Jarmel Kizel
ARCHITECTS AND ENGINEERS INC.

ARCHITECTURE
ENGINEERING
SPACE PLANNING
INTERIOR DESIGN
IMPLEMENTATION SERVICES

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NJ STATE BOARD OF ARCHITECTS
CERTIFICATE OF AUTHORIZATION NUMBER 161

NJ STATE BOARD OF PROFESSIONAL ENGINEERS AND LAND SURVEYORS
CERTIFICATE OF AUTHORIZATION NUMBER GA278177

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Livingston, NJ 07039

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Stormwater Pollution Prevention Plan

for:

THE LEARNING EXPERIENCE
530 North State Road
Briarcliff Manor
Town of Ossining, New York, 10510

Operator(s):

Briarcliff Manor Partners, LLC
c\o Jarmel Kizel Architects & Engineers, Inc.
42 Okner Parkway
Livingston, New Jersey 07039
973-994-9669
mbjarmel@jkarch.com

SWPPP Contact(s):

Briarcliff Manor Partners, LLC
c\o Jarmel Kizel Architects & Engineers, Inc.
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SWPPP Preparation Date:

04/30/2018

Estimated Project Dates:

Project Start Date: 09/01/2018
Project Completion Date: 05/30/2019

Contents

Appendix A – General Location Map
Appendix B – Site Maps
Appendix C – Construction General Permit
Appendix D – NOI and Acknowledgement Letter from EPA/State
Appendix E – Inspection Reports
Appendix F – Corrective Action Log
Appendix G – SWPPP Amendment Log
Appendix H – Subcontractor Certifications/Agreements
Appendix I – Grading and Stabilization Activities Log
Appendix J – Training Log
Appendix K – Delegation of Authority
Appendix L – Additional Information
Appendix M – Stormwater Management/Hydraulic Calculations

SECTION 1: SITE EVALUATION, ASSESSMENT, AND PLANNING

1.1 Project/Site Information

Project/Site Name: The Learning Experience

Project Street/Location: 530 North State Road

City: Briarcliff Manor, Town of Ossining State: N.Y. ZIP Code: 10510

County or Similar Subdivision: Westchester County

Latitude/Longitude (Use **one** of three possible formats, and specify method)

Latitude:	Longitude:
1. _ _ ° _ _ ' _ _ " N (degrees, minutes, seconds)	1. _ _ ° _ _ ' _ _ " W (degrees, minutes, seconds)
2. _ _ ° _ _ . _ _ ' N (degrees, minutes, decimal)	2. _ _ ° _ _ . _ _ ' W (degrees, minutes, decimal)
3. 41.165129 ° N (decimal)	3. -73.821942 ° W (decimal)

Method for determining latitude/longitude:

☐ USGS topographic map (specify scale: _____) ☐ EPA Web site ☐ GPS

☒ Other (please specify): latlong.net

Is the project located in Indian country? ☐ Yes ☒ No

If yes, name of Reservation, or if not part of a Reservation, indicate "not applicable." _____

Is this project considered a federal facility? ☐ Yes ☒ No

NPDES project or permit tracking number*: _____

**(This is the unique identifying number assigned to your project by your permitting authority after you have applied for coverage under the appropriate National Pollutant Discharge Elimination System (NPDES) construction general permit.)*

1.2 Contact Information/Responsible Parties

Operator(s):
Briarcliff Manor Partners, LLC
c\o Jarmel Kizel Architects & Engineers, Inc.
42 Okner Parkway
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973-994-9669
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Project Manager(s) or Site Supervisor(s):
Information yet to be determined

SWPPP Contact(s):
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Subcontractor(s):
Information yet to be determined

Emergency 24-Hour Contact:
Information yet to be determined

1.3 Nature and Sequence of Construction Activity

Project Description

The project will consist of clearing existing buildings from a developed and cleared lot and construction of a 10,000 s.f. childcare facility with associated utilities, driveway, and parking area. The estimated time for completion of the project is 270 calendar days. Soil disturbing activities will include:

A. Installation of temporary soil erosion & sediment control measures
B. Demolition and removal of existing structures and infrastructure
C. Construction of underground storage basin
D. Installation of storm pipes and storm structures
E. Construction of water, sewer, gas and electric service utilities
F. Rough grade of site
G. Construction of building foundation system
H. Construction of curbs, walkways, driveway, and parking area base course
I. Construction of building frame and interior construction
J. Construction of exterior lighting
K. Construction of playground
L. Installation of fencing
M. Installation of landscape
N. Final pave parking area and driveway
O. Install line striping
P. Remove temporary soil erosion & sediment control measures

What is the function of the construction activity?

☐ Residential ☒ Commercial ☐ Industrial ☐ Road Construction ☐ Linear Utility
☐ Other (please specify):

Estimated Project Start Date: **Project Start Date: 09/01/2018**
Estimated Project Completion Date: **Project Completion Date: 05/30/2019**

1.4 Soils, Slopes, Vegetation, and Current Drainage Pattern

Soil type(s):
According to a review of the USDA Natural Resource Conservation Service soils map for Westchester County, New York, on-site soils consist of Leicester Loam. These soils are classified as hydