discharge*s from *construction activities* that are subject to an existing SPDES individual or general permit where a SPDES permit for *construction activity* has been terminated or denied; or where the *owner or operator* has failed to renew an expired individual permit.

Part II. PERMIT COVERAGE

A. How to Obtain Coverage

1. An *owner or operator* of a *construction activity* that is not subject to the requirements of a regulated, traditional land use control MS4 must first prepare a SWPPP in accordance with all applicable requirements of this permit and then submit a completed Notice of Intent (NOI) to the Department to be authorized to discharge under this permit.

2. An *owner or operator* of a *construction activity* that is subject to the requirements of a *regulated, traditional land use control MS4* must first prepare a SWPPP in accordance with all applicable requirements of this permit and then have the SWPPP reviewed and accepted by the *regulated, traditional land use control MS4* prior to submitting the NOI to the Department. The *owner or operator* shall have the “MS4 SWPPP Acceptance” form signed in accordance with Part VII.H., and then submit that form along with a completed NOI to the Department.

3. The requirement for an *owner or operator* to have its SWPPP reviewed and accepted by the *regulated, traditional land use control MS4* prior to submitting the NOI to the Department does not apply to an *owner or operator* that is obtaining permit coverage in accordance with the requirements in Part II.F. (Change of *Owner or Operator*) or where the *owner or operator* of the *construction activity* is the *regulated, traditional land use control MS4* . This exemption does not apply to *construction activities* subject to the New York City Administrative Code.

B. Notice of Intent (NOI) Submittal

1. Prior to December 21, 2020, an owner or operator shall use either the electronic (eNOI) or paper version of the NOI that the Department prepared. Both versions of the NOI are located on the Department's website (http://www.dec.ny.gov/). The paper version of the NOI shall be signed in accordance with Part VII.H. of this permit and submitted to the following address:

   NOTICE OF INTENT
   NYS DEC, Bureau of Water Permits
   625 Broadway, 4th Floor
   Albany, New York 12233-3505

2. Beginning December 21, 2020 and in accordance with EPA's 2015 NPDES Electronic Reporting Rule (40 CFR Part 127), the *owner or operator* must submit the NOI electronically using the *Department's* online NOI.

3. The *owner or operator* shall have the SWPPP preparer sign the "SWPPP Preparer Certification" statement on the NOI prior to submitting the form to the Department.

4. As of the date the NOI is submitted to the Department, the *owner or operator* shall make the NOI and SWPPP available for review and copying in accordance with the requirements in Part VII.F. of this permit.

C. Permit Authorization

1. An *owner or operator* shall not *commence construction activity* until their authorization to *discharge* under this permit goes into effect.

2. Authorization to *discharge* under this permit will be effective when the *owner or operator* has satisfied 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 <u>not</u> subject to the requirements of a *regulated, traditional land use control MS4*:

      (i) Five (5) business days from the date the Department receives a complete electronic version of the NOI (eNOI) for *construction activities* with a SWPPP that has been prepared in conformance with the design criteria in the technical standard referenced in Part III.B.1 and the *performance criteria* in the technical standard referenced in Parts III.B., 2 or 3, for *construction activities* that require post-construction stormwater management practices pursuant to Part III.C.; or

      (ii) Sixty (60) business days from the date the Department receives a complete NOI (electronic or paper version) for *construction activities* with a SWPPP that has <u>not</u> been prepared in conformance with the design criteria in technical standard referenced in Part III.B.1. or, for *construction activities* that require post-construction stormwater management practices pursuant to Part III.C., the *performance criteria* in the technical standard referenced in Parts III.B., 2 or 3, or;

      (iii) Ten (10) business days from the date the Department receives a complete paper version of the NOI for *construction activities* with a SWPPP that has been prepared in conformance with the design criteria in the technical standard referenced in Part III.B.1 and the *performance criteria* in the technical standard referenced in Parts III.B., 2 or 3, for *construction activities* that require post-construction stormwater management practices pursuant to Part III.C.

b. For *construction activities* that are subject to the requirements of a *regulated, traditional land use control MS4*:

(i) Five (5) business days from the date the Department receives both a complete electronic version of the NOI (eNOI) and signed "*MS4* SWPPP Acceptance" form, or

(ii) Ten (10) business days from the date the Department receives both a complete paper version of the NOI and signed "MS4 SWPPP Acceptance" form.

4. Coverage under this permit authorizes stormwater *discharges* from only those areas of disturbance that are identified in the NOI. If an *owner or operator* wishes to have stormwater *discharges* from future or additional areas of disturbance authorized, they must submit a new NOI that addresses that phase of the development, unless otherwise notified by the Department. The *owner or operator* shall not *commence construction activity* on the future or additional areas until their authorization to *discharge* under this permit goes into effect in accordance with Part II.C. of this permit.

D. General Requirements For Owners or Operators With Permit Coverage

1. The *owner or operator* shall ensure that the provisions of the SWPPP are implemented from the *commencement of construction activity* until all areas of disturbance have achieved *final stabilization* and the Notice of Termination ("NOT") has been submitted to the Department in accordance with Part V. of this permit. This includes any changes made to the SWPPP pursuant to Part III.A.4. of this permit.

2. The *owner or operator* shall maintain a copy of the General Permit (GP-0-20-001), NOI, *NOI Acknowledgment Letter*, SWPPP, MS4 SWPPP Acceptance form, inspection reports, responsible contractor's or subcontractor's certification statement (see Part III.A.6.), and all documentation necessary to demonstrate eligibility with this permit at the *construction site* until all disturbed areas have achieved *final stabilization* and the NOT has been submitted to the Department. The documents must be maintained in a secure location, such as a job trailer, on-site construction office, or mailbox with lock. The secure location must be accessible during normal business hours to an individual performing a compliance inspection.

3. The *owner or operator* of a *construction activity* shall not disturb greater than five (5) acres of soil at any one time without prior written authorization from the Department or, in areas under the jurisdiction of a *regulated, traditional land*

use control MS4, the *regulated, traditional land use control MS4* (provided the *regulated, traditional land use control MS4* is not the *owner or operator* of the *construction activity*). At a minimum, the *owner or operator* must comply with the following requirements in order to be authorized to disturb greater than five (5) acres of soil at any one time:

a. The *owner or operator* shall have a *qualified inspector* conduct **at least** two (2) site inspections in accordance with Part IV.C. of this permit every seven (7) calendar days, for as long as greater than five (5) acres of soil remain disturbed. The two (2) inspections shall be separated by a minimum of two (2) full calendar days.

b. In areas where soil disturbance activity has temporarily or permanently ceased, the application of soil stabilization measures must be initiated by the end of the next business day and completed within seven (7) days from the date the current soil disturbance activity ceased. The soil stabilization measures selected shall be in conformance with the technical standard, New York State Standards and Specifications for Erosion and Sediment Control, dated November 2016.

c. The *owner or operator* shall prepare a phasing plan that defines maximum disturbed area per phase and shows required cuts and fills.

d. The *owner or operator* shall install any additional site-specific practices needed to protect water quality.

e. The *owner or operator* shall include the requirements above in their SWPPP.

4. In accordance with statute, regulations, and the terms and conditions of this permit, the Department may suspend or revoke an *owner's or operator's* coverage under this permit at any time if the Department determines that the SWPPP does not meet the permit requirements or consistent with Part VII.K..

5. Upon a finding of significant non-compliance with the practices described in the SWPPP or violation of this permit, the Department may order an immediate stop to all activity at the site until the non-compliance is remedied. The stop work order shall be in writing, describe the non-compliance in detail, and be sent to the *owner or operator*.

6. For *construction activities* that are subject to the requirements of a *regulated, traditional land use control MS4*, the *owner or operator* shall notify the

regulated, traditional land use control MS4 in writing of any planned amendments or modifications to the post-construction stormwater management practice component of the SWPPP required by Part III.A. 4. and 5. of this permit. Unless otherwise notified by the *regulated, traditional land use control MS4*, the *owner or operator* shall have the SWPPP amendments or modifications reviewed and accepted by the *regulated, traditional land use control MS4* prior to commencing construction of the post-construction stormwater management practice.

E. Permit Coverage for Discharges Authorized Under GP-0-15-002

1. Upon renewal of SPDES General Permit for Stormwater Discharges from *Construction Activity* (Permit No. GP-0-15-002), an *owner or operator* of *a construction activity* with coverage under GP-0-15-002, as of the effective date of GP- 0-20-001, shall be authorized to *discharge* in accordance with GP- 0-20-001, unless otherwise notified by the Department.

   An *owner or operator* may continue to implement the technical/design components of the post-construction stormwater management controls provided that such design was done in conformance with the technical standards in place at the time of initial project authorization. However, they must comply with the other, non-design provisions of GP-0-20-001.

F. Change of Owner or Operator

1. When property ownership changes or when there is a change in operational control over the construction plans and specifications, the original *owner or operator* must notify the new *owner or operator*, 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 *discharge*s from *construction activities* and that it is unlawful for any person to cause or contribute to a violation of *water quality standards*. Furthermore, I am aware that there are significant penalties for submitting false information, that I do not believe to be true, including the possibility of fine and imprisonment for knowing violations"

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

7. For projects where the Department requests a copy of the SWPPP or inspection reports, the *owner or operator* shall submit the documents in both electronic (PDF only) and paper format within five (5) business days, unless otherwise notified by the Department.

B. Required SWPPP Contents

1. Erosion and sediment control component - All SWPPPs prepared pursuant to this permit shall include erosion and sediment control practices designed in conformance with the technical standard, New York State Standards and Specifications for Erosion and Sediment Control, dated November 2016. Where erosion and sediment control practices are not designed in conformance with the design criteria included in the technical standard, the *owner or operator* must demonstrate *equivalence* to the technical standard. At a minimum, the erosion and sediment control component of the SWPPP shall include the following:

    a. Background information about the scope of the project, including the location, type and size of project

b. A site map/construction drawing(s) for the project, including a general location map. At a minimum, the site map shall show the total site area; all improvements; areas of disturbance; areas that will not be disturbed; existing vegetation; on-site and adjacent off-site surface water(s); floodplain/floodway boundaries; wetlands and drainage patterns that could be affected by the *construction activity*; existing and final contours ; locations of different soil types with boundaries; material, waste, borrow or equipment storage areas located on adjacent properties; and location(s) of the stormwater *discharge*(s);

c. A description of the soil(s) present at the site, including an identification of the Hydrologic Soil Group (HSG);

d. A construction phasing plan and sequence of operations describing the intended order of *construction activities*, including clearing and grubbing, excavation and grading, utility and infrastructure installation and any other activity at the site that results in soil disturbance;

e. A description of the minimum erosion and sediment control practices to be installed or implemented for each *construction activity* that will result in soil disturbance. Include a schedule that identifies the timing of initial placement or implementation of each erosion and sediment control practice and the minimum time frames that each practice should remain in place or be implemented;

f. A temporary and permanent soil stabilization plan that meets the requirements of this general permit and the technical standard, New York State Standards and Specifications for Erosion and Sediment Control, dated November 2016, for each stage of the project, including initial land clearing and grubbing to project completion and achievement of *final stabilization*;

g. A site map/construction drawing(s) showing the specific location(s), size(s), and length(s) of each erosion and sediment control practice;

h. The dimensions, material specifications, installation details, and operation and maintenance requirements for all erosion and sediment control practices. Include the location and sizing of any temporary sediment basins and structural practices that will be used to divert flows from exposed soils;

i. A maintenance inspection schedule for the contractor(s) identified in Part III.A.6. of this permit, to ensure continuous and effective operation of the erosion and sediment control practices. The maintenance inspection

schedule shall be in accordance with the requirements in the technical standard, New York State Standards and Specifications for Erosion and Sediment Control, dated November 2016;

j. A description of the pollution prevention measures that will be used to control litter, construction chemicals and construction debris from becoming a *pollutant* source in the stormwater *discharges*;

k. A description and location of any stormwater *discharges* associated with industrial activity other than construction at the site, including, but not limited to, stormwater *discharges* from asphalt plants and concrete plants located on the *construction site*; and

l. Identification of any elements of the design that are not in conformance with the design criteria in the technical standard, New York State Standards and Specifications for Erosion and Sediment Control, dated November 2016. Include the reason for the deviation or alternative design and provide information which demonstrates that the deviation or alternative design is *equivalent* to the technical standard.

2. Post-construction stormwater management practice component – The *owner or operator* of any construction project identified in Table 2 of Appendix B as needing post-construction stormwater management practices shall prepare a SWPPP that includes practices designed in conformance with the applicable *sizing criteria* in Part I.C.2.a., c. or d. of this permit and the *performance criteria* in the technical standard, New York State Stormwater Management Design Manual dated January 2015

   Where post-construction stormwater management practices are not designed in conformance with the *performance criteria* in the technical standard, the *owner or operator* must include in the SWPPP the reason(s) for the deviation or alternative design and provide information which demonstrates that the deviation or alternative design is *equivalent* to the technical standard.

   The post-construction stormwater management practice component of the SWPPP shall include the following:

   a. Identification of all post-construction stormwater management practices to be constructed as part of the project. Include the dimensions, material specifications and installation details for each post-construction stormwater management practice;

b. A site map/construction drawing(s) showing the specific location and size of each post-construction stormwater management practice;

c. A Stormwater Modeling and Analysis Report that includes:
   (i) Map(s) showing pre-development conditions, including watershed/subcatchments boundaries, flow paths/routing, and design points;

   (ii) Map(s) showing post-development conditions, including watershed/subcatchments boundaries, flow paths/routing, design points and post-construction stormwater management practices;

   (iii) Results of stormwater modeling (i.e. hydrology and hydraulic analysis) for the required storm events. Include supporting calculations (model runs), methodology, and a summary table that compares pre and post-development runoff rates and volumes for the different storm events;

   (iv) Summary table, with supporting calculations, which demonstrates that each post-construction stormwater management practice has been designed in conformance with the *sizing criteria* included in the Design Manual;

   (v) Identification of any *sizing criteria* that is not required based on the requirements included in Part I.C. of this permit; and

   (vi) Identification of any elements of the design that are not in conformance with the *performance criteria* in the Design Manual. Include the reason(s) for the deviation or alternative design and provide information which demonstrates that the deviation or alternative design is *equivalent* to the Design Manual;

d. Soil testing results and locations (test pits, borings);

e. Infiltration test results, when required; and

f. An operations and maintenance plan that includes inspection and maintenance schedules and actions to ensure continuous and effective operation of each post-construction stormwater management practice. The plan shall identify the entity that will be responsible for the long term operation and maintenance of each practice.

3. Enhanced Phosphorus Removal Standards - All construction projects identified in Table 2 of Appendix B that are located in the watersheds identified in Appendix C shall prepare a SWPPP that includes post-construction stormwater management practices designed in conformance with the applicable *sizing criteria* in Part I.C.2. b., c. or d. of this permit and the *performance criteria,* Enhanced Phosphorus Removal Standards included in the Design Manual. At a minimum, the post-construction stormwater management practice component of the SWPPP shall include items 2.a - 2.f. above.

C. Required SWPPP Components by Project Type

Unless otherwise notified by the Department, *owners or operators* of *construction activities* identified in Table 1 of Appendix B are required to prepare a SWPPP that only includes erosion and sediment control practices designed in conformance with Part III.B.1 of this permit. *Owners or operators* of the *construction activities* identified in Table 2 of Appendix B shall prepare a SWPPP that also includes post-construction stormwater management practices designed in conformance with Part III.B.2 or 3 of this permit.

Part IV. INSPECTION AND MAINTENANCE REQUIREMENTS

A. General Construction Site Inspection and Maintenance Requirements

1. The *owner or operator* must ensure that all erosion and sediment control practices (including pollution prevention measures) and all post-construction stormwater management practices identified in the SWPPP are inspected and maintained in accordance with Part IV.B. and C. of this permit.

2. The terms of this permit shall not be construed to prohibit the State of New York from exercising any authority pursuant to the ECL, common law or federal law, or prohibit New York State from taking any measures, whether civil or criminal, to prevent violations of the laws of the State of New York or protect the public health and safety and/or the environment.

B. Contractor Maintenance Inspection Requirements

1. The *owner or operator* of each *construction activity* identified in Tables 1 and 2 of Appendix B shall have a *trained contractor* inspect the erosion and sediment control practices and pollution prevention measures being implemented within the active work area daily to ensure that they are being maintained in effective operating condition at all times. If deficiencies are identified, the contractor shall

begin implementing corrective actions within one business day and shall complete the corrective actions in a reasonable time frame.

2. For construction sites where soil disturbance activities have been temporarily suspended (e.g. winter shutdown) and *temporary stabilization* measures have been applied to all disturbed areas, the *trained contractor* can stop conducting the maintenance inspections. The *trained contractor* shall begin conducting the maintenance inspections in accordance with Part IV.B.1. of this permit as soon as soil disturbance activities resume.

3. For construction sites where soil disturbance activities have been shut down with partial project completion, the *trained contractor* can stop conducting the maintenance inspections if all areas disturbed as of the project shutdown date have achieved *final stabilization* and all post-construction stormwater management practices required for the completed portion of the project have been constructed in conformance with the SWPPP and are operational.

C. Qualified Inspector Inspection Requirements

The *owner or operator* shall have a *qualified inspector* conduct site inspections in conformance with the following requirements:

[Note: The *trained contractor* identified in Part III.A.6. and IV.B. of this permit **cannot** conduct the *qualified inspector* site inspections unless they meet the *qualified inspector* qualifications included in Appendix A. In order to perform these inspections, the *trained contractor* would have to be a:

- licensed Professional Engineer,
- Certified Professional in Erosion and Sediment Control (CPESC),
- New York State Erosion and Sediment Control Certificate Program holder
- Registered Landscape Architect, or
- someone working under the direct supervision of, and at the same company as, the licensed Professional Engineer or Registered Landscape Architect, provided they have received four (4) hours of Department endorsed training in proper erosion and sediment control principles from a Soil and Water Conservation District, or other Department endorsed entity].

1. A *qualified inspector* shall conduct site inspections for all *construction activities* identified in Tables 1 and 2 of Appendix B, with the exception of:

   a. the construction of a single family residential subdivision with 25% or less *impervious cover* at total site build-out that involves a soil disturbance of one (1) or more acres of land but less than five (5) acres and is not located

in one of the watersheds listed in Appendix C and not directly discharging to one of the 303(d) segments listed in Appendix E;

b. the construction of a single family home that involves a soil disturbance of one (1) or more acres of land but less than five (5) acres and is not located in one of the watersheds listed in Appendix C and not directly discharging to one of the 303(d) segments listed in Appendix E;

c. construction on agricultural property that involves a soil disturbance of one (1) or more acres of land but less than five (5) acres; and

d. *construction activities* located in the watersheds identified in Appendix D that involve soil disturbances between five thousand (5,000) square feet and one (1) acre of land.

2. Unless otherwise notified by the Department, the *qualified inspector* shall conduct site inspections in accordance with the following timetable:

a. For construction sites where soil disturbance activities are on-going, the *qualified inspector* shall conduct a site inspection at least once every seven (7) calendar days.

b. For construction sites where soil disturbance activities are on-going and the *owner or operator* has received authorization in accordance with Part II.D.3 to disturb greater than five (5) acres of soil at any one time, the *qualified inspector* shall conduct at least two (2) site inspections every seven (7) calendar days. The two (2) inspections shall be separated by a minimum of two (2) full calendar days.

c. For construction sites where soil disturbance activities have been temporarily suspended (e.g. winter shutdown) and *temporary stabilization* measures have been applied to all disturbed areas, the *qualified inspector* shall conduct a site inspection at least once every thirty (30) calendar days. The *owner or operator* shall notify the DOW Water (SPDES) Program contact at the Regional Office (see contact information in Appendix F) or, in areas under the jurisdiction of a *regulated, traditional land use control MS4,* the *regulated, traditional land use control MS4* (provided the *regulated, traditional land use control MS4* is not the *owner or operator* of the *construction activity*) in writing prior to reducing the frequency of inspections.

d. For construction sites where soil disturbance activities have been shut down with partial project completion, the *qualified inspector* can stop conducting inspections if all areas disturbed as of the project shutdown date have achieved *final stabilization* and all post-construction stormwater management practices required for the completed portion of the project have been constructed in conformance with the SWPPP and are operational. The *owner or operator* shall notify the DOW Water (SPDES) Program contact at the Regional Office (see contact information in Appendix F) or, in areas under the jurisdiction of a *regulated, traditional land use control MS4,* the *regulated, traditional land use control MS4* (provided the *regulated, traditional land use control MS4* is not the *owner or operator* of the *construction activity*) in writing prior to the shutdown. If soil disturbance activities are not resumed within 2 years from the date of shutdown, the *owner or operator* shall have the *qualified inspector* perform a final inspection and certify that all disturbed areas have achieved *final stabilization,* and all temporary, structural erosion and sediment control measures have been removed*;* and that all post-construction stormwater management practices have been constructed in conformance with the SWPPP by signing the "*Final Stabilization*" and "Post-Construction Stormwater Management Practice" certification statements on the NOT. The *owner or operator* shall then submit the completed NOT form to the address in Part II.B.1 of this permit.

e. For construction sites that directly *discharge* to one of the 303(d) segments listed in Appendix E or is located in one of the watersheds listed in Appendix C, the *qualified inspector* shall conduct at least two (2) site inspections every seven (7) calendar days. The two (2) inspections shall be separated by a minimum of two (2) full calendar days.

3. At a minimum, the *qualified inspector* shall inspect all erosion and sediment control practices and pollution prevention measures to ensure integrity and effectiveness, all post-construction stormwater management practices under construction to ensure that they are constructed in conformance with the SWPPP, all areas of disturbance that have not achieved *final stabilization,* all points of *discharge* to natural surface waterbodies located within, or immediately adjacent to, the property boundaries of the *construction site*, and all points of *discharge* from the *construction site*.

4. The *qualified inspector* shall prepare an inspection report subsequent to each and every inspection. At a minimum, the inspection report shall include and/or address the following:

a. Date and time of inspection;

b. Name and title of person(s) performing inspection;

c. A description of the weather and soil conditions (e.g. dry, wet, saturated) at the time of the inspection;

d. A description of the condition of the runoff at all points of *discharge* from the *construction site*. This shall include identification of any *discharges* of sediment from the *construction site*. Include *discharges* from conveyance systems (i.e. pipes, culverts, ditches, etc.) and overland flow;

e. A description of the condition of all natural surface waterbodies located within, or immediately adjacent to, the property boundaries of the *construction site* which receive runoff from disturbed areas. This shall include identification of any *discharges* of sediment to the surface waterbody;

f. Identification of all erosion and sediment control practices and pollution prevention measures that need repair or maintenance;

g. Identification of all erosion and sediment control practices and pollution prevention measures that were not installed properly or are not functioning as designed and need to be reinstalled or replaced;

h. Description and sketch of areas with active soil disturbance activity, areas that have been disturbed but are inactive at the time of the inspection, and areas that have been stabilized (temporary and/or final) since the last inspection;

i. Current phase of construction of all post-construction stormwater management practices and identification of all construction that is not in conformance with the SWPPP and technical standards;

j. Corrective action(s) that must be taken to install, repair, replace or maintain erosion and sediment control practices and pollution prevention measures; and to correct deficiencies identified with the construction of the post-construction stormwater management practice(s);

k. Identification and status of all corrective actions that were required by previous inspection; and

l. Digital photographs, with date stamp, that clearly show the condition of all practices that have been identified as needing corrective actions. The *qualified inspector* shall attach paper color copies of the digital photographs to the inspection report being maintained onsite within seven (7) calendar days of the date of the inspection. The *qualified inspector* shall also take digital photographs, with date stamp, that clearly show the condition of the practice(s) after the corrective action has been completed. The *qualified inspector* shall attach paper color copies of the digital photographs to the inspection report that documents the completion of the corrective action work within seven (7) calendar days of that inspection.

5. Within one business day of the completion of an inspection, the *qualified inspector* shall notify the *owner or operator* and appropriate contractor or subcontractor identified in Part III.A.6. of this permit of any corrective actions that need to be taken. The contractor or subcontractor shall begin implementing the corrective actions within one business day of this notification and shall complete the corrective actions in a reasonable time frame.

6. All inspection reports shall be signed by the *qualified inspector.* Pursuant to Part II.D.2. of this permit, the inspection reports shall be maintained on site with the SWPPP.

Part V. TERMINATION OF PERMIT COVERAGE

A. Termination of Permit Coverage

1. An *owner or operator* that is eligible to terminate coverage under this permit must submit a completed NOT form to the address in Part II.B.1 of this permit. The NOT form shall be one which is associated with this permit, signed in accordance with Part VII.H of this permit.

2. An *owner or operator* may terminate coverage when one or more the following conditions have been met:

   a. Total project completion - All *construction activity* identified in the SWPPP has been completed; 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 source*s. It is a calculation of the maximum amount of a pollutant that a waterbody can receive on a daily basis and still meet *water quality standards*, and an allocation of that amount to the pollutant's sources. A TMDL stipulates wasteload allocations (WLAs) for *point source* discharges, load allocations (LAs) for *nonpoint source*s, and a margin of safety (MOS).

Trained Contractor - means an employee from the contracting (construction) company, identified in Part III.A.6., that has received four (4) hours of Department endorsed

training in proper erosion and sediment control principles from a Soil and Water Conservation District, or other Department endorsed entity. After receiving the initial training, the *trained contractor* shall receive four (4) hours of training every three (3) years.

It can also mean an employee from the contracting (construction) company, identified in Part III.A.6., that meets the *qualified inspector* qualifications (e.g. licensed Professional Engineer, Certified Professional in Erosion and Sediment Control (CPESC), Registered Landscape Architect, New York State Erosion and Sediment Control Certificate Program holder, or someone working under the direct supervision of, and at the same company as, the licensed Professional Engineer or Registered Landscape Architect, provided they have received four (4) hours of Department endorsed training in proper erosion and sediment control principles from a Soil and Water Conservation District, or other Department endorsed entity).

The *trained contractor* is responsible for the day to day implementation of the SWPPP.

Uniform Procedures Act (UPA) Permit - means a permit required under 6 NYCRR Part 621 of the Environmental Conservation Law (ECL), Article 70.

Water Quality Standard - means such measures of purity or quality for any waters in relation to their reasonable and necessary use as promulgated in 6 NYCRR Part 700 et seq.

APPENDIX B – Required SWPPP Components by Project Type

Table 1
Construction Activities that Require the Preparation of a SWPPP That Only Includes Erosion and Sediment Controls

The following construction activities that involve soil disturbances of one (1) or more acres of land, but less than five (5) acres:

- Single family home not located in one of the watersheds listed in Appendix C or not *directly discharging* to one of the 303(d) segments listed in Appendix E
- Single family residential subdivisions with 25% or less impervious cover at total site build-out and not located in one of the watersheds listed in Appendix C and not directly discharging to one of the 303(d) segments listed in Appendix E
- Construction of a barn or other *agricultural building*, silo, stock yard or pen.

The following construction activities that involve soil disturbances between five thousand (5000) square feet and one (1) acre of land:

All construction activities located in the watersheds identified in Appendix D that involve soil disturbances between five thousand (5,000) square feet and one (1) acre of land.

The following construction activities that involve soil disturbances of one (1) or more acres of land:

- Installation of underground, linear utilities; such as gas lines, fiber-optic cable, cable TV, electric, telephone, sewer mains, and water mains
- Environmental enhancement projects, such as wetland mitigation projects, stormwater retrofits and stream restoration projects
- Pond construction
- Linear bike paths running through areas with vegetative cover, including bike paths surfaced with an impervious cover
- Cross-country ski trails and walking/hiking trails
- Sidewalk, bike path or walking path projects, surfaced with an impervious cover, that are not part of residential, commercial or institutional development;
- Sidewalk, bike path or walking path projects, surfaced with an impervious cover, that include incidental shoulder or curb work along an existing highway to support construction of the sidewalk, bike path or walking path.
- Slope stabilization projects
- Slope flattening that changes the grade of the site, but does not significantly change the runoff characteristics

Table 1 (Continued) CONSTRUCTION ACTIVITIES THAT REQUIRE THE PREPARATION OF A SWPPP THAT ONLY INCLUDES EROSION AND SEDIMENT CONTROLS

The following construction activities that involve soil disturbances of one (1) or more acres of land:

- Spoil areas that will be covered with vegetation
- Vegetated open space projects (i.e. recreational parks, lawns, meadows, fields, downhill ski trails) excluding projects that *alter hydrology from pre to post development* conditions,
- Athletic fields (natural grass) that do not include the construction or reconstruction of *impervious area* and do not *alter hydrology from pre to post development* conditions
- Demolition project where vegetation will be established, and no redevelopment is planned
- Overhead electric transmission line project that does not include the construction of permanent access roads or parking areas surfaced with *impervious cover*
- Structural practices as identified in Table II in the "Agricultural Management Practices Catalog for Nonpoint Source Pollution in New York State", excluding projects that involve soil disturbances of greater than five acres and construction activities that include the construction or reconstruction of impervious area
- Temporary access roads, median crossovers, detour roads, lanes, or other temporary impervious areas that will be restored to pre-construction conditions once the construction activity is complete

Table 2

CONSTRUCTION ACTIVITIES THAT REQUIRE THE PREPARATION OF A SWPPP THAT INCLUDES POST-CONSTRUCTION STORMWATER MANAGEMENT PRACTICES

The following construction activities that involve soil disturbances of one (1) or more acres of land:

- Single family home located in one of the watersheds listed in Appendix C or *directly discharging* to one of the 303(d) segments listed in Appendix E
- Single family home that disturbs five (5) or more acres of land
- Single family residential subdivisions located in one of the watersheds listed in Appendix C or *directly discharging* to one of the 303(d) segments listed in Appendix E
- Single family residential subdivisions that involve soil disturbances of between one (1) and five (5) acres of land with greater than 25% impervious cover at total site build-out
- Single family residential subdivisions that involve soil disturbances of five (5) or more acres of land, and single family residential subdivisions that involve soil disturbances of less than five (5) acres that are part of a larger common plan of development or sale that will ultimately disturb five or more acres of land
- Multi-family residential developments; includes duplexes, townhomes, condominiums, senior housing complexes, apartment complexes, and mobile home parks
- Airports
- Amusement parks
- Breweries, cideries, and wineries, including establishments constructed on agricultural land
- Campgrounds
- Cemeteries that include the construction or reconstruction of impervious area (>5% of disturbed area) or *alter the hydrology from pre to post development* conditions
- Commercial developments
- Churches and other places of worship
- Construction of a barn or other *agricultural building* (e.g. silo) and structural practices as identified in Table II in the "Agricultural Management Practices Catalog for Nonpoint Source Pollution in New York State" that include the construction or reconstruction of *impervious area*, excluding projects that involve soil disturbances of less than five acres.
- Golf courses
- Institutional development; includes hospitals, prisons, schools and colleges
- Industrial facilities; includes industrial parks
- Landfills
- Municipal facilities; includes highway garages, transfer stations, office buildings, POTW's, water treatment plants, and water storage tanks
- Office complexes
- Playgrounds that include the construction or reconstruction of impervious area
- Sports complexes
- Racetracks; includes racetracks with earthen (dirt) surface
- Road construction or reconstruction, including roads constructed as part of the construction activities listed in Table 1

Table 2 (Continued)

CONSTRUCTION ACTIVITIES THAT REQUIRE THE PREPARATION OF A SWPPP THAT INCLUDES POST-CONSTRUCTION STORMWATER MANAGEMENT PRACTICES

The following construction activities that involve soil disturbances of one (1) or more acres of land:

- Parking lot construction or reconstruction, including parking lots constructed as part of the construction activities listed in Table 1
- Athletic fields (natural grass) that include the construction or reconstruction of impervious area (>5% of disturbed area) or *alter the hydrology from pre to post development* conditions
- Athletic fields with artificial turf
- Permanent access roads, parking areas, substations, compressor stations and well drilling pads, surfaced with *impervious cover,* and constructed as part of an over-head electric transmission line project, wind-power project, cell tower project, oil or gas well drilling project, sewer or water main project or other linear utility project
- Sidewalk, bike path or walking path projects, surfaced with an impervious cover, that are part of a residential, commercial or institutional development
- Sidewalk, bike path or walking path projects, surfaced with an impervious cover, that are part of a highway construction or reconstruction project
- All other construction activities that include the construction or reconstruction of *impervious area* 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

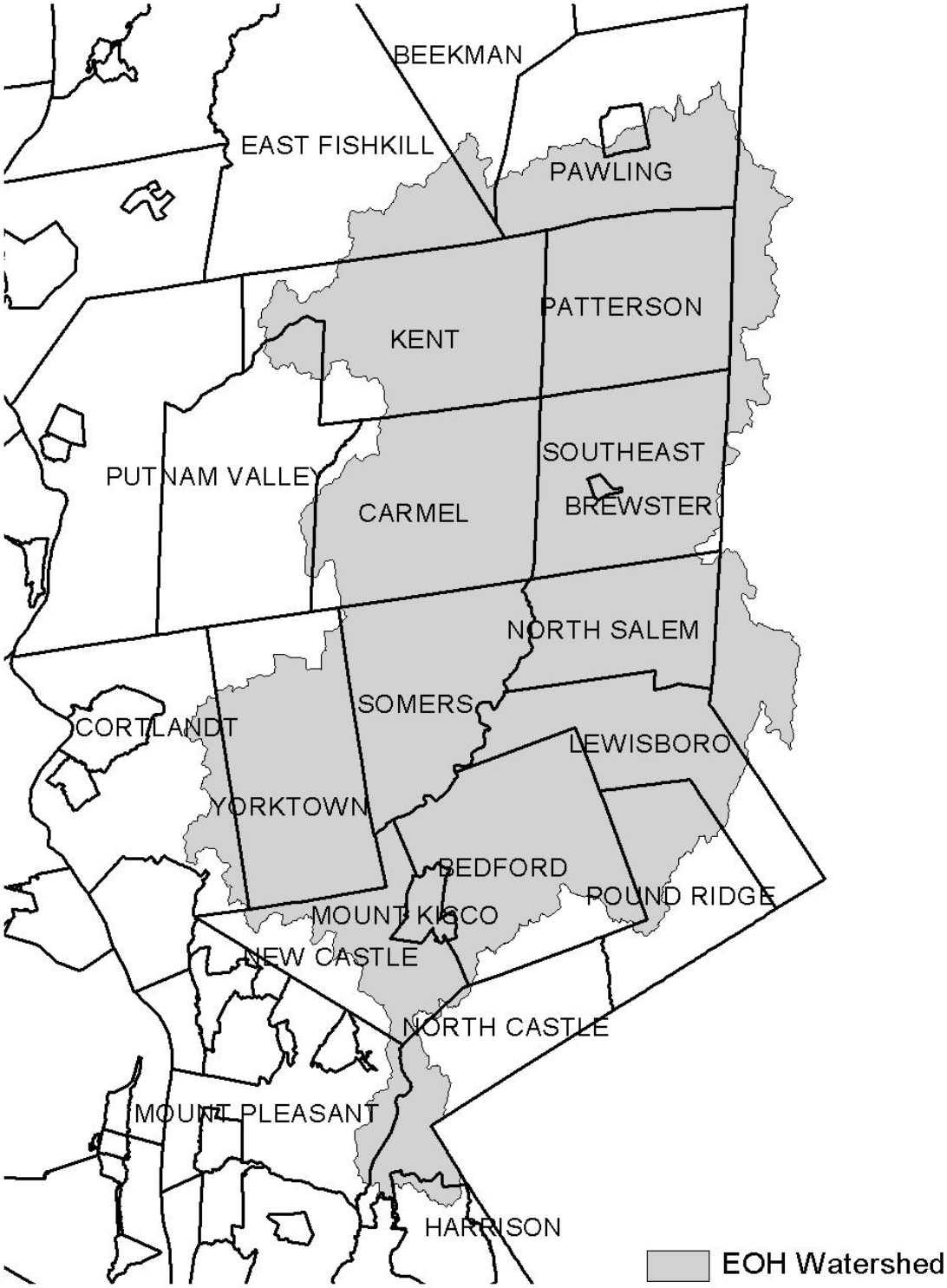


Figure 2 - Onondaga Lake Watershed

Figure 3 - Greenwood Lake Watershed

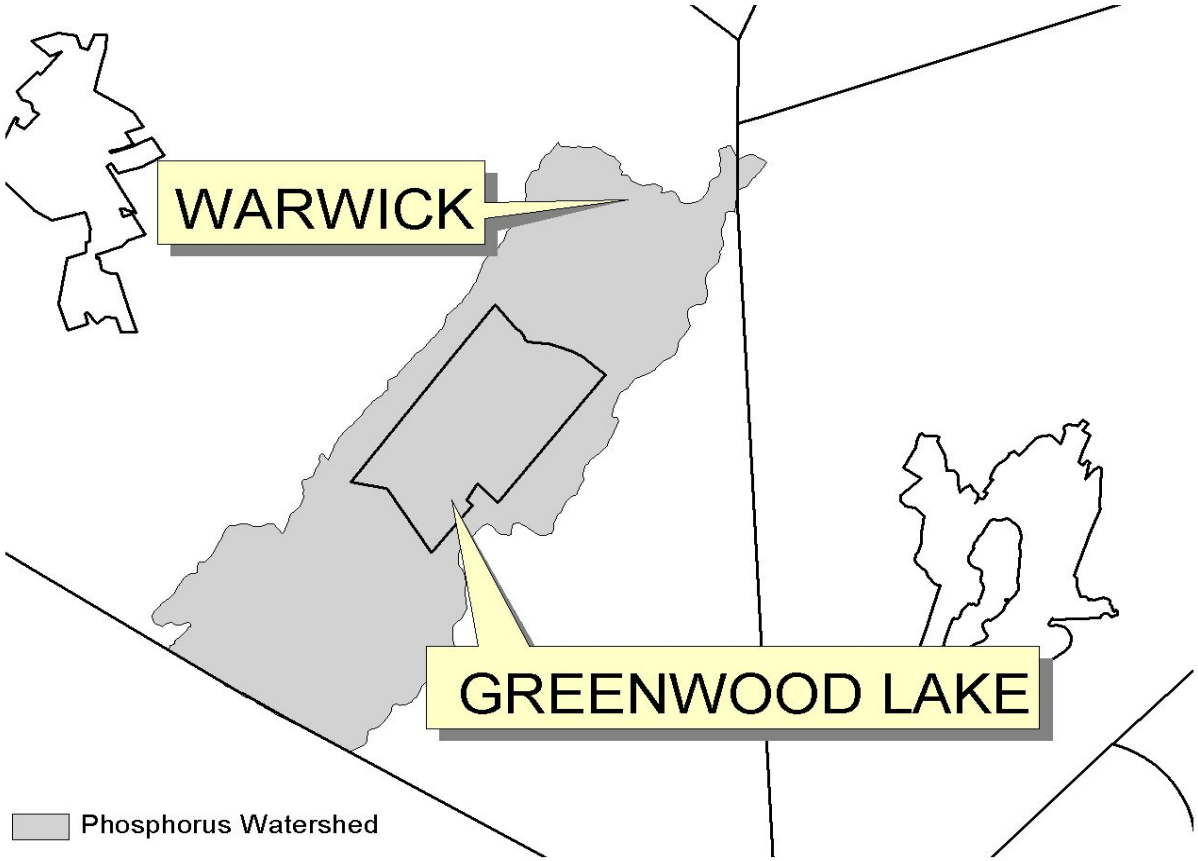


Figure 4 - Oscawana Lake Watershed

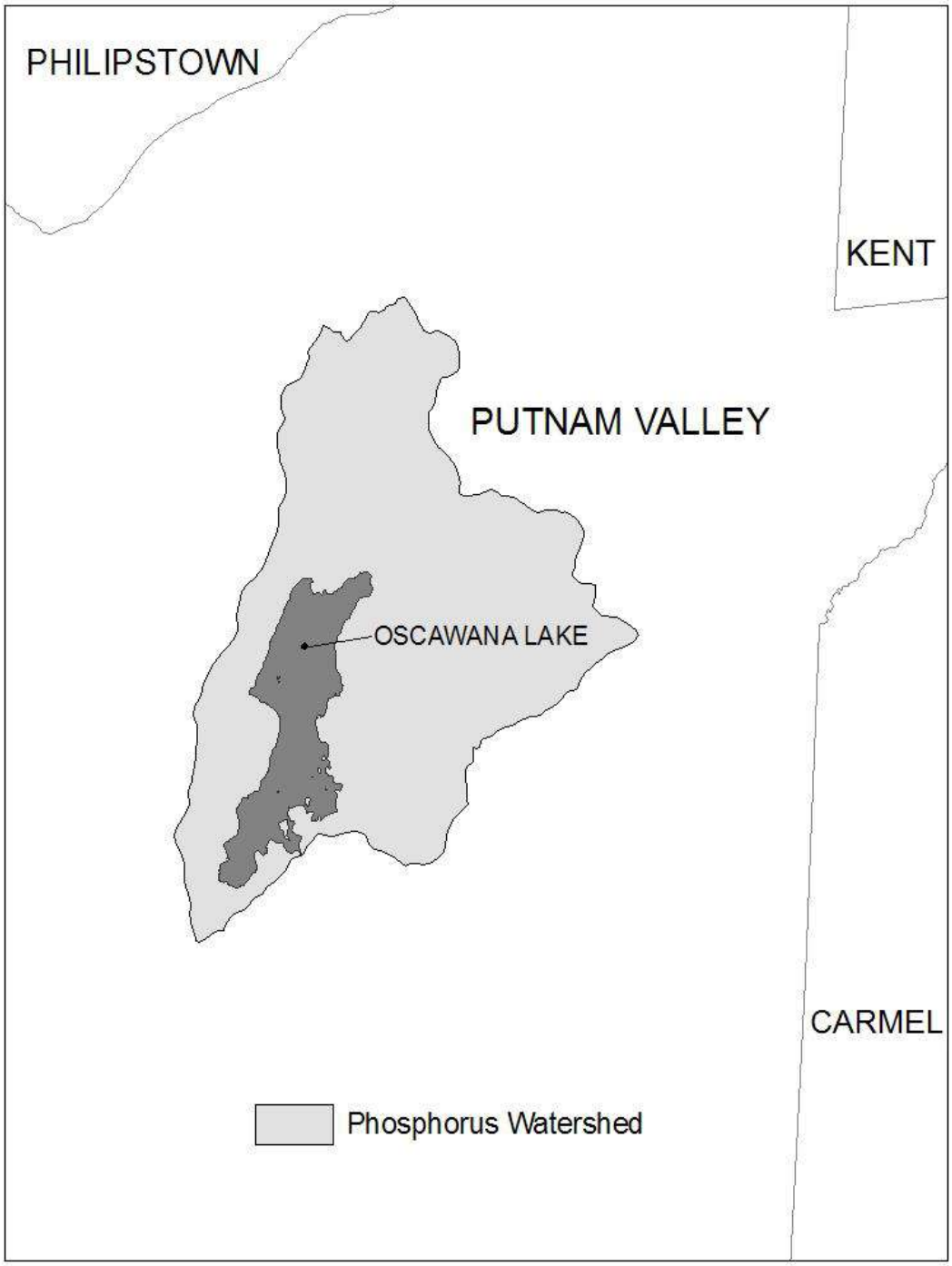
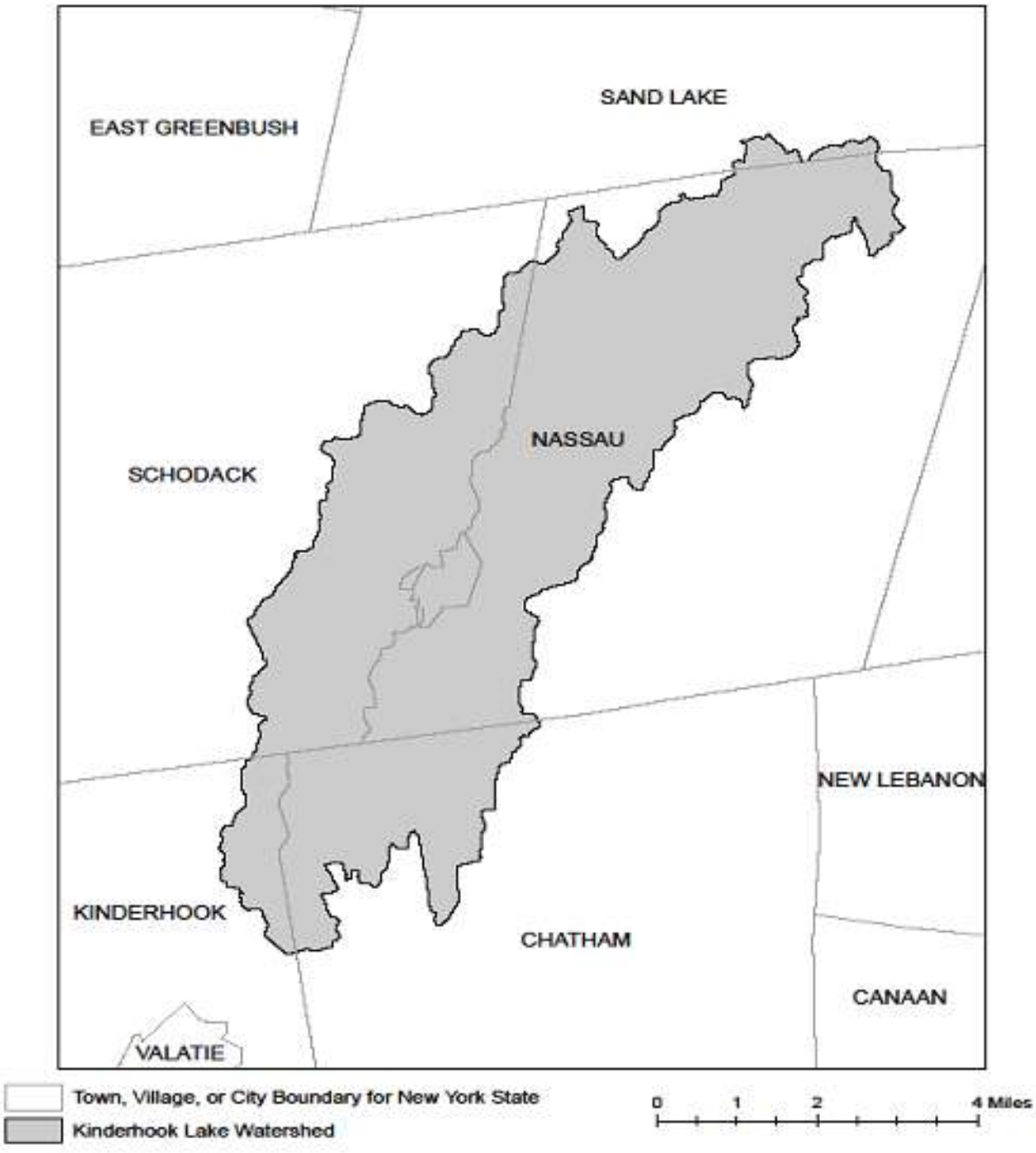


Figure 5 - Kinderhook Lake Watershed



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

Region	Covering the following counties:	DIVISION OF ENVIRONMENTAL PERMITS (DEP) Permit Administrators	DIVISION OF WATER (DOW) Water (SPDES) Program
1	Nassau and Suffolk	50 Circle Road Stony Brook, NY 11790 Tel. (631) 444-0365	50 Circle Road Stony Brook, NY 11790-3409 Tel. (631) 444-0405
2	Bronx, Kings, New York, Queens and Richmond	1 Hunters Point Plaza, 47-40 21st St. Long Island City, NY 11101-5407 Tel. (718) 482-4997	1 Hunters Point Plaza, 47-40 21st St. Long Island City, NY 11101-5407 Tel. (718) 482-4933
3	Dutchess, Orange, Putnam, Rockland, Sullivan, Ulster and Westchester	21 South Putt Corners Road New Paltz, NY 12561-1696 Tel. (845) 256-3059	100 Hillside Avenue, Suite 1w White Plains, NY 10603 Tel. (914) 428 - 2505
4	Albany, Columbia, Delaware, Greene, Montgomery, Otsego, Rensselaer, Schenectady and Schoharie	1150 North Westcott Road Schenectady, NY 12306-2014 Tel. (518) 357-2069	1130 North Westcott Road Schenectady, NY 12306-2014 Tel. (518) 357-2045
5	Clinton, Essex, Franklin, Fulton, Hamilton, Saratoga, Warren and Washington	1115 State Route 86, Po Box 296 Ray Brook, NY 12977-0296 Tel. (518) 897-1234	232 Golf Course Road Warrensburg, NY 12885-1172 Tel. (518) 623-1200
6	HERKIMER, JEFFERSON, LEWIS, ONEIDA AND ST. LAWRENCE	STATE OFFICE BUILDING 317 WASHINGTON STREET WATERTOWN, NY 13601-3787 TEL. (315) 785-2245	STATE OFFICE BUILDING 207 GENESEE STREET UTICA, NY 13501-2885 TEL. (315) 793-2554
7	BROOME, CAYUGA, CHENANGO, CORTLAND, MADISON, ONONDAGA, OSWEGO, TIOGA AND TOMPKINS	615 ERIE BLVD. WEST SYRACUSE, NY 13204-2400 TEL. (315) 426-7438	615 ERIE BLVD. WEST SYRACUSE, NY 13204-2400 TEL. (315) 426-7500
8	CHEMUNG, GENESEE, LIVINGSTON, MONROE, ONTARIO, ORLEANS, SCHUYLER, SENECA, STEUBEN, WAYNE AND YATES	6274 EAST AVON-LIMA ROADAVON, NY 14414-9519 TEL. (585) 226-2466	6274 EAST AVON-LIMA RD. AVON, NY 14414-9519 TEL. (585) 226-2466
9	ALLEGANY, CATTARAUGUS, CHAUTAUQUA, ERIE, NIAGARA AND WYOMING	270 MICHIGAN AVENUE BUFFALO, NY 14203-2999 TEL. (716) 851-7165	270 MICHIGAN AVENUE BUFFALO, NY 14203-2999 TEL. (716) 851-7070

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APPENDIX B

HVLF Irrigation Pond – Site Plan

HVLF Irrigation Pond – Erosion & Sediment Control Plan

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APPENDIX C

Site Inspection Log Book which includes:

NYSDEC Notice of Intent (NOI)

Acknowledgment of Notice of Intent

Pre-Construction Documents

Owner/Operator Certification

Contractor Certification

Subcontractor Certification

Qualified Professional Certification

Construction Inspection Reports

Monthly Summary

SWPPP Modification Form

NYSDEC Notice of Termination (NOT)

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NOTICE OF INTENT

New York State Department of Environmental Conservation
Division of Water
625 Broadway, 4th Floor
Albany, New York 12233-3505

NYR _____
(for DEC use only)

Stormwater Discharges Associated with Construction Activity Under State Pollutant Discharge Elimination System (SPDES) General Permit # GP-0-20-001

All sections must be completed unless otherwise noted. Failure to complete all items may result in this form being returned to you, thereby delaying your coverage under this General Permit. Applicants must read and understand the conditions of the permit and prepare a Stormwater Pollution Prevention Plan prior to submitting this NOI. Applicants are responsible for identifying and obtaining other DEC permits that may be required.

-IMPORTANT-

RETURN THIS FORM TO THE ADDRESS ABOVE

OWNER/OPERATOR MUST SIGN FORM

Owner/Operator Information

Owner/Operator (Company Name/Private Owner Name/Municipality Name)
Harlem Valley LLC

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

Owner/Operator Contact Person First Name
Juan

Owner/Operator Mailing Address
N 14605 73rd Street

City
Scottsdale

State
AZ

Zip
85260-____

Phone (Owner/Operator)
845-373-8020

Fax (Owner/Operator)
___-___-____

Email (Owner/Operator)
jtorres@stoneleafpartners.com

FED TAX ID
__-_____ (not required for individuals)

Project Site Information

Project/Site Name
HVLF Storage Pond

Street Address (NOT P.O. BOX)
4429 Route 22

Side of Street
○ **North** ○ **South** ○ **East** ● **West**

City/Town/Village (THAT ISSUES BUILDING PERMIT)
Town of Amenia

State: NY
Zip: 12501-
County: Dutchess
DEC Region: 3

Name of Nearest Cross Street
Deep Hollow Rd

Distance to Nearest Cross Street (Feet)
4522

Project In Relation to Cross Street
● **North** ○ **South** ○ **East** ○ **West**

Tax Map Numbers
Section-Block-Parcel
1320007066

Tax Map Numbers
00-910219

1. Provide the Geographic Coordinates for the project site. To do this, go to the NYSDEC Stormwater Interactive Map on the DEC website at:

https://gisservices.dec.ny.gov/gis/stormwater/

Zoom into your Project Location such that you can accurately click on the centroid of your site. Once you have located the centroid of your project site, go to the bottom right hand corner of the map for the X, Y coordinates. Enter the coordinates into the boxes below. For problems with the interactive map use the help function.

X Coordinates (Easting)
-7 6 1 9 2 1 3
Ex. -73.749

Y Coordinates (Northing)
4 6 3 0 6 2 7
Ex. 42.652

2. What is the nature of this construction project?

○ **New Construction**

○ **Redevelopment with increase in impervious area**

● **Redevelopment with no increase in impervious area**

3. Select the predominant land use for both pre and post development conditions.
SELECT ONLY ONE CHOICE FOR EACH

Pre-Development Existing Land Use	**Post-Development Future Land Use**
○ FOREST	○ SINGLE FAMILY HOME
○ PASTURE/OPEN LAND	○ SINGLE FAMILY SUBDIVISION
○ CULTIVATED LAND	○ TOWN HOME RESIDENTIAL
○ SINGLE FAMILY HOME	○ MULTIFAMILY RESIDENTIAL
○ SINGLE FAMILY SUBDIVISION	○ INSTITUTIONAL/SCHOOL
○ TOWN HOME RESIDENTIAL	○ INDUSTRIAL
○ MULTIFAMILY RESIDENTIAL	○ COMMERCIAL
○ INSTITUTIONAL/SCHOOL	○ MUNICIPAL
○ INDUSTRIAL	○ ROAD/HIGHWAY
○ COMMERCIAL	○ RECREATIONAL/SPORTS FIELD
○ ROAD/HIGHWAY	○ BIKE PATH/TRAIL
○ RECREATIONAL/SPORTS FIELD	○ LINEAR UTILITY (water, sewer, gas, etc.)
○ BIKE PATH/TRAIL	○ PARKING LOT
○ LINEAR UTILITY	○ CLEARING/GRADING ONLY
○ PARKING LOT	○ DEMOLITION, NO REDEVELOPMENT
● OTHER	○ WELL DRILLING ACTIVITY *(Oil, Gas, etc.)
Closed Landfill	● OTHER
	Closed Landfill

Number of Lots: [ ]

***Note**: for gas well drilling, non-high volume hydraulic fractured wells only

4. In accordance with the larger common plan of development or sale, enter the total project site area; the total area to be disturbed; existing impervious area to be disturbed (for redevelopment activities); and the future impervious area constructed within the disturbed area. (Round to the nearest tenth of an acre.)

Total Site Area	**Total Area To Be Disturbed**	**Existing Impervious Area To Be Disturbed**	**Future Impervious Area Within Disturbed Area**
81.6	3.6	0.0	0.0

5. Do you plan to disturb more than 5 acres of soil at any one time? ○ **Yes** ● **No**

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

A	**B**	**C**	**D**
100 %	00 %	00 %	00 %

7. Is this a phased project? ○ **Yes** ● **No**

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

Start Date 11/01/2020 – **End Date** 03/01/2021

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

Name

Tributary to the Amenia Brook

9a. Type of waterbody identified in Question 9?

- ○ Wetland / State Jurisdiction On Site (Answer 9b)
- ○ Wetland / State Jurisdiction Off Site
- ○ Wetland / Federal Jurisdiction On Site (Answer 9b)
- ○ Wetland / Federal Jurisdiction Off Site
- ○ Stream / Creek On Site
- ● Stream / Creek Off Site
- ○ River On Site
- ○ River Off Site
- ○ Lake On Site
- ○ Lake Off Site
- ○ Other Type On Site
- ○ Other Type Off Site

9b. How was the wetland identified?

- ● Regulatory Map
- ○ Delineated by Consultant
- ○ Delineated by Army Corps of Engineers
- ○ Other (identify)

10. Has the surface waterbody(ies) in question 9 been identified as a 303(d) segment in Appendix E of GP-0-20-001? ○ **Yes** ● **No**

11. Is this project located in one of the Watersheds identified in Appendix C of GP-0-20-001? ○ **Yes** ● **No**

12. Is the project located in one of the watershed areas associated with AA and AA-S classified waters? ○ **Yes** ● **No**
If no, skip question 13.

13. Does this construction activity disturb land with no existing impervious cover and where the Soil Slope Phase is identified as an E or F on the USDA Soil Survey? ○ **Yes** ● **No**
If Yes, what is the acreage to be disturbed?

14. Will the project disturb soils within a State regulated wetland or the protected 100 foot adjacent area? ● **Yes** ○ **No**

15. Does the site runoff enter a separate storm sewer system (including roadside drains, swales, ditches, culverts, etc)? ○ **Yes** ● **No** ○ **Unknown**

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

17. Does any runoff from the site enter a sewer classified as a Combined Sewer? ○ **Yes** ● **No** ○ **Unknown**

18. Will future use of this site be an agricultural property as defined by the NYS Agriculture and Markets Law? ○ **Yes** ● **No**

19. Is this property owned by a state authority, state agency, federal government or local government? ○ **Yes** ● **No**

20. Is this a remediation project being done under a Department approved work plan? (i.e. CERCLA, RCRA, Voluntary Cleanup Agreement, etc.) ○ **Yes** ● **No**

21. Has the required Erosion and Sediment Control component of the SWPPP been developed in conformance with the current NYS Standards and Specifications for Erosion and Sediment Control (aka Blue Book)? ● **Yes** ○ **No**

22. Does this construction activity require the development of a SWPPP that includes the post-construction stormwater management practice component (i.e. Runoff Reduction, Water Quality and Quantity Control practices/techniques)? ○ **Yes** ● **No**
If No, skip questions 23 and 27-39.

23. Has the post-construction stormwater management practice component of the SWPPP been developed in conformance with the current NYS Stormwater Management Design Manual? ○ **Yes** ● **No**

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

- ● **Professional Engineer (P.E.)**
- ○ **Soil and Water Conservation District (SWCD)**
- ○ **Registered Landscape Architect (R.L.A)**
- ○ **Certified Professional in Erosion and Sediment Control (CPESC)**
- ○ **Owner/Operator**
- ○ **Other**

SWPPP Preparer
Rennia Engineering Design, PLLC.

Contact Name (Last, Space, First)
Rennia, Richard

Mailing Address
P.O. Box 400

City
Dover Plains

State Zip
NY 12522-

Phone
845-877-0555

Fax
845-877-0556

Email
rich@renniadesign.com

SWPPP Preparer Certification

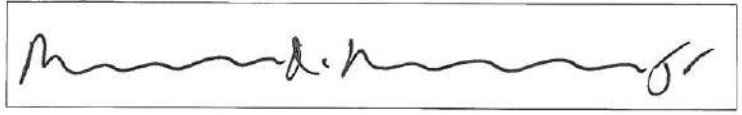
I hereby certify that the Stormwater Pollution Prevention Plan (SWPPP) for this project has been prepared in accordance with the terms and conditions of the GP-0-20-001. Furthermore, I understand that certifying false, incorrect or inaccurate information is a violation of this permit and the laws of the State of New York and could subject me to criminal, civil and/or administrative proceedings.

First Name
Richard

MI
A

Last Name
Rennia, Jr.

Signature



Date
12/02/2020

25. Has a construction sequence schedule for the planned management practices been prepared? ● Yes ○ No

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

Temporary Structural

- ○ Check Dams
- ○ Construction Road Stabilization
- ○ Dust Control
- ○ Earth Dike
- ○ Level Spreader
- ○ Perimeter Dike/Swale
- ○ Pipe Slope Drain
- ○ Portable Sediment Tank
- ○ Rock Dam
- ○ Sediment Basin
- ○ Sediment Traps
- ● Silt Fence
- ● Stabilized Construction Entrance
- ○ Storm Drain Inlet Protection
- ○ Straw/Hay Bale Dike
- ○ Temporary Access Waterway Crossing
- ○ Temporary Stormdrain Diversion
- ○ Temporary Swale
- ○ Turbidity Curtain
- ○ Water bars

Biotechnical

- ○ Brush Matting
- ○ Wattling

Vegetative Measures

- ○ Brush Matting
- ○ Dune Stabilization
- ○ Grassed Waterway
- ● Mulching
- ○ Protecting Vegetation
- ○ Recreation Area Improvement
- ● Seeding
- ● Sodding
- ○ Straw/Hay Bale Dike
- ○ Streambank Protection
- ○ Temporary Swale
- ○ Topsoiling
- ○ Vegetating Waterways

Permanent Structural

- ○ Debris Basin
- ○ Diversion
- ○ Grade Stabilization Structure
- ● Land Grading
- ● Lined Waterway (Rock)
- ○ Paved Channel (Concrete)
- ○ Paved Flume
- ○ Retaining Wall
- ○ Riprap Slope Protection
- ○ Rock Outlet Protection
- ○ Streambank Protection

Other

Post-construction Stormwater Management Practice (SMP) Requirements

Important: Completion of Questions 27-39 is not required if response to Question 22 is No.

27. Identify all site planning practices that were used to prepare the final site plan/layout for the project.

- ○ **Preservation of Undisturbed Areas**
- ○ **Preservation of Buffers**
- ○ **Reduction of Clearing and Grading**
- ○ **Locating Development in Less Sensitive Areas**
- ○ **Roadway Reduction**
- ○ **Sidewalk Reduction**
- ○ **Driveway Reduction**
- ○ **Cul-de-sac Reduction**
- ○ **Building Footprint Reduction**
- ○ **Parking Reduction**

27a. Indicate which of the following soil restoration criteria was used to address the requirements in Section 5.1.6("Soil Restoration") of the Design Manual (2010 version).

- ○ All disturbed areas will be restored in accordance with the Soil Restoration requirements in Table 5.3 of the Design Manual (see page 5-22).
- ○ Compacted areas were considered as impervious cover when calculating the **WQv Required**, and the compacted areas were assigned a post-construction Hydrologic Soil Group (HSG) designation that is one level less permeable than existing conditions for the hydrology analysis.

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

Total WQv Required

			.				**acre-feet**

29. Identify the RR techniques (Area Reduction), RR techniques(Volume Reduction) and Standard SMPs with RRv Capacity in Table 1 (See Page 9) that were used to reduce the Total WQv Required(#28).

Also, provide in Table 1 the total impervious area that contributes runoff to each technique/practice selected. For the Area Reduction Techniques, provide the total contributing area (includes pervious area) and, if applicable, the total impervious area that contributes runoff to the technique/practice.

Note: Redevelopment projects shall use Tables 1 and 2 to identify the SMPs used to treat and/or reduce the WQv required. If runoff reduction techniques will not be used to reduce the required WQv, skip to question 33a after identifying the SMPs.

Table 1 - Runoff Reduction (RR) Techniques and Standard Stormwater Management Practices (SMPs)

	Total Contributing Area (acres)		Total Contributing Impervious Area (acres)
RR Techniques (Area Reduction)			
○ Conservation of Natural Areas (RR-1)		and/or	
○ Sheetflow to Riparian Buffers/Filters Strips (RR-2)		and/or	
○ Tree Planting/Tree Pit (RR-3)		and/or	
○ Disconnection of Rooftop Runoff (RR-4)		and/or	
RR Techniques (Volume Reduction)			
○ Vegetated Swale (RR-5)			
○ Rain Garden (RR-6)			
○ Stormwater Planter (RR-7)			
○ Rain Barrel/Cistern (RR-8)			
○ Porous Pavement (RR-9)			
○ Green Roof (RR-10)			
Standard SMPs with RRv Capacity			
○ Infiltration Trench (I-1)			
○ Infiltration Basin (I-2)			
○ Dry Well (I-3)			
○ Underground Infiltration System (I-4)			
○ Bioretention (F-5)			
○ Dry Swale (O-1)			
Standard SMPs			
○ Micropool Extended Detention (P-1)			
○ Wet Pond (P-2)			
○ Wet Extended Detention (P-3)			
○ Multiple Pond System (P-4)			
○ Pocket Pond (P-5)			
○ Surface Sand Filter (F-1)			
○ Underground Sand Filter (F-2)			
○ Perimeter Sand Filter (F-3)			
○ Organic Filter (F-4)			
○ Shallow Wetland (W-1)			
○ Extended Detention Wetland (W-2)			
○ Pond/Wetland System (W-3)			
○ Pocket Wetland (W-4)			
○ Wet Swale (O-2)			

Table 2 - Alternative SMPs (DO NOT INCLUDE PRACTICES BEING USED FOR PRETREATMENT ONLY)

Alternative SMP	Total Contributing Impervious Area(acres)
○ **Hydrodynamic**	
○ **Wet Vault**	
○ **Media Filter**	
○ **Other**	

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

Name

Manufacturer

Note: Redevelopment projects which do not use RR techniques, shall use questions 28, 29, 33 and 33a to provide SMPs used, total WQv required and total WQv provided for the project.

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

Total RRv provided

. **acre-feet**

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

○ **Yes** ○ **No**

If Yes, go to question 36.
If No, go to question 32.

32. Provide the Minimum RRv required based on HSG.
[Minimum RRv Required = (P)(0.95)(Ai)/12, Ai=(S)(Aic)]

Minimum RRv Required

. **acre-feet**

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

○ **Yes** ○ **No**

If Yes, go to question 33.
Note: Use the space provided in question #39 to summarize the specific site limitations and justification for not reducing 100% of WQv required (#28). A detailed evaluation of the specific site limitations and justification for not reducing 100% of the WQv required (#28) must also be included in the SWPPP.
If No, sizing criteria has not been met, so NOI can not be processed. SWPPP preparer must modify design to meet sizing criteria.

33. Identify the Standard SMPs in Table 1 and, if applicable, the Alternative SMPs in Table 2 that were used to treat the remaining total WQv(=Total WQv Required in 28 - Total RRv Provided in 30).

Also, provide in Table 1 and 2 the total impervious area that contributes runoff to each practice selected.

Note: Use Tables 1 and 2 to identify the SMPs used on Redevelopment projects.

33a. Indicate the Total WQv provided (i.e. WQv treated) by the SMPs identified in question #33 and Standard SMPs with RRv Capacity identified in question 29.

WQv Provided

[ ][ ][ ].[ ][ ][ ] **acre-feet**

Note: For the standard SMPs with RRv capacity, the WQv provided by each practice = the WQv calculated using the contributing drainage area to the practice - RRv provided by the practice. (See Table 3.5 in Design Manual)

34. Provide the sum of the Total RRv provided (#30) and the WQv provided (#33a). [ ][ ][ ].[ ][ ][ ]

35. Is the sum of the RRv provided (#30) and the WQv provided (#33a) greater than or equal to the total WQv required (#28)? ○ **Yes** ○ **No**

If Yes, go to question 36.
If No, sizing criteria has not been met, so NOI can not be processed. SWPPP preparer must modify design to meet sizing criteria.

36. Provide the total Channel Protection Storage Volume (CPv) required and provided or select waiver (36a), if applicable.

CPv Required

[ ][ ][ ].[ ][ ][ ] **acre-feet**

CPv Provided

[ ][ ][ ].[ ][ ][ ] **acre-feet**

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

○ Site discharges directly to tidal waters or a fifth order or larger stream.

○ Reduction of the total CPv is achieved on site through runoff reduction techniques or infiltration systems.

37. Provide the Overbank Flood (Qp) and Extreme Flood (Qf) control criteria or select waiver (37a), if applicable.

Total Overbank Flood Control Criteria (Qp)

Pre-Development

[ ][ ][ ].[ ][ ][ ] **CFS**

Post-development

[ ][ ][ ].[ ][ ][ ] **CFS**

Total Extreme Flood Control Criteria (Qf)

Pre-Development

[ ][ ][ ].[ ][ ][ ] **CFS**

Post-development

[ ][ ][ ].[ ][ ][ ] **CFS**

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

- ○ Site discharges directly to tidal waters or a fifth order or larger stream.
- ○ Downstream analysis reveals that the Qp and Qf controls are not required

38. Has a long term Operation and Maintenance Plan for the post-construction stormwater management practice(s) been developed? ○ **Yes** ○ **No**

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

39. Use this space to summarize the specific site limitations and justification for not reducing 100% of WQv required(#28). (See question 32a) This space can also be used for other pertinent project information.

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

- ○ Air Pollution Control
- ○ Coastal Erosion
- ○ Hazardous Waste
- ○ Long Island Wells
- ○ Mined Land Reclamation
- ○ Solid Waste
- ○ Navigable Waters Protection / Article 15
- ○ Water Quality Certificate
- ○ Dam Safety
- ○ Water Supply
- ○ Freshwater Wetlands/Article 24
- ○ Tidal Wetlands
- ○ Wild, Scenic and Recreational Rivers
- ○ Stream Bed or Bank Protection / Article 15
- ○ Endangered or Threatened Species(Incidental Take Permit)
- ○ Individual SPDES
- ○ SPDES Multi-Sector GP [N][Y][R][ ][ ][ ][ ][ ][ ]
- ○ Other [ ]
- ○ None

41. Does this project require a US Army Corps of Engineers Wetland Permit? ○ **Yes** ● **No**
If Yes, Indicate Size of Impact. [ ][ ][ ][ ][ ].[ ]

42. Is this project subject to the requirements of a regulated, traditional land use control MS4? ○ **Yes** ● **No**
(If No, skip question 43)

43. Has the "MS4 SWPPP Acceptance" form been signed by the principal executive officer or ranking elected official and submitted along with this NOI? ○ **Yes** ● **No**

44. If this NOI is being submitted for the purpose of continuing or transferring coverage under a general permit for stormwater runoff from construction activities, please indicate the former SPDES number assigned. [N][Y][R][ ][ ][ ][ ][ ][ ]

DocuSign Envelope ID: FB3175C3-4C33-47C6-88BA-0EA9EB05B101

3547089826

Owner/Operator Certification

I have read or been advised of the permit conditions and believe that I understand them. I also understand that, under the terms of the permit, there may be reporting requirements. I hereby certify that this document and the corresponding documents were prepared under my direction or supervision. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations. I further understand that coverage under the general permit will be identified in the acknowledgment that I will receive as a result of submitting this NOI and can be as long as sixty (60) business days as provided for in the general permit. I also understand that, by submitting this NOI, I am acknowledging that the SWPPP has been developed and will be implemented as the first element of construction, and agreeing to comply with all the terms and conditions of the general permit for which this NOI is being submitted.

Print First Name: Juan

MI:

Print Last Name: Torres

Owner/Operator Signature: DocuSigned by: Juan Torres 4F5ACCA6E884449...

Date: 12/17/2020

PRE-CONSTRUCTION MEETING DOCUMENTS

Project Name _**HVLF Water Storage Pond, Amenia, NY**_
Permit No. _____ **Date of Authorization**_____
Name of Operator: _____
Prime Contractor: _____

a. Preamble to Site Assessment and Inspections -The Following Information To Be Read By All Person's Involved in The Construction of Stormwater Related Activities:

The Operator agrees to have a qualified professional[1] conduct an assessment of the site prior to the commencement of construction[2] and certify in this inspection report that the appropriate erosion and sediment controls described in the SWPPP have been adequately installed or implemented to ensure overall preparedness of the site for the commencement of construction.

Prior to the commencement of construction, the Operator shall certify in this site logbook that the SWPPP has been prepared in accordance with the State's standards and meets all Federal, State and local erosion and sediment control requirements.

When construction starts, site inspections shall be conducted by the qualified professional at least every 7 calendar days and within 24 hours of the end of a storm event of 0.5 inches or greater (Construction Duration Inspections). The Operator shall maintain a record of all inspection reports in this site logbook. The site logbook shall be maintained on site and be made available to the permitting authorities upon request. The Operator shall post at the site, in a publicly accessible location, a summary of the site inspection activities on a monthly basis (Monthly Summary Report).

The operator shall also prepare a written summary of compliance with this general permit at a minimum frequency of every three months (Operator's Compliance Response Form), while coverage exists. The summary should address the status of achieving each component of the SWPPP.

Prior to filing the Notice of Termination or the end of permit term, the Operator shall have a qualified professional perform a final site inspection. The qualified professional shall certify that the site has undergone final stabilization[3] using either vegetative or structural stabilization methods and that all temporary erosion and sediment controls (such as silt fencing) not needed for long-term erosion control have been removed. In addition, the Operator must identify and certify that all permanent structures described in the SWPPP have been constructed and provide the owner(s) with an operation and maintenance plan that ensures the structure(s) continuously functions as designed.

1 "Qualified Professional means a person knowledgeable in the principles and practice of erosion and sediment controls, such as a Certified Professional in Erosion and Sediment Control (CPESC), soil scientist, licensed engineer or someone working under the direction and supervision of a licensed engineer (person must have experience in the principles and practices of erosion and sediment control).

2 "Commencement of construction" means the initial removal of vegetation and disturbance of soils associated with clearing, grading or excavating activities or other construction activities.

3 "Final stabilization" means that all soil-disturbing activities at the site have been completed and a uniform, perennial vegetative cover with a density of eighty (80) percent has been established or equivalent stabilization measures (such as the use of mulches or geotextiles) have been employed on all unpaved areas and areas not covered by permanent structures.

Pre-construction Site Assessment Checklist

1. Notice of Intent, SWPPP, and Contractors Certification:

Yes No NA

[ ] [ ] [ ] Has a Notice of Intent been filed with the NYS Department of Conservation?
[ ] [ ] [ ] Is the SWPPP on-site? Where?_____
[ ] [ ] [ ] Is the Plan current? What is the latest revision date?_____
[ ] [ ] [ ] Is a copy of the NOI (with brief description) onsite? Where?_____
[ ] [ ] [ ] Have all contractors involved with stormwater related activities signed a contractor's certification?

2. Resource Protection

Yes No NA

[ ] [ ] [ ] Are construction limits clearly flagged or fenced?
[ ] [ ] [ ] Important trees and associated rooting zones, on-site septic system absorption fields, existing vegetated areas suitable for filter strips, especially in perimeter areas, have been flagged for protection.
[ ] [ ] [ ] Creek crossings installed prior to land-disturbing activity, including clearing and blasting.

3. Surface Water Protection

Yes No NA

[ ] [ ] [ ] Clean stormwater runoff has been diverted from areas to be disturbed.
[ ] [ ] [ ] Bodies of water located either on site or in the vicinity of the site have been identified and protected.
[ ] [ ] [ ] Appropriate practices to protect on-site or downstream surface water are installed.
[ ] [ ] [ ] Are clearing and grading operations divided into areas <5 acres?

4. Stabilized Construction Entrance

Yes No NA

[ ] [ ] [ ] A temporary construction entrance to capture mud and debris from construction vehicles before they enter the public highway has been installed.
[ ] [ ] [ ] Other access areas (entrances, construction routes, equipment parking areas) are stabilized immediately as work takes place with gravel or other cover.
[ ] [ ] [ ] Sediment tracked onto public streets is removed or cleaned on a regular basis.

5. Perimeter Sediment Controls

Yes No NA

[ ] [ ] [ ] Silt fence material and installation comply with the standard drawing and specifications.
[ ] [ ] [ ] Silt fences are installed at appropriate spacing intervals
[ ] [ ] [ ] Sediment/detention basin was installed as first land disturbing activity.
[ ] [ ] [ ] Sediment traps and barriers are installed.

6. Pollution Prevention for Waste and Hazardous Materials

Yes No NA

[ ] [ ] [ ] The Operator or designated representative has been assigned to implement the spill prevention avoidance and response plan.
[ ] [ ] [ ] The plan is contained in the SWPPP on page _____
[ ] [ ] [ ] Appropriate materials to control spills are onsite. Where? _____

OWNER/OPERATOR'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 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 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. "

Area of Responsibility:

Company Name (please print):_____

Individual Name (please print):_____

Title _____ **Date:**_____

Address: _____

Phone: _____ **Email:**_____

Signature:_____

Trained Contractor Name (please print):_____

Trained Contractor Title:_____

CONTRACTORS 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 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 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. "

Area of Responsibility:

Company Name (please print): _____

Individual Name (please print): _____

Title _____ **Date:** _____

Address: _____

Phone: _____ **Email:** _____

Signature: _____

Trained Contractor Name (please print): _____

Trained Contractor Title: _____

SUBCONTRACTORS 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 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 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. "

Area of Responsibility:

Company Name (please print):_____

Individual Name (please print):_____

Title _____ **Date:**_____

Address: _____

Phone: _____ **Email:**_____

Signature:_____

Trained Contractor Name (please print):_____

Trained Contractor Title:_____

QUALIFIED PROFESSIONAL'S CREDENTIALS & CERTIFICATION

" I hereby certify that I meet the criteria set forth in the General Permit to conduct site inspections for this project and that the appropriate erosion and sediment controls described in the SWPPP and as described in the Pre-construction Site Assessment Checklist have been adequately installed or implemented, ensuring the overall preparedness of this site for the commencement of construction."

Area of Responsibility:

Company Name (please print):_____

Individual Name (please print):_____

Title _____ **Date:**_____

Address: _____

Phone: _____ **Email:**_____

Signature:_____

Qualified Inspector Name (please print):_____

Qualified Inspector Title:_____

Stormwater Construction Site Inspection Report

General Information			
Project Name	HVLF Water Storage Pond – Amenia, NY		
SPDES Tracking No.	NYR-	**Municipality/County**	Town of Amenia / Dutchess County
Date of Inspection		**Start Time**	**End Time**
Inspector's Name(s)			
Inspector's Title(s)			
Inspector's Signature			
Inspector's Contact Information	Rennia Engineering 6 Dover Village Plaza, Suite 5 Dover Plains, NY 12522 (845) 877-0555		
Inspector's Qualifications			
Describe present phase of construction			
Type of Inspection: x Regular ❑ Pre-storm event ❑ During storm event ❑ Post-storm event			
Weather Information			
Has there been a storm event since the last inspection? ❑Yes ❑No **If yes, provide:** Storm Start Date & Time: Storm Duration (hrs): Approximate Amount of Precipitation (in):			
Weather at time of this inspection? ❑ Clear ❑Cloudy ❑ Rain ❑ Sleet ❑ Fog ❑ Snowing ❑ High Winds ❑ Other: Temperature:			
Have any discharges occurred since the last inspection? ❑Yes ❑No **If yes, describe:**			
Are there any discharges at the time of inspection? ❑Yes ❑ No **If yes, describe:**			

Site-specific SMPs

	SMP	SMP Installed?	SMP Maintenance Required?	Corrective Action Needed and Notes
1	Silt Fence	❑Yes ❑No	❑Yes ❑No	
2	Stabilized Construction Entrance	❑Yes ❑No	❑Yes ❑No	
3	Emergency Spillway	❑Yes ❑No	❑Yes ❑No	
4	Site Grading	❑Yes ❑No	❑Yes ❑No	

Insert E&SC Plan on this page

Overall Site Issues

	SWMP/Activity	Implemented?	Maintenance Required?	Corrective Action Needed and Notes
1	Are all slopes and disturbed areas not actively being worked properly stabilized?	❑Yes ❑No ❑NA	❑Yes ❑No ❑NA	
2	Are natural resource areas (e.g., streams, wetlands, mature trees, etc.) protected with barriers or similar SWMPs?	❑Yes ❑No ❑NA	❑Yes ❑No ❑NA	
3	Are perimeter controls and sediment barriers adequately installed (keyed into substrate) and maintained?	❑Yes ❑No ❑NA	❑Yes ❑No ❑NA	
4	Are discharge points and receiving waters free of any sediment deposits?	❑Yes ❑No ❑NA	❑Yes ❑No ❑NA	
5	Are storm drain inlets properly protected?	❑Yes ❑No ❑NA	❑Yes ❑No ❑NA	
6	Is the construction exit preventing sediment from being tracked into the street?	❑Yes ❑No ❑NA	❑Yes ❑No ❑NA	
7	Is trash/litter from work areas collected and placed in covered dumpsters?	❑Yes ❑No ❑NA	❑Yes ❑No ❑NA	
8	Are washout facilities (e.g., paint, stucco, concrete) available, clearly marked, and maintained?	❑Yes ❑No ❑NA	❑Yes ❑No ❑NA	
9	Are vehicle and equipment fueling, cleaning, and maintenance areas free of spills, leaks, or any other deleterious material?	❑Yes ❑No ❑NA	❑Yes ❑No ❑NA	
10	Are materials that are potential stormwater contaminants stored inside or under cover?	❑Yes ❑No ❑NA	❑Yes ❑No ❑NA	
11	Are non-stormwater discharges (e.g., wash water, dewatering) properly controlled?	❑Yes ❑No ❑NA	❑Yes ❑No ❑NA	

Monthly Summary of Site Inspection Activities

Name of Permitted Facility: **HVLF Water Storage Pond**	Today's Date:	Reporting Month:
Location: **4429 Route 22, Amenia, NY**	Permit Identification #:	
Name and Telephone Number of Site Inspector: **Rennia Engineering Design, PLLC 845-877-0555**		

Date of Inspection	Regular / Rainfall based Inspection	Name of Inspector	Items of Concern

Owner/Operator Certification:

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

_____ _____

Signature of Permittee or Duly Authorized Representative Name of Permittee or Duly Authorized Representative date

Duly authorized representatives must have written authorization, submitted to DEC, to sign any permit documents.

SITE INSPECTION MODIFICATIONS TO THE SWPPP

The Operator shall amend the SWPPP whenever:

1. There is a significant change in design, construction, operation, or maintenance which may have a significant effect on the potential for the discharge of pollutants to the waters of the United States and which has not otherwise been addressed in the SWPPP; or

2. The SWPPP proves to be ineffective in:

a. Eliminating or significantly minimizing pollutants from sources identified in the SWPPP and as required by this permit; or

b. Achieving the general objectives of controlling pollutants in stormwater discharges from permitted construction activity; and

3. Additionally, the SWPPP shall be amended to identify any new contractor or subcontractor that will implement any measure of the SWPPP.

Modification & Reason:

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:

5. 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)?

Owner

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, the deed of record has been modified to include a deed covenant that requires operation and maintenance of the practice(s) in accordance with the operation and maintenance plan.
- ☐ For post-construction stormwater management practices that are owned by a public or private institution (e.g. school, college, university), or government agency or authority, 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 2010)

APPENDIX D

CRIS Map

FIRM Map

ERM Map

Site Historical Aerial Photo Review

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National Flood Hazard Layer FIRMette

FEMA

73°34'11"W 41°49'20"N

0 250 500 1,000 1,500 2,000 Feet

1:6,000

73°33'34"W 41°48'54"N

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS
- NO SCREEN Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- 20.2 / 17.5 Cross Sections with 1% Annual Chance / Water Surface Elevation
- Coastal Transect
- Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS
- Digital Data Available
- No Digital Data Available
- Unmapped

N

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

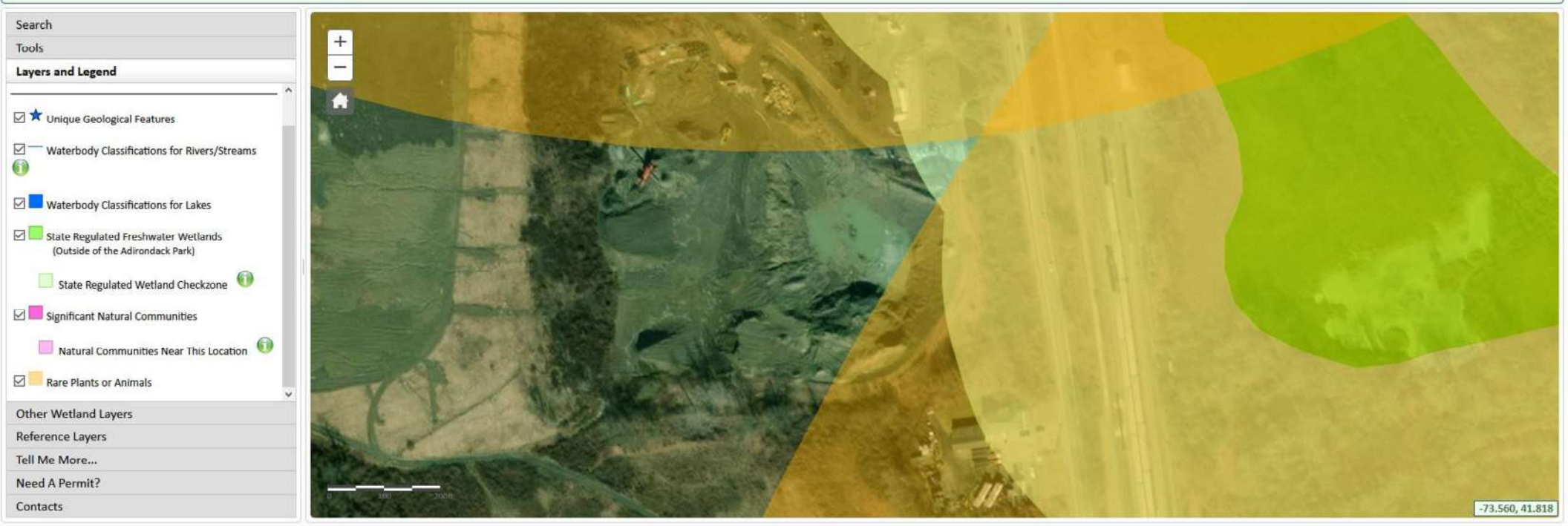
This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 11/19/2020 at 8:51 AM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

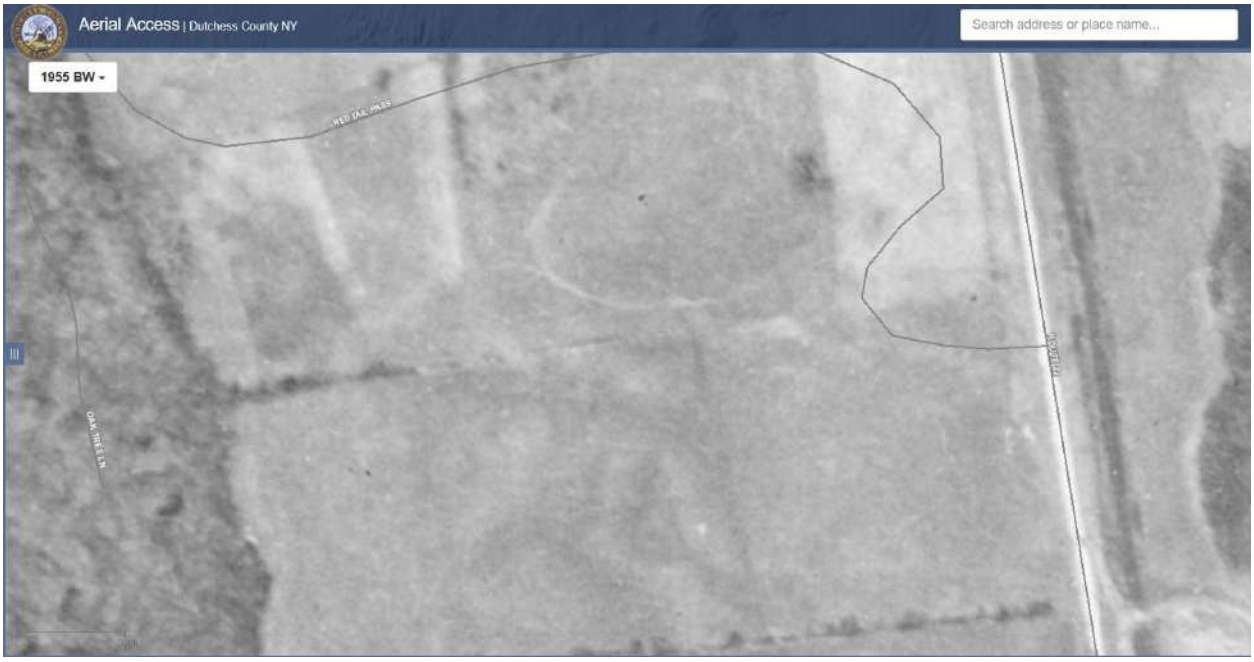
This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

Environmental Resource Mapper

Base Map: Satellite with Labels Using this map

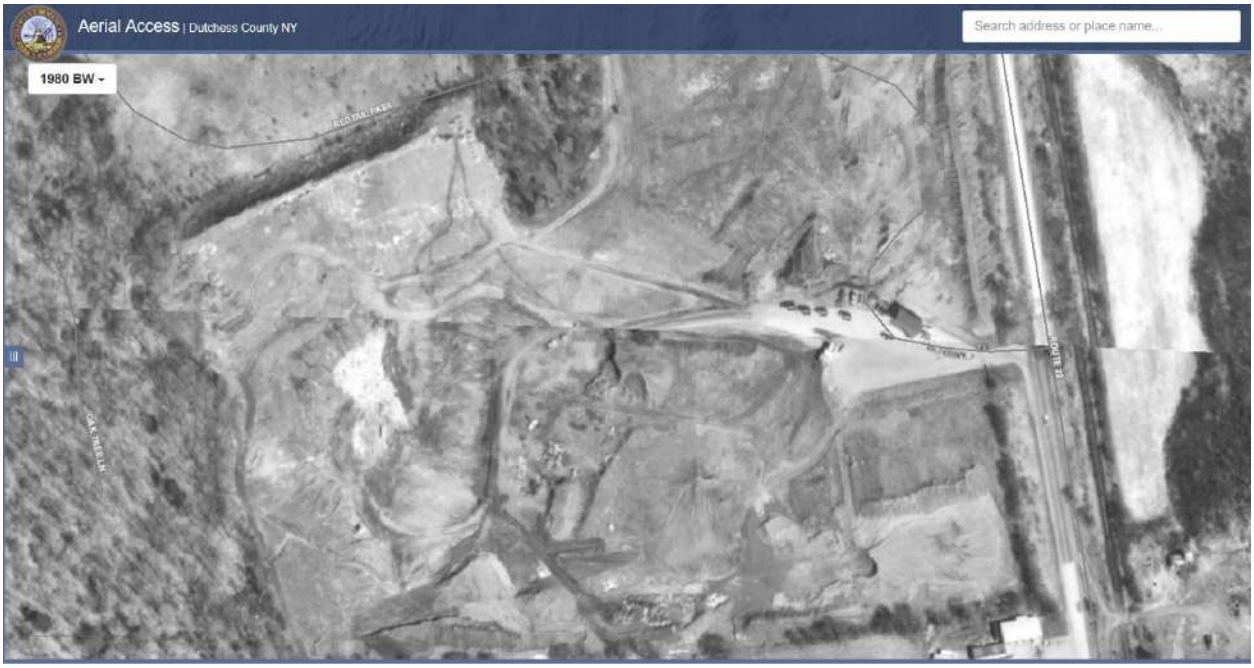


1955 Black and White Aerial



1970 Black and White Aerial

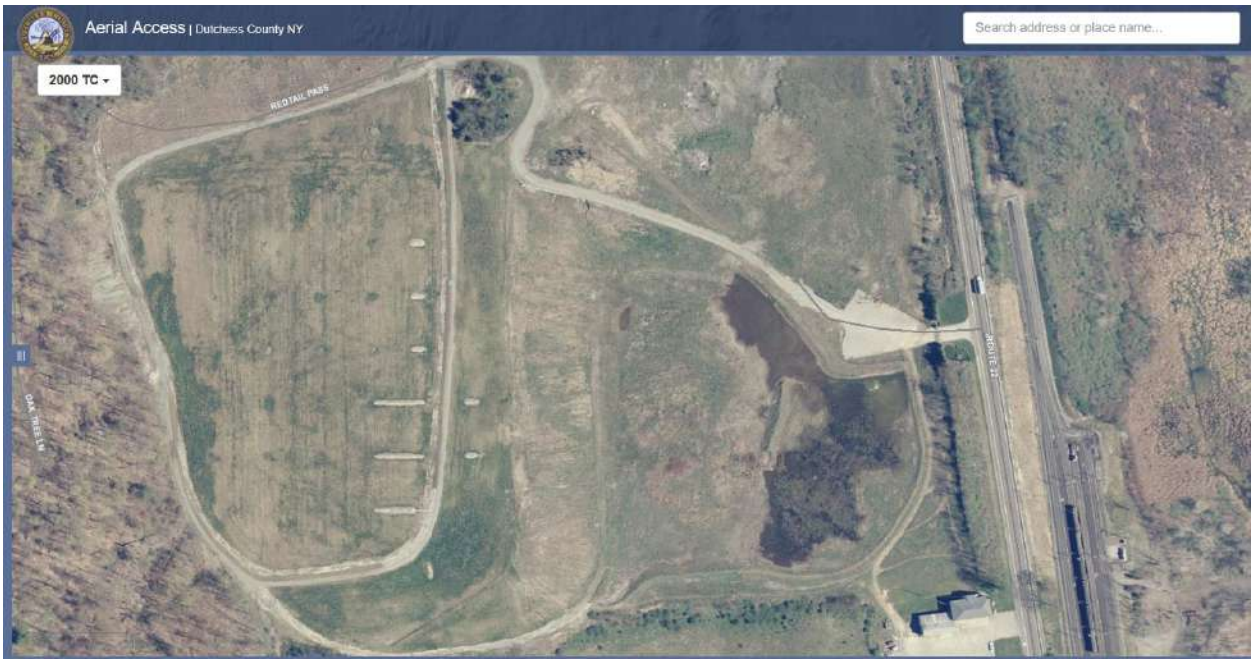
1980 Black and White Aerial



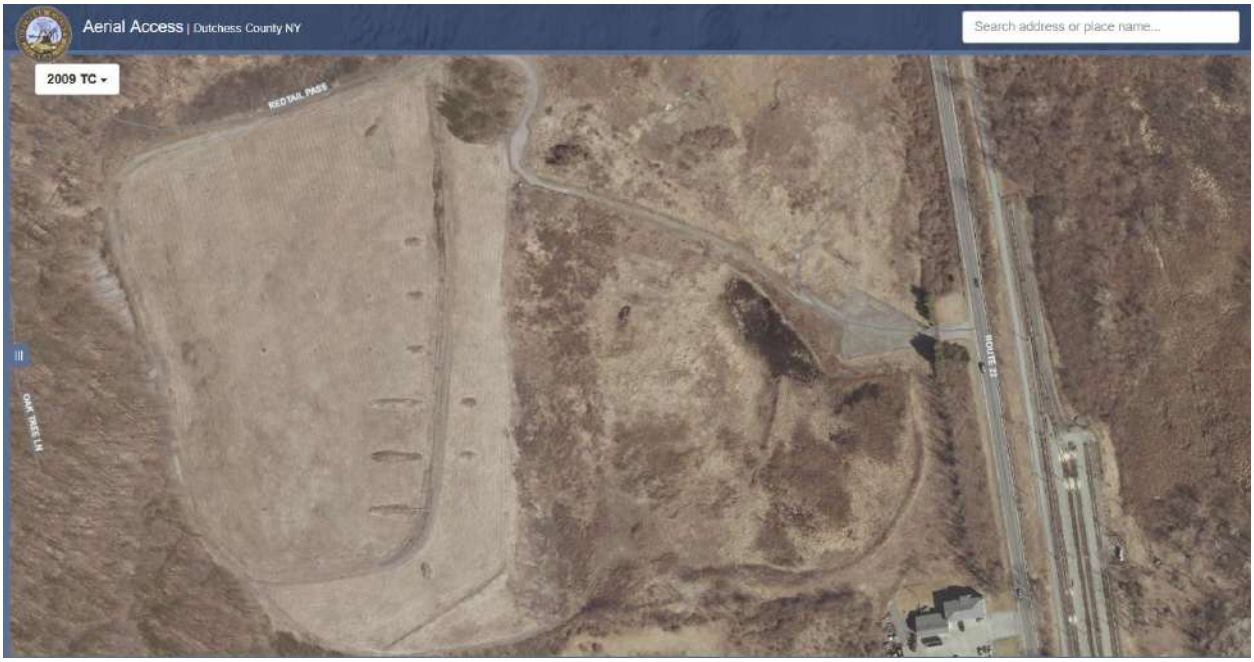
1990 Black and White Aerial

1995 Color Infrared Aerial

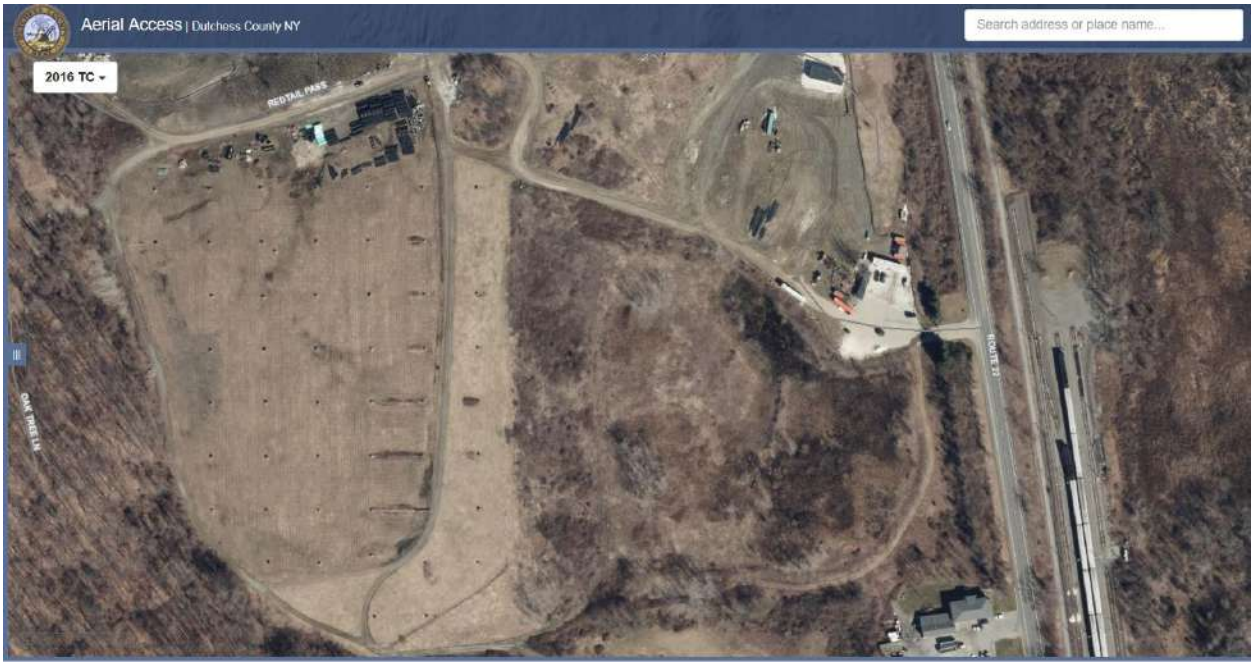
2000 Color Aerial



2009 Color Aerial



2016 Color Aerial



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APPENDIX E

HydroCAD 10.0 Report

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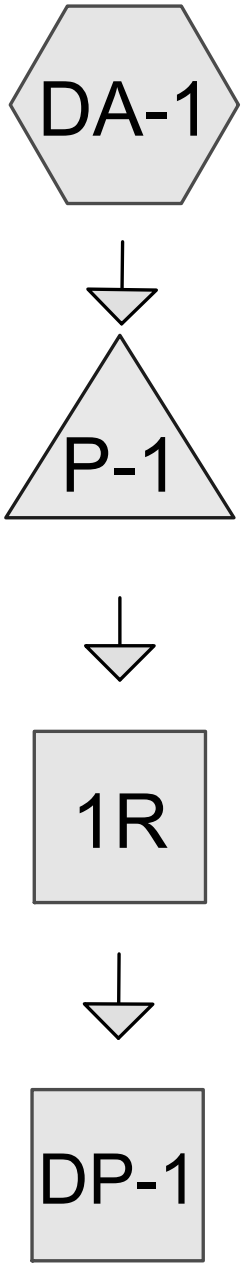


Subcat Reach Pond Link

Routing Diagram for HVLF Pond
Prepared by Rennia Engineering Design, PLLC, Printed 12/1/2020
HydroCAD® 10.00 s/n 07191 © 2011 HydroCAD Software Solutions LLC

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.232	35	Brush, Fair, HSG A (DA-1)
0.775	49	50-75% Grass cover, Fair, HSG A (DA-1)
2.678	98	Water Surface, HSG A (DA-1)
3.686	**84**	**TOTAL AREA**

Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
3.686	HSG A	DA-1
0.000	HSG B	
0.000	HSG C	
0.000	HSG D	
0.000	Other	
3.686		**TOTAL AREA**

Ground Covers (all nodes)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
0.775	0.000	0.000	0.000	0.000	0.775	50-75% Grass cover, Fair	DA-1
0.232	0.000	0.000	0.000	0.000	0.232	Brush, Fair	DA-1
2.678	0.000	0.000	0.000	0.000	2.678	Water Surface	DA-1
3.686	**0.000**	**0.000**	**0.000**	**0.000**	**3.686**	**TOTAL AREA**	

Summary for Subcatchment DA-1:

Runoff = 4.73 cfs @ 12.07 hrs, Volume= 0.306 af, Depth> 1.00"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 1-year Rainfall=2.45"

Area (sf)	CN	Description
116,675	98	Water Surface, HSG A
33,767	49	50-75% Grass cover, Fair, HSG A
10,121	35	Brush, Fair, HSG A
160,563	84	Weighted Average
43,888		27.33% Pervious Area
116,675		72.67% Impervious Area

3.7-ac. actual Dr area today = 18-ac (not incl. potential swale on west side of construction laydown area)

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.2	100	0.1500	0.40		**Sheet Flow, A-B** Grass: Short n= 0.150 P2= 3.50"
0.3	74	0.0950	4.62		**Shallow Concentrated Flow, B-C** Grassed Waterway Kv= 15.0 fps
4.5	174	Total			

Summary for Reach 1R:

Inflow Area = 3.686 ac, 72.67% Impervious, Inflow Depth = 0.00" for 1-year event
Inflow = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af
Outflow = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 0.00 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 0.00 fps, Avg. Travel Time= 0.0 min

Peak Storage= 0 cf @ 5.00 hrs
Average Depth at Peak Storage= 0.00'
Bank-Full Depth= 0.50' Flow Area= 2.5 sf, Capacity= 9.91 cfs

Custom cross-section, Length= 120.2' Slope= 0.0306 '/'
Constant n= 0.030 Earth, grassed & winding
Inlet Invert= 507.18', Outlet Invert= 503.50'

‡

Offset (feet)	Elevation (feet)	Chan.Depth (feet)
0.00	507.68	0.00
3.00	507.18	0.50
5.00	507.18	0.50
8.00	507.68	0.00

not 3:1, this is 3:1/2, or 6:1

Depth (feet)	End Area (sq-ft)	Perim. (feet)	Storage (cubic-feet)	Discharge (cfs)
0.00	0.0	2.0	0	0.00
0.50	2.5	8.1	301	9.91

Summary for Reach DP-1:

Inflow Area = 3.686 ac, 72.67% Impervious, Inflow Depth = 0.00" for 1-year event
Inflow = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af
Outflow = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Summary for Pond P-1:

Inflow Area = 3.686 ac, 72.67% Impervious, Inflow Depth > 1.00" for 1-year event
Inflow = 4.73 cfs @ 12.07 hrs, Volume= 0.306 af
Outflow = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af, Atten= 100%, Lag= 0.0 min
Primary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Starting Elev= 506.50' Surf.Area= 113,569 sf Storage= 1,795,234 cf
Peak Elev= 506.62' @ 20.00 hrs Surf.Area= 114,292 sf Storage= 1,808,503 cf (13,269 cf above start)

Plug-Flow detention time= (not calculated: initial storage excedes outflow)
Center-of-Mass det. time= (not calculated: no outflow)

Volume	Invert	Avail.Storage	Storage Description
#1	479.00'	1,972,908 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
479.00	20,134	0	0
480.00	24,882	22,508	22,508
481.00	29,083	26,983	49,491
482.00	32,555	30,819	80,310
483.00	35,690	34,123	114,432
484.00	38,624	37,157	151,589
485.00	41,493	40,059	191,648
486.00	44,398	42,946	234,593
487.00	47,283	45,841	280,434
488.00	50,182	48,733	329,166
489.00	53,093	51,638	380,804
490.00	56,029	54,561	435,365
491.00	58,974	57,502	492,866
492.00	61,921	60,448	553,314
493.00	64,884	63,403	616,716
494.00	67,880	66,382	683,098
495.00	70,934	69,407	752,505
496.00	74,074	72,504	825,009
497.00	77,331	75,703	900,712
498.00	80,719	79,025	979,737
499.00	84,192	82,456	1,062,192
500.00	87,688	85,940	1,148,132
501.00	91,183	89,436	1,237,568
502.00	94,702	92,943	1,330,510
503.00	98,243	96,473	1,426,983
504.00	101,849	100,046	1,527,029
505.00	105,758	103,804	1,630,832
506.00	110,841	108,300	1,739,132
506.50	113,569	56,103	1,795,234
507.00	116,675	57,561	1,852,795
508.00	123,551	120,113	1,972,908

Bottom EL 479: Pond can get to 29ft deep

PR conditions, watershed area is 40-acres. water 'starting elevation' would need to be set at 499 to retain 100yr storm and overflow after that.

with 18-ac watershed EX conditions. water 'starting elevation' would need to be set at 505.66 to retain 100yr storm and overflow after that.

starting water elevation = 506.5

Outlet EL = 507.18. picked as elevation where 100yr storm is still retained. anything higher will overflow, up to 1,000yr storm

Device	Routing	Invert	Outlet Devices
#1	Primary	507.18'	**4.0' long x 2.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=0.00 cfs @ 5.00 hrs HW=506.50' (Free Discharge)
1=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Subcatchment DA-1:

Runoff = 14.54 cfs @ 12.07 hrs, Volume= 0.952 af, Depth> 3.10"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-year Rainfall=5.03"

Area (sf)	CN	Description
116,675	98	Water Surface, HSG A
33,767	49	50-75% Grass cover, Fair, HSG A
10,121	35	Brush, Fair, HSG A
160,563	84	Weighted Average
43,888		27.33% Pervious Area
116,675		72.67% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.2	100	0.1500	0.40		**Sheet Flow, A-B** Grass: Short n= 0.150 P2= 3.50"
0.3	74	0.0950	4.62		**Shallow Concentrated Flow, B-C** Grassed Waterway Kv= 15.0 fps
4.5	174	Total			

Summary for Reach 1R:

Inflow Area = 3.686 ac, 72.67% Impervious, Inflow Depth = 0.00" for 10-year event
Inflow = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af
Outflow = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 0.00 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 0.00 fps, Avg. Travel Time= 0.0 min

Peak Storage= 0 cf @ 5.00 hrs
Average Depth at Peak Storage= 0.00'
Bank-Full Depth= 0.50' Flow Area= 2.5 sf, Capacity= 9.91 cfs

Custom cross-section, Length= 120.2' Slope= 0.0306 '/'
Constant n= 0.030 Earth, grassed & winding
Inlet Invert= 507.18', Outlet Invert= 503.50'

‡

Offset (feet)	Elevation (feet)	Chan.Depth (feet)
0.00	507.68	0.00
3.00	507.18	0.50
5.00	507.18	0.50
8.00	507.68	0.00

Depth (feet)	End Area (sq-ft)	Perim. (feet)	Storage (cubic-feet)	Discharge (cfs)
0.00	0.0	2.0	0	0.00
0.50	2.5	8.1	301	9.91

Summary for Reach DP-1:

Inflow Area = 3.686 ac, 72.67% Impervious, Inflow Depth = 0.00" for 10-year event
Inflow = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af
Outflow = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Summary for Pond P-1:

Inflow Area = 3.686 ac, 72.67% Impervious, Inflow Depth > 3.10" for 10-year event
Inflow = 14.54 cfs @ 12.07 hrs, Volume= 0.952 af
Outflow = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af, Atten= 100%, Lag= 0.0 min
Primary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Starting Elev= 506.50' Surf.Area= 113,569 sf Storage= 1,795,234 cf
Peak Elev= 506.86' @ 20.00 hrs Surf.Area= 115,812 sf Storage= 1,836,654 cf (41,420 cf above start)

Plug-Flow detention time= (not calculated: initial storage excedes outflow)
Center-of-Mass det. time= (not calculated: no outflow)

Volume	Invert	Avail.Storage	Storage Description
#1	479.00'	1,972,908 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
479.00	20,134	0	0
480.00	24,882	22,508	22,508
481.00	29,083	26,983	49,491
482.00	32,555	30,819	80,310
483.00	35,690	34,123	114,432
484.00	38,624	37,157	151,589
485.00	41,493	40,059	191,648
486.00	44,398	42,946	234,593
487.00	47,283	45,841	280,434
488.00	50,182	48,733	329,166
489.00	53,093	51,638	380,804
490.00	56,029	54,561	435,365
491.00	58,974	57,502	492,866
492.00	61,921	60,448	553,314
493.00	64,884	63,403	616,716
494.00	67,880	66,382	683,098
495.00	70,934	69,407	752,505
496.00	74,074	72,504	825,009
497.00	77,331	75,703	900,712
498.00	80,719	79,025	979,737
499.00	84,192	82,456	1,062,192
500.00	87,688	85,940	1,148,132
501.00	91,183	89,436	1,237,568
502.00	94,702	92,943	1,330,510
503.00	98,243	96,473	1,426,983
504.00	101,849	100,046	1,527,029
505.00	105,758	103,804	1,630,832
506.00	110,841	108,300	1,739,132
506.50	113,569	56,103	1,795,234
507.00	116,675	57,561	1,852,795
508.00	123,551	120,113	1,972,908

Device	Routing	Invert	Outlet Devices
#1	Primary	507.18'	**4.0' long x 2.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=0.00 cfs @ 5.00 hrs HW=506.50' (Free Discharge)
1=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Subcatchment DA-1:

Runoff = 19.30 cfs @ 12.07 hrs, Volume= 1.280 af, Depth> 4.17"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-year Rainfall=6.24"

Area (sf)	CN	Description
116,675	98	Water Surface, HSG A
33,767	49	50-75% Grass cover, Fair, HSG A
10,121	35	Brush, Fair, HSG A
160,563	84	Weighted Average
43,888		27.33% Pervious Area
116,675		72.67% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.2	100	0.1500	0.40		**Sheet Flow, A-B** Grass: Short n= 0.150 P2= 3.50"
0.3	74	0.0950	4.62		**Shallow Concentrated Flow, B-C** Grassed Waterway Kv= 15.0 fps
4.5	174	Total			

Summary for Reach 1R:

Inflow Area = 3.686 ac, 72.67% Impervious, Inflow Depth = 0.00" for 25-year event
Inflow = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af
Outflow = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 0.00 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 0.00 fps, Avg. Travel Time= 0.0 min

Peak Storage= 0 cf @ 5.00 hrs
Average Depth at Peak Storage= 0.00'
Bank-Full Depth= 0.50' Flow Area= 2.5 sf, Capacity= 9.91 cfs

Custom cross-section, Length= 120.2' Slope= 0.0306 '/'
Constant n= 0.030 Earth, grassed & winding
Inlet Invert= 507.18', Outlet Invert= 503.50'

‡

Offset (feet)	Elevation (feet)	Chan.Depth (feet)
0.00	507.68	0.00
3.00	507.18	0.50
5.00	507.18	0.50
8.00	507.68	0.00

Depth (feet)	End Area (sq-ft)	Perim. (feet)	Storage (cubic-feet)	Discharge (cfs)
0.00	0.0	2.0	0	0.00
0.50	2.5	8.1	301	9.91

Summary for Reach DP-1:

Inflow Area = 3.686 ac, 72.67% Impervious, Inflow Depth = 0.00" for 25-year event
Inflow = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af
Outflow = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Summary for Pond P-1:

Inflow Area = 3.686 ac, 72.67% Impervious, Inflow Depth > 4.17" for 25-year event
Inflow = 19.30 cfs @ 12.07 hrs, Volume= 1.280 af
Outflow = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af, Atten= 100%, Lag= 0.0 min
Primary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Starting Elev= 506.50' Surf.Area= 113,569 sf Storage= 1,795,234 cf
Peak Elev= 506.98' @ 20.00 hrs Surf.Area= 116,577 sf Storage= 1,850,952 cf (55,718 cf above start)

Plug-Flow detention time= (not calculated: initial storage excedes outflow)
Center-of-Mass det. time= (not calculated: no outflow)

Volume	Invert	Avail.Storage	Storage Description
#1	479.00'	1,972,908 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
479.00	20,134	0	0
480.00	24,882	22,508	22,508
481.00	29,083	26,983	49,491
482.00	32,555	30,819	80,310
483.00	35,690	34,123	114,432
484.00	38,624	37,157	151,589
485.00	41,493	40,059	191,648
486.00	44,398	42,946	234,593
487.00	47,283	45,841	280,434
488.00	50,182	48,733	329,166
489.00	53,093	51,638	380,804
490.00	56,029	54,561	435,365
491.00	58,974	57,502	492,866
492.00	61,921	60,448	553,314
493.00	64,884	63,403	616,716
494.00	67,880	66,382	683,098
495.00	70,934	69,407	752,505
496.00	74,074	72,504	825,009
497.00	77,331	75,703	900,712
498.00	80,719	79,025	979,737
499.00	84,192	82,456	1,062,192
500.00	87,688	85,940	1,148,132
501.00	91,183	89,436	1,237,568
502.00	94,702	92,943	1,330,510
503.00	98,243	96,473	1,426,983
504.00	101,849	100,046	1,527,029
505.00	105,758	103,804	1,630,832
506.00	110,841	108,300	1,739,132
506.50	113,569	56,103	1,795,234
507.00	116,675	57,561	1,852,795
508.00	123,551	120,113	1,972,908

Device	Routing	Invert	Outlet Devices
#1	Primary	507.18'	**4.0' long x 2.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=0.00 cfs @ 5.00 hrs HW=506.50' (Free Discharge)
1=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Subcatchment DA-1:

Runoff = 22.77 cfs @ 12.07 hrs, Volume= 1.523 af, Depth> 4.96"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 50-year Rainfall=7.12"

Area (sf)	CN	Description
116,675	98	Water Surface, HSG A
33,767	49	50-75% Grass cover, Fair, HSG A
10,121	35	Brush, Fair, HSG A
160,563	84	Weighted Average
43,888		27.33% Pervious Area
116,675		72.67% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.2	100	0.1500	0.40		**Sheet Flow, A-B** Grass: Short n= 0.150 P2= 3.50"
0.3	74	0.0950	4.62		**Shallow Concentrated Flow, B-C** Grassed Waterway Kv= 15.0 fps
4.5	174	Total			

Summary for Reach 1R:

Inflow Area = 3.686 ac, 72.67% Impervious, Inflow Depth = 0.00" for 50-year event
Inflow = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af
Outflow = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 0.00 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 0.00 fps, Avg. Travel Time= 0.0 min

Peak Storage= 0 cf @ 5.00 hrs
Average Depth at Peak Storage= 0.00'
Bank-Full Depth= 0.50' Flow Area= 2.5 sf, Capacity= 9.91 cfs

Custom cross-section, Length= 120.2' Slope= 0.0306 '/'
Constant n= 0.030 Earth, grassed & winding
Inlet Invert= 507.18', Outlet Invert= 503.50'

‡

Offset (feet)	Elevation (feet)	Chan.Depth (feet)
0.00	507.68	0.00
3.00	507.18	0.50
5.00	507.18	0.50
8.00	507.68	0.00

Depth (feet)	End Area (sq-ft)	Perim. (feet)	Storage (cubic-feet)	Discharge (cfs)
0.00	0.0	2.0	0	0.00
0.50	2.5	8.1	301	9.91

Summary for Reach DP-1:

Inflow Area = 3.686 ac, 72.67% Impervious, Inflow Depth = 0.00" for 50-year event
Inflow = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af
Outflow = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Summary for Pond P-1:

Inflow Area = 3.686 ac, 72.67% Impervious, Inflow Depth > 4.96" for 50-year event
Inflow = 22.77 cfs @ 12.07 hrs, Volume= 1.523 af
Outflow = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af, Atten= 100%, Lag= 0.0 min
Primary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Starting Elev= 506.50' Surf.Area= 113,569 sf Storage= 1,795,234 cf
Peak Elev= 507.07' @ 20.00 hrs Surf.Area= 117,190 sf Storage= 1,861,546 cf (66,312 cf above start)

Plug-Flow detention time= (not calculated: initial storage excedes outflow)
Center-of-Mass det. time= (not calculated: no outflow)

Volume	Invert	Avail.Storage	Storage Description
#1	479.00'	1,972,908 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
479.00	20,134	0	0
480.00	24,882	22,508	22,508
481.00	29,083	26,983	49,491
482.00	32,555	30,819	80,310
483.00	35,690	34,123	114,432
484.00	38,624	37,157	151,589
485.00	41,493	40,059	191,648
486.00	44,398	42,946	234,593
487.00	47,283	45,841	280,434
488.00	50,182	48,733	329,166
489.00	53,093	51,638	380,804
490.00	56,029	54,561	435,365
491.00	58,974	57,502	492,866
492.00	61,921	60,448	553,314
493.00	64,884	63,403	616,716
494.00	67,880	66,382	683,098
495.00	70,934	69,407	752,505
496.00	74,074	72,504	825,009
497.00	77,331	75,703	900,712
498.00	80,719	79,025	979,737
499.00	84,192	82,456	1,062,192
500.00	87,688	85,940	1,148,132
501.00	91,183	89,436	1,237,568
502.00	94,702	92,943	1,330,510
503.00	98,243	96,473	1,426,983
504.00	101,849	100,046	1,527,029
505.00	105,758	103,804	1,630,832
506.00	110,841	108,300	1,739,132
506.50	113,569	56,103	1,795,234
507.00	116,675	57,561	1,852,795
508.00	123,551	120,113	1,972,908

Device	Routing	Invert	Outlet Devices
#1	Primary	507.18'	**4.0' long x 2.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=0.00 cfs @ 5.00 hrs HW=506.50' (Free Discharge)
1=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Subcatchment DA-1:

Runoff = 26.62 cfs @ 12.07 hrs, Volume= 1.797 af, Depth> 5.85"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-year Rainfall=8.10"

Area (sf)	CN	Description
116,675	98	Water Surface, HSG A
33,767	49	50-75% Grass cover, Fair, HSG A
10,121	35	Brush, Fair, HSG A
160,563	84	Weighted Average
43,888		27.33% Pervious Area
116,675		72.67% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.2	100	0.1500	0.40		**Sheet Flow, A-B** Grass: Short n= 0.150 P2= 3.50"
0.3	74	0.0950	4.62		**Shallow Concentrated Flow, B-C** Grassed Waterway Kv= 15.0 fps
4.5	174	Total			

Summary for Reach 1R:

Inflow Area = 3.686 ac, 72.67% Impervious, Inflow Depth = 0.00" for 100-year event
Inflow = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af
Outflow = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 0.00 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 0.00 fps, Avg. Travel Time= 0.0 min

Peak Storage= 0 cf @ 5.00 hrs
Average Depth at Peak Storage= 0.00'
Bank-Full Depth= 0.50' Flow Area= 2.5 sf, Capacity= 9.91 cfs

Custom cross-section, Length= 120.2' Slope= 0.0306 '/'
Constant n= 0.030 Earth, grassed & winding
Inlet Invert= 507.18', Outlet Invert= 503.50'

‡

Offset (feet)	Elevation (feet)	Chan.Depth (feet)
0.00	507.68	0.00
3.00	507.18	0.50
5.00	507.18	0.50
8.00	507.68	0.00

Depth (feet)	End Area (sq-ft)	Perim. (feet)	Storage (cubic-feet)	Discharge (cfs)
0.00	0.0	2.0	0	0.00
0.50	2.5	8.1	301	9.91

Summary for Reach DP-1:

Inflow Area = 3.686 ac, 72.67% Impervious, Inflow Depth = 0.00" for 100-year event
Inflow = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af
Outflow = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Summary for Pond P-1:

Inflow Area = 3.686 ac, 72.67% Impervious, Inflow Depth > 5.85" for 100-year event
Inflow = 26.62 cfs @ 12.07 hrs, Volume= 1.797 af
Outflow = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af, Atten= 100%, Lag= 0.0 min
Primary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Starting Elev= 506.50' Surf.Area= 113,569 sf Storage= 1,795,234 cf
Peak Elev= 507.18' @ 20.00 hrs Surf.Area= 117,888 sf Storage= 1,873,478 cf (78,244 cf above start)

100yr storm is right at outlet elevation

Plug-Flow detention [illegible]al storage excedes outflow)
Center-of-Mass det. time= (not calculated: no outflow)

Volume	Invert	Avail.Storage	Storage Description
#1	479.00'	1,972,908 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
479.00	20,134	0	0
480.00	24,882	22,508	22,508
481.00	29,083	26,983	49,491
482.00	32,555	30,819	80,310
483.00	35,690	34,123	114,432
484.00	38,624	37,157	151,589
485.00	41,493	40,059	191,648
486.00	44,398	42,946	234,593
487.00	47,283	45,841	280,434
488.00	50,182	48,733	329,166
489.00	53,093	51,638	380,804
490.00	56,029	54,561	435,365
491.00	58,974	57,502	492,866
492.00	61,921	60,448	553,314
493.00	64,884	63,403	616,716
494.00	67,880	66,382	683,098
495.00	70,934	69,407	752,505
496.00	74,074	72,504	825,009
497.00	77,331	75,703	900,712
498.00	80,719	79,025	979,737
499.00	84,192	82,456	1,062,192
500.00	87,688	85,940	1,148,132
501.00	91,183	89,436	1,237,568
502.00	94,702	92,943	1,330,510
503.00	98,243	96,473	1,426,983
504.00	101,849	100,046	1,527,029
505.00	105,758	103,804	1,630,832
506.00	110,841	108,300	1,739,132
506.50	113,569	56,103	1,795,234
507.00	116,675	57,561	1,852,795
508.00	123,551	120,113	1,972,908

Device	Routing	Invert	Outlet Devices
#1	Primary	507.18'	**4.0' long x 2.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=0.00 cfs @ 5.00 hrs HW=506.50' (Free Discharge)
1=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Subcatchment DA-1:

Runoff = 31.60 cfs @ 12.06 hrs, Volume= 2.154 af, Depth> 7.01"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 200-year Rainfall=9.37"

Area (sf)	CN	Description
116,675	98	Water Surface, HSG A
33,767	49	50-75% Grass cover, Fair, HSG A
10,121	35	Brush, Fair, HSG A
160,563	84	Weighted Average
43,888		27.33% Pervious Area
116,675		72.67% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.2	100	0.1500	0.40		**Sheet Flow, A-B** Grass: Short n= 0.150 P2= 3.50"
0.3	74	0.0950	4.62		**Shallow Concentrated Flow, B-C** Grassed Waterway Kv= 15.0 fps
4.5	174	Total			

Summary for Reach 1R:

Inflow Area = 3.686 ac, 72.67% Impervious, Inflow Depth > 0.43" for 200-year event
Inflow = 0.40 cfs @ 20.00 hrs, Volume= 0.132 af
Outflow = 0.40 cfs @ 20.00 hrs, Volume= 0.131 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 1.59 fps, Min. Travel Time= 1.3 min
Avg. Velocity = 1.38 fps, Avg. Travel Time= 1.4 min

Peak Storage= 30 cf @ 20.00 hrs
Average Depth at Peak Storage= 0.10'
Bank-Full Depth= 0.50' Flow Area= 2.5 sf, Capacity= 9.91 cfs

Custom cross-section, Length= 120.2' Slope= 0.0306 '/'
Constant n= 0.030 Earth, grassed & winding
Inlet Invert= 507.18', Outlet Invert= 503.50'

‡

Offset (feet)	Elevation (feet)	Chan.Depth (feet)
0.00	507.68	0.00
3.00	507.18	0.50
5.00	507.18	0.50
8.00	507.68	0.00

Depth (feet)	End Area (sq-ft)	Perim. (feet)	Storage (cubic-feet)	Discharge (cfs)
0.00	0.0	2.0	0	0.00
0.50	2.5	8.1	301	9.91

Summary for Reach DP-1:

Inflow Area = 3.686 ac, 72.67% Impervious, Inflow Depth > 0.43" for 200-year event
Inflow = 0.40 cfs @ 20.00 hrs, Volume= 0.131 af
Outflow = 0.40 cfs @ 20.00 hrs, Volume= 0.131 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Summary for Pond P-1:

Inflow Area = 3.686 ac, 72.67% Impervious, Inflow Depth > 7.01" for 200-year event
Inflow = 31.60 cfs @ 12.06 hrs, Volume= 2.154 af
Outflow = 0.40 cfs @ 20.00 hrs, Volume= 0.132 af, Atten= 99%, Lag= 476.1 min
Primary = 0.40 cfs @ 20.00 hrs, Volume= 0.132 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Starting Elev= 506.50' Surf.Area= 113,569 sf Storage= 1,795,234 cf
Peak Elev= 507.26' @ 20.00 hrs Surf.Area= 118,456 sf Storage= 1,883,247 cf (88,013 cf above start)

Plug-Flow detention time= (not calculated: initial storage excedes outflow)
Center-of-Mass det. time= 311.4 min (1,068.6 - 757.3)

Volume	Invert	Avail.Storage	Storage Description
#1	479.00'	1,972,908 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
479.00	20,134	0	0
480.00	24,882	22,508	22,508
481.00	29,083	26,983	49,491
482.00	32,555	30,819	80,310
483.00	35,690	34,123	114,432
484.00	38,624	37,157	151,589
485.00	41,493	40,059	191,648
486.00	44,398	42,946	234,593
487.00	47,283	45,841	280,434
488.00	50,182	48,733	329,166
489.00	53,093	51,638	380,804
490.00	56,029	54,561	435,365
491.00	58,974	57,502	492,866
492.00	61,921	60,448	553,314
493.00	64,884	63,403	616,716
494.00	67,880	66,382	683,098
495.00	70,934	69,407	752,505
496.00	74,074	72,504	825,009
497.00	77,331	75,703	900,712
498.00	80,719	79,025	979,737
499.00	84,192	82,456	1,062,192
500.00	87,688	85,940	1,148,132
501.00	91,183	89,436	1,237,568
502.00	94,702	92,943	1,330,510
503.00	98,243	96,473	1,426,983
504.00	101,849	100,046	1,527,029
505.00	105,758	103,804	1,630,832
506.00	110,841	108,300	1,739,132
506.50	113,569	56,103	1,795,234
507.00	116,675	57,561	1,852,795
508.00	123,551	120,113	1,972,908

Device	Routing	Invert	Outlet Devices
#1	Primary	507.18'	**4.0' long x 2.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=0.23 cfs @ 20.00 hrs HW=507.26' (Free Discharge)
1=Broad-Crested Rectangular Weir (Weir Controls 0.23 cfs @ 0.71 fps)

Summary for Subcatchment DA-1:

Runoff = 39.51 cfs @ 12.06 hrs, Volume= 2.728 af, Depth> 8.88"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 500-year Rainfall=11.40"

Area (sf)	CN	Description
116,675	98	Water Surface, HSG A
33,767	49	50-75% Grass cover, Fair, HSG A
10,121	35	Brush, Fair, HSG A
160,563	84	Weighted Average
43,888		27.33% Pervious Area
116,675		72.67% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.2	100	0.1500	0.40		**Sheet Flow, A-B** Grass: Short n= 0.150 P2= 3.50"
0.3	74	0.0950	4.62		**Shallow Concentrated Flow, B-C** Grassed Waterway Kv= 15.0 fps
4.5	174	Total			

Summary for Reach 1R:

Inflow Area = 3.686 ac, 72.67% Impervious, Inflow Depth > 1.56" for 500-year event
Inflow = 0.91 cfs @ 16.86 hrs, Volume= 0.479 af
Outflow = 0.91 cfs @ 16.89 hrs, Volume= 0.476 af, Atten= 0%, Lag= 1.7 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 2.05 fps, Min. Travel Time= 1.0 min
Avg. Velocity = 1.92 fps, Avg. Travel Time= 1.0 min

Peak Storage= 53 cf @ 16.88 hrs
Average Depth at Peak Storage= 0.15'
Bank-Full Depth= 0.50' Flow Area= 2.5 sf, Capacity= 9.91 cfs

Custom cross-section, Length= 120.2' Slope= 0.0306 '/'
Constant n= 0.030 Earth, grassed & winding
Inlet Invert= 507.18', Outlet Invert= 503.50'

‡

Offset (feet)	Elevation (feet)	Chan.Depth (feet)
0.00	507.68	0.00
3.00	507.18	0.50
5.00	507.18	0.50
8.00	507.68	0.00

Depth (feet)	End Area (sq-ft)	Perim. (feet)	Storage (cubic-feet)	Discharge (cfs)
0.00	0.0	2.0	0	0.00
0.50	2.5	8.1	301	9.91

Summary for Reach DP-1:

Inflow Area = 3.686 ac, 72.67% Impervious, Inflow Depth > 1.55" for 500-year event
Inflow = 0.91 cfs @ 16.89 hrs, Volume= 0.476 af
Outflow = 0.91 cfs @ 16.89 hrs, Volume= 0.476 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Summary for Pond P-1:

Inflow Area = 3.686 ac, 72.67% Impervious, Inflow Depth > 8.88" for 500-year event
Inflow = 39.51 cfs @ 12.06 hrs, Volume= 2.728 af
Outflow = 0.91 cfs @ 16.86 hrs, Volume= 0.479 af, Atten= 98%, Lag= 288.0 min
Primary = 0.91 cfs @ 16.86 hrs, Volume= 0.479 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Starting Elev= 506.50' Surf.Area= 113,569 sf Storage= 1,795,234 cf
Peak Elev= 507.36' @ 16.86 hrs Surf.Area= 119,162 sf Storage= 1,895,443 cf (100,209 cf above start)

Plug-Flow detention time= (not calculated: initial storage excedes outflow)
Center-of-Mass det. time= 246.9 min (999.4 - 752.5)

Volume	Invert	Avail.Storage	Storage Description
#1	479.00'	1,972,908 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
479.00	20,134	0	0
480.00	24,882	22,508	22,508
481.00	29,083	26,983	49,491
482.00	32,555	30,819	80,310
483.00	35,690	34,123	114,432
484.00	38,624	37,157	151,589
485.00	41,493	40,059	191,648
486.00	44,398	42,946	234,593
487.00	47,283	45,841	280,434
488.00	50,182	48,733	329,166
489.00	53,093	51,638	380,804
490.00	56,029	54,561	435,365
491.00	58,974	57,502	492,866
492.00	61,921	60,448	553,314
493.00	64,884	63,403	616,716
494.00	67,880	66,382	683,098
495.00	70,934	69,407	752,505
496.00	74,074	72,504	825,009
497.00	77,331	75,703	900,712
498.00	80,719	79,025	979,737
499.00	84,192	82,456	1,062,192
500.00	87,688	85,940	1,148,132
501.00	91,183	89,436	1,237,568
502.00	94,702	92,943	1,330,510
503.00	98,243	96,473	1,426,983
504.00	101,849	100,046	1,527,029
505.00	105,758	103,804	1,630,832
506.00	110,841	108,300	1,739,132
506.50	113,569	56,103	1,795,234
507.00	116,675	57,561	1,852,795
508.00	123,551	120,113	1,972,908

Device	Routing	Invert	Outlet Devices
#1	Primary	507.18'	**4.0' long x 2.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=0.79 cfs @ 16.86 hrs HW=507.36' (Free Discharge)
1=Broad-Crested Rectangular Weir (Weir Controls 0.79 cfs @ 1.08 fps)

Summary for Subcatchment DA-1:

Runoff = 46.86 cfs @ 12.06 hrs, Volume= 3.266 af, Depth>10.63"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 1000-year Rainfall=13.30"

Area (sf)	CN	Description
116,675	98	Water Surface, HSG A
33,767	49	50-75% Grass cover, Fair, HSG A
10,121	35	Brush, Fair, HSG A
160,563	84	Weighted Average
43,888		27.33% Pervious Area
116,675		72.67% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.2	100	0.1500	0.40		**Sheet Flow, A-B** Grass: Short n= 0.150 P2= 3.50"
0.3	74	0.0950	4.62		**Shallow Concentrated Flow, B-C** Grassed Waterway Kv= 15.0 fps
4.5	174	Total			

Summary for Reach 1R:

Inflow Area = 3.686 ac, 72.67% Impervious, Inflow Depth > 2.77" for 1000-year event
Inflow = 1.61 cfs @ 15.44 hrs, Volume= 0.852 af
Outflow = 1.61 cfs @ 15.46 hrs, Volume= 0.849 af, Atten= 0%, Lag= 1.4 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 2.42 fps, Min. Travel Time= 0.8 min
Avg. Velocity = 2.26 fps, Avg. Travel Time= 0.9 min

Peak Storage= 80 cf @ 15.45 hrs
Average Depth at Peak Storage= 0.21'
Bank-Full Depth= 0.50' Flow Area= 2.5 sf, Capacity= 9.91 cfs

Custom cross-section, Length= 120.2' Slope= 0.0306 '/'
Constant n= 0.030 Earth, grassed & winding
Inlet Invert= 507.18', Outlet Invert= 503.50'

‡

Offset (feet)	Elevation (feet)	Chan.Depth (feet)
0.00	507.68	0.00
3.00	507.18	0.50
5.00	507.18	0.50
8.00	507.68	0.00

Depth (feet)	End Area (sq-ft)	Perim. (feet)	Storage (cubic-feet)	Discharge (cfs)
0.00	0.0	2.0	0	0.00
0.50	2.5	8.1	301	9.91

Summary for Reach DP-1:

Inflow Area = 3.686 ac, 72.67% Impervious, Inflow Depth > 2.76" for 1000-year event
Inflow = 1.61 cfs @ 15.46 hrs, Volume= 0.849 af
Outflow = 1.61 cfs @ 15.46 hrs, Volume= 0.849 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Summary for Pond P-1:

Inflow Area = 3.686 ac, 72.67% Impervious, Inflow Depth > 10.63" for 1000-year event
Inflow = 46.86 cfs @ 12.06 hrs, Volume= 3.266 af
Outflow = 1.61 cfs @ 15.44 hrs, Volume= 0.852 af, Atten= 97%, Lag= 202.5 min
Primary = 1.61 cfs @ 15.44 hrs, Volume= 0.852 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Starting Elev= 506.50' Surf.Area= 113,569 sf Storage= 1,795,234 cf
Peak Elev= 507.46' @ 15.44 hrs Surf.Area= 119,850 sf Storage= 1,907,408 cf (112,174 cf above start)

Plug-Flow detention time= (not calculated: initial storage excedes outflow)
Center-of-Mass det. time= 222.9 min (972.2 - 749.3)

Volume	Invert	Avail.Storage	Storage Description
#1	479.00'	1,972,908 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
479.00	20,134	0	0
480.00	24,882	22,508	22,508
481.00	29,083	26,983	49,491
482.00	32,555	30,819	80,310
483.00	35,690	34,123	114,432
484.00	38,624	37,157	151,589
485.00	41,493	40,059	191,648
486.00	44,398	42,946	234,593
487.00	47,283	45,841	280,434
488.00	50,182	48,733	329,166
489.00	53,093	51,638	380,804
490.00	56,029	54,561	435,365
491.00	58,974	57,502	492,866
492.00	61,921	60,448	553,314
493.00	64,884	63,403	616,716
494.00	67,880	66,382	683,098
495.00	70,934	69,407	752,505
496.00	74,074	72,504	825,009
497.00	77,331	75,703	900,712
498.00	80,719	79,025	979,737
499.00	84,192	82,456	1,062,192
500.00	87,688	85,940	1,148,132
501.00	91,183	89,436	1,237,568
502.00	94,702	92,943	1,330,510
503.00	98,243	96,473	1,426,983
504.00	101,849	100,046	1,527,029
505.00	105,758	103,804	1,630,832
506.00	110,841	108,300	1,739,132
506.50	113,569	56,103	1,795,234
507.00	116,675	57,561	1,852,795
508.00	123,551	120,113	1,972,908

Device	Routing	Invert	Outlet Devices
#1	Primary	507.18'	**4.0' long x 2.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=1.54 cfs @ 15.44 hrs HW=507.46' (Free Discharge)
↑—**1=Broad-Crested Rectangular Weir** (Weir Controls 1.54 cfs @ 1.36 fps)

Memorandum

To: John Andrews
Rohde, Soyka & Andrews
Consulting Engineers, P.C.
387 Hooker Avenue, Suite 1
Poughkeepsie, NY 12603

Date: November 4, 2025

Project #: 43550.00

From: Mark Grocki - VHB

Re: Memo – Summary of Stormwater Report

Dear Mr. Andrews,

The following is a summary of where to find certain information within the "Erosion & Sedimentation Control / Stormwater Pollution Prevention Manual" revise dated July, 2025:

- Pg. 19 – General Stormwater Management
    - This section discusses the design of the stormwater management system, justifying the changes in design. To summarize:
        - **Peak Runoff:** Due to the diversion of a large portion of Area 1A to Retention Pond 4P under the proposed conditions, onsite detention is not required for peak flow mitigation at Design Point 1. However, Ponds 1P and 2P will remain as initially proposed in the previous design. These ponds continue to serve the function of reducing peak flows for the hydraulic stormwater pipe system, as some pipes from the previous design have already been installed. The modified site design ensures that the capacities of these existing pipes are not exceeded.
            - Existing and proposed conditions' watershed maps can be **found on Pg. 12 and 13 respectively**
            - Stormwater peak runoff calculations can be **found under Attachment D (pg. 155)**
                - The HydroCAD routing for existing conditions starts on pg. 164
                - Proposed conditions HydroCAD starts on pg. 184
                - The proposed conditions effects on the retention pond north of the site starts on pg. 210
        - **Water Quality:** In order to provide for water quality, an off-line underground detention basin consisting of Stormtrap MC-3500 chambers is proposed. The required water quality volume calculations for the development are **provided in Attachment E (pg. 250)**. The volume of the chambers exceeds the required water quality volume. The offline system is designed as follows: All the stormwater runoff from the Site passes through existing catch basin EXCB-C. A new outlet pipe will be cored into this catch basin. The crown of this new outlet pipe will be lower than the current outlet pipe invert, therefore all stormwater from the 90th percentile rainfall will be conveyed via the new bypass pipe first, and into the underground infiltration chamber system. There is no outlet pipe for the underground

Memorandum

chambers, other than its inlet pipe. Therefore, for higher storm events, this pipe will be allowed to back up and the system will outlet via the original outlet pipe in EXCB-C.

- Water Quality calculations Attachment E starts on pg. 250
  - **Runoff Reduction Volume (RRv) calculations start on pg. 251**, **however**, the NY Stormwater Manual allows taking credit for diversions of watershed area, which this design takes advantage of. **See hydrograph pg. 255** for additional information and notes on justification on diversion of the 90th percentile runoff volume.
  - **Water Quality Volume calculations are on pg. 256-260.**

- The stormwater management design for the project site will ensure that runoff potential within the limit of work is reduced in comparison to existing conditions.

Should you need any additional information or clarification, please don't hesitate to contact me at 860-807-4369.

Best,

Mark Grocki
Senior Project Manager
mgrocki@vhb.com

December 11, 2025

Ref: 43550.01

John Andrews
Rohde, Soyka & Andrews Consulting Engineers, P.C.
387 Hooker Avenue, Suite 1
Poughkeepsie, NY 12603

Re: Siland Recreation Facility – 4391 Route 22 – Town of Amenia, Dutchess County, NY Site Plan Modification Approvals

Dear Mr. Andrews,

The following is in response to the comments received via phone call on August 17th, 2025 regarding the Siland Backyard Site Plan Modification Submission and are reflected in the revised site plans dated December 11, 2025.

Comment 1: *Has the Force Main been installed and has it been tested? How was the installed force main stubbed?*

Response 1: **Force Main piping has been installed into the property and, per the contractor, has been bedded and capped at the location shown on the proposed utility plan. The sewer pump station has not been installed. The force main piping will be tested upon completion of the pump station install.**

Comment 2: *Add additional shut off Valves to water lines.*

Response 2: **Additional shut-off valves have been added to water lines, see Utility Plan, Sheet C-4.0.**

Comment 3: *Supply more detail regarding termination of existing lines at the end of two new water connections*

Response 3: **Per Contractor, existing water lines were bedded and capped, notes have been added to Utility Plan, Sheet C-4.0. Per Contractor, existing sanitary force main was bedded and capped, note has been added to Utility Plan, Sheet C-4.0.**

Comment 4: *Specify/ Show extents of abandoned water lines.*

Response 4: **Existing water lines that have been installed and that will not be used are to remain in place and stubbed/ capped, and abandoned. These abandoned waterlines are noted on the plans. Per contractor, existing water lines are bedded and capped.**

Comment 5: *Specify/show extents of abandoned stormwater lines and structures.*

Response 5: **Stormwater structures and existing piping to be removed have been specified with hatches, See Grading and Drainage Plan, Sheet C-3.0.**

Comment 6: *Please provide an executive memo for the stormwater report which shows justifications for changes made. Ie., changes related to infiltration system and water quality sizing justifications. Original SWPPP report mentioned Renia Report, please provide.*

Response 6: **An executive summary memo has been prepared and included (under separate cover) with this response letter for your review.**

Comment 7: Note on plans how the cistern has been eliminated

Response 7: **Cistern previously approved has been removed from development, note has been added to plans, See Layout and Materials Plans, Sheets C-2.0 through C-2.2 and Utility Plan, Sheet C-4.0. Irrigation lines have been proposed from northern pond to garden area to supply water.**

Comment 8: *Show irrigation line mains.*

Response 8: **Irrigation Mains can be seen on Utility Plan, Sheet C-4.0.**

Comment 9: *Clarify is propane is only routed at Recreation Building*

Response 9: **Existing propane tanks on site are connected to Platform Tennis Heaters. Additional three (3) 2,000-gallon propane tanks have been proposed to feed Recreation Building. The Architect's MEP engineers have reviewed the proposed gas loads for the full build-out and confirmed the additional propane tanks will be adequate to service the new building. See Utility Plan, Sheet C-4.0 for locations.**

Comment 10: *Show only existing conditions at Route 22 Right of Way.*

Response 10: **No work is proposed within the Route 22 Right of Way (linework has been corrected), Conditions reflected are as-built conditions taken from Topographic Survey, Sheet Sv-1 dated February 25, 2025.**

Comment 11: *For Proposed recreation building, differentiate between Phases of construction*

Response 11: **Phasing of Proposed Recreational building has been split into 3 phases. Phase 1A includes the construction of the Field House and Connector (±23,600 SF) and can be seen on Layout and Materials Plan Phase 1A, Sheet C-2.0. Phase 1B includes the construction of the Fitness Center (±7,100 SF) and can be seen on Layout and Materials Plan Phase 1A and 1B, Sheet C-2.1. Phase 1C includes the construction of the Locker Rooms and Pool House (±14,700 SF) and can be seen on Layout and Materials Plan Full Buildout, Sheet C-2.2.**

Comment 12: *Provide two separate photometrics plans, one showing lighting at padel courts and one without lighting at padel courts.*

Response 12: **Two separate photometrics plans are provided.**

Comment 13: *Remove Access Road Modification Plan, Sheet AR-1 and add note to Layout and Materials Plan stating, "Completed Road – Field Amended".*

Response 13: **Access Road Modification Plan, Sheet AR-1 has been removed from the Planset and note has been added to Layout and Materials Plan, Sheet C-2.0 stating "Completed Road – Field Amended".**

If you have any questions or require additional information or clarification regarding any of the above responses or the revised plans dated December 11, 2025, please do not hesitate to contact our office. We appreciate your review and look forward to your continued coordination on this project.

Sincerely,

VHB

Mark Grocki, P.E.
Senior Project Manager
CT-Land Development

Short Environmental Assessment Form
Part 1 - Project Information

Instructions for Completing

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

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

Part 1 – Project and Sponsor Information

Name of Action or Project:
Siland Recreation Facility

Project Location (describe, and attach a location map):
4651 Route 22, Amenia, Dutchess County, New York (See Attached Site Location Map)

Brief Description of Proposed Action:
See Attachment

Name of Applicant or Sponsor:	Telephone: 860-428-6615
Patrick O'Leary	E-Mail: oleary936@gmail.com

Address:
20 Hillcrest Drive

City/PO:	State:	Zip Code:
Ashford	CT	06278

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

3. a. Total acreage of the site of the proposed action? 52.81+ acres
   b. Total acreage to be physically disturbed? 14.2+/- * acres
   c. Total acreage (project site and any contiguous properties) owned or controlled by the applicant or project sponsor? 89.75+/- acres

4. Check all land uses that occur on, are adjoining or near the proposed action:

5. ☐ Urban ☑ Rural (non-agriculture) ☐ Industrial ☑ Commercial ☐ Residential (suburban)
   ☑ Forest ☑ Agriculture ☐ Aquatic ☑ Other(Specify): Golf Course and Country Club; Metro North Wassaic Train Station
   ☐ Parkland

*Approximately 12.3 acres of disturbance will be contained within the Siland Commercial Property LLC property designated on the Dutchess County Tax Map as 7066-00-910219 and approximately 1.9 acres of disturbance will be contained within the Harlem Valley Landfill Corp property designated on the Dutchess County Tax Map as 7066-00-870350.

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

	NO	YES
6. Is the proposed action consistent with the predominant character of the existing built or natural landscape?	☐	☑

	NO	YES
7. Is the site of the proposed action located in, or does it adjoin, a state listed Critical Environmental Area?		
If Yes, identify: _____	☑	☐

	NO	YES
8. a. Will the proposed action result in a substantial increase in traffic above present levels?	☑	☐
b. Are public transportation services available at or near the site of the proposed action?	☐	☑
c. Are any pedestrian accommodations or bicycle routes available on or near the site of the proposed action?	☑	☐

	NO	YES
9. Does the proposed action meet or exceed the state energy code requirements?		
If the proposed action will exceed requirements, describe design features and technologies:		
proposed action meets, does not exceed.	☐	☑

	NO	YES
10. Will the proposed action connect to an existing public/private water supply?		
If No, describe method for providing potable water: _____	☐	☑

	NO	YES
11. Will the proposed action connect to existing wastewater utilities?		
If No, describe method for providing wastewater treatment: _____	☐	☑

	NO	YES
12. a. Does the project site contain, or is it substantially contiguous to, a building, archaeological site, or district which is listed on the National or State Register of Historic Places, or that has been determined by the Commissioner of the NYS Office of Parks, Recreation and Historic Preservation to be eligible for listing on the State Register of Historic Places? *** See Attachment**	☑	☐
See Attachment b. Is the project site, or any portion of it, located in or adjacent to an area designated as sensitive for archaeological sites on the NY State Historic Preservation Office (SHPO) archaeological site inventory?	☑	☐

	NO	YES
13. a. Does any portion of the site of the proposed action, or lands adjoining the proposed action, contain wetlands or other waterbodies regulated by a federal, state or local agency?	☐	☑
b. Would the proposed action physically alter, or encroach into, any existing wetland or waterbody?	☑	☐
If Yes, identify the wetland or waterbody and extent of alterations in square feet or acres: _____		

14. Identify the typical habitat types that occur on, or are likely to be found on the project site. Check all that apply:

☐ Shoreline ☑ Forest ☑ Agricultural/grasslands ☐ Early mid-successional

☐ Wetland ☐ Urban ☐ Suburban

	NO	YES
15. Does the site of the proposed action contain any species of animal, or associated habitats, listed by the State or Federal government as threatened or endangered? Timber Rattlesnake	☐	☑
16. Is the project site located in the 100-year flood plan?	☑	☐
17. Will the proposed action create storm water discharge, either from point or non-point sources? If Yes,	☐	☑
a. Will storm water discharges flow to adjacent properties?	☐	☑
b. Will storm water discharges be directed to established conveyance systems (runoff and storm drains)?	☐	☑
If Yes, briefly describe: Stormwater is collected and deposited partially on Harlem Valley landfill retention pond and partially discharges to the south parcel, matching existing conditions. See SWPPP for more information.		
18. Does the proposed action include construction or other activities that would result in the impoundment of water or other liquids (e.g., retention pond, waste lagoon, dam)? If Yes, explain the purpose and size of the impoundment: The proposed design includes a stormwater bypass pipe that collects and conveys stormwater runoff from the westerly hillside and discharges into the HVLF retention pond. See SWPPP for more information.	☐	☑
19. Has the site of the proposed action or an adjoining property been the location of an active or closed solid waste management facility? If Yes, describe: The closed facility if located directly north of the subject property Cite sources/documentation of closure : NYSDEC State Superfund Program Fact Sheet for Site No.314006 NYSDEC Region 3	☐	☑
20.Has the site of the proposed action or an adjoining property been the subject of remediation (ongoing or completed) for hazardous waste? If Yes, describe: See Attached	☐	☑

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

Applicant/sponsor/name: Patrick O'Leary Date: 12/11/2025

Signature: P.W. O'Leary Title:

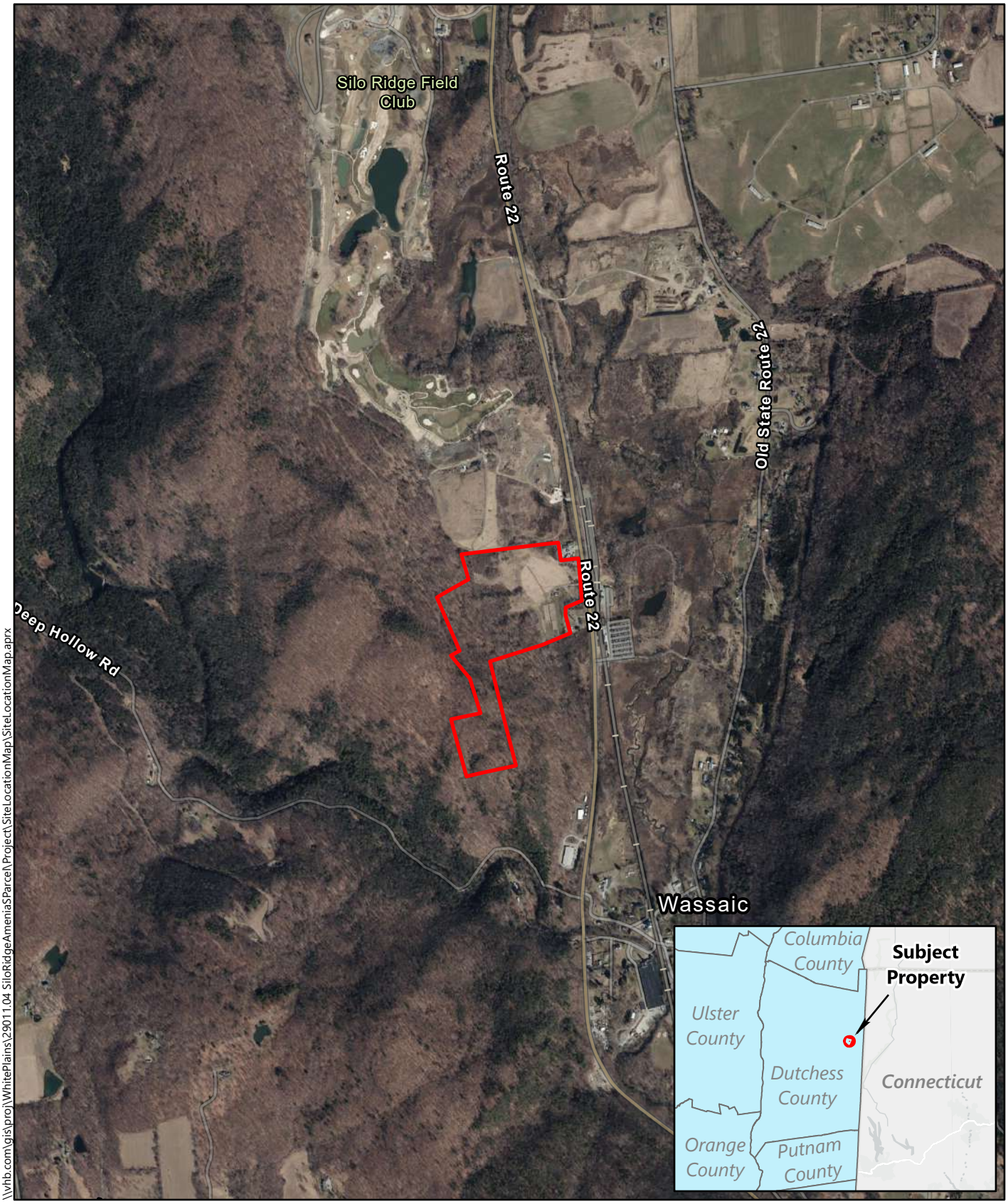
PRINT FORM

EAF Mapper Summary Report

Tuesday, October 28, 2025 10:22 AM

Disclaimer: The EAF Mapper is a screening tool intended to assist project sponsors and reviewing agencies in preparing an environmental assessment form (EAF). Not all questions asked in the EAF are answered by the EAF Mapper. Additional information on any EAF question can be obtained by consulting the EAF Workbooks. Although the EAF Mapper provides the most up-to-date digital data available to DEC, you may also need to contact local or other data sources to confirm data provided by the Mapper or to obtain data not provided by the Mapper.

Part 1 / Question 7 [Critical Environmental Area]	No
Part 1 / Question 12a [National or State Register of Historic Places or State Eligible Sites]	No
Part 1 / Question 12b [Archeological Sites]	No
Part 1 / Question 13a [Wetlands or Other Regulated Waterbodies]	Yes - Digital mapping information on local, New York State, and federal wetlands and waterbodies is known to be incomplete. Refer to the EAF Workbook.
Part 1 / Question 15 [Threatened or Endangered Animal]	Yes
Part 1 / Question 15 [Threatened or Endangered Animal - Name]	Timber Rattlesnake
Part 1 / Question 16 [100 Year Flood Plain]	No
Part 1 / Question 20 [Remediation Site]	Yes



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0 500 1000 2000 Feet

Subject Property

Source Info: NYS Orthoimagery (2016); Dutchess County Parcel Data (2009)

Silo Ridge Resort Community | Amenia, NY

Site Location Map

4651 Route 22
Town of Amenia
Dutchess County, New York

Siland Recreation Park
4651 Route 22, Town of Amenia, Dutchess County

Part 1 – Environmental Assessment Form

Attachment

Page 1 - Brief Description of Proposed Action

The Proposed Action consists of Site Plan Modification Approval to facilitate development of the Subject Property as a recreational amenity complex to be primarily leased to and serve the Silo Ridge Resort Community (the "Proposed Project"). The Proposed Action will also involve Site Plan Modifications to the Harlem Valley property and an easement associated with the Silo Ridge property (adjacent to the Subject Property to the north) to permit the proposed interior roadway access from the Silo Ridge Resort Community to the Subject Property. The recreational complex may also be made available by reservation to local not-for-profit organizations to conduct charitable events. All events will be conducted under specific event permits issued by the Building Department.

The Proposed Project would consist of a 24,600± square foot (sf) icehouse which encompasses an ice rink; a 23,600± sf field/pool house containing a health center, pool, and indoor basketball court; tennis courts, pickleball courts, paddle tennis courts, and a warming hut to be located in the northeast corner of the Subject Property; playground, and multi-purpose fields. The Proposed Project would also utilize the existing garden center and associated agricultural fields and greenhouse present on the Subject Property.

Under the Proposed Project, approximately 12.3 acres of disturbance will be contained within the Siland Commercial Property LLC property designated on the Dutchess County Tax Map as 7066-00-910219 and approximately 1.9 acres of disturbance will be contained within the Harlem Valley Landfill Corp property designated on the Dutchess County Tax Map as 7066-00-870350.

Access to this recreational complex would be provided via a shared interior roadway for vehicles, golf carts, and pedestrians with direct access from the Silo Ridge Resort Community to the north via an easement through the Harlem Valley property, as well as via a gated entrance at Route 22. An existing gravel roadway would be repositioned to facilitate the interior roadway access. The complex would be serviced by the existing Silo Ridge Resort Community on-site wastewater treatment facility, as well as the individual wells and water distribution system for potable water that services the Silo Ridge Resort Community. The Subject Property would have approximately 41 on-site parking spaces designed for vehicles and 16 parking spaces designed for golf cart parking.

The Subject Property is located within the Town of Amenia's Rural Agricultural and Office Commercial/Industrial zoning districts, as well as the Scenic Visual Protection and Trail Visual Protection Corridor overlay districts. The area surrounding the Subject Property contains a mix of residential, industrial, recreational, and transportation uses. Immediately adjacent uses to the Subject Property include the undeveloped Harlem Valley property to the north, an industrial property and single-family residence to the east with the MTA Metro North Railroad Wassaic Train Station on the east side of Route 22, and wooded, vacant land to the south and west.

In its existing condition, the Subject Property is predominantly undeveloped, with the exception of the eastern portion of the site that contains a garden center with associated agricultural fields and greenhouse, wiffle ball field, and temporary ice rink, all of which are currently utilized by the residents of the Silo Ridge Resort Community. The western portion of the Subject Property is heavily forested and undeveloped. The Subject Property also contains a small vernal pool at its southeast corner, located between the agricultural fields and adjacent residence, and an existing vegetated berm along the property's frontage along Route 22. The vernal pool and the existing vegetated berm would be maintained under the Proposed Project. Proposed landscaping across the Subject Property would provide additional screening from Route 22 and the adjacent land uses.

Part 1 EAF Questions and Responses

Page 2, Item 12 – Does this project site contain, or is it substantially contiguous to, a building, archaeological site, or district which is listed on the National or State Register of Historic Places, or that has been determined y the Commissioner of the NYS Office of Parks, Recreation and Historic Preservation to be eligible for listing on the State Register of Historic Places?

A Phase IA/IB Archaeological Survey was prepared by Historical Perspectives, Inc. in July 2014 for the Subject Property.[1] The results of the Phase IA indicate that the Subject Property is in an area of known prehistoric use and thus is potentially sensitive for precontact resources. The Subject Property remained undeveloped but was used for agricultural and charcoaling during the historic period. None of the historic maps or atlases showed any structures on the Subject Property, and local informants confirm there were no historic structures on the Subject Property. Furthermore, a field visit did not identify any former structures or other historic use areas on the Subject Property other than charcoaling, although the heavy vegetation in many portions of the Subject Property precluded complete assessment of the ground surface. Based on these factors, it was concluded that the Subject Property should not be sensitive for historical period archaeological resources other than those related to the charcoal industry. Based on the documentary research and field visit, it was recommended that Phase IB field testing should be conducted for precontact period archaeological resources within undisturbed portions of the Subject Property, and for resources related to charcoal hearths outside of the footprint of the hearths themselves.

Field testing was done under the Phase IB on the lowland portion of the Subject Property which only resulted in one positive shovel test with historical material, a cut nail in the A horizon, out of 120 excavated shovel test sites. The lack of typical field scatter (e.g., small broken household-related artifacts observed when nightsoil from cleaning out a privy pit is dumped in a field for fertilizer) observed across this area, the presence of relatively modern material in several of the shovel tests, and the observed soil stratigraphy in the two test trenches all indicate that Subject Property has had some

[1] Copies of the Phase IA/IB Archaeological Survey from 2014 and corresponding State Historic Preservation Office response letters have been submitted with this project application.

degree of disturbance, and that no potential archaeological deposits exist within the tested area. Therefore, no further testing is recommended for this area.

Page 3, Item 20 – Has the site of the proposed action or an adjoining property been the subject of remediation (ongoing or completed) for hazardous waste?

The following was documented in the Final Environmental Impact Statement for the Silo Ridge Resort Community, dated September 16, 2008, as it relates to two nearby waste sites, the Harlem Valley Landfill and the Old Amenia Landfill.

> *"The old Amenia Landfill is a Class 2 Inactive Hazardous waste disposal site, located south of the hamlet of Amenia on the west side of Route 22. The NYSDEC has performed extensive site investigations and a feasibility study of the site, and selected and approved a remedy for site cleanup. This remedy includes the excavation of approximately two acres of impacted sediment along the eastern area of the wetlands/pond located along the western edge of the landfill, dewatering those sediments and placing them under the proposed landfill cap as part of the landfill closure which will be completed in accordance with NYCRR Part 360 requirements. Wetland restoration is also included as part of the selected remedy.*
>
> *The Harlem Valley Landfill, located south of the Silo Ridge property, was closed in 1997 under an Order of Consent issued by the NYSDEC. The landfill was closed in accordance with 6 NYCRR Part 360 requirements at that time. Since closure in 1997, routine quarterly sampling has taken place at the landfill and continues presently. This monitoring appears to be in compliance with NYCRR Part 360 requirements. The quarterly monitoring includes groundwater samples, air monitoring and landfill cap inspections.*
>
> *Wells 12 and 13 on the Silo Ridge site are situated between the Silo Ridge water supply wells and these two landfills. Their water levels were monitored during the 72-hour pumping tests and showed no drawdown influences. This means the pumping tests caused no reversal of groundwater flow which could draw water from these otherwise downgradient (Old Amenia Landfill) and down-valley (Harlem Valley Landfill) locations. Water quality samples from the test wells monitored during pumping tests at the site did not detect any landfill leachate or contaminant compounds." (Page 356 and 357)*

As such, no significant adverse impacts related to these two sites are anticipated as a result of the Proposed Action.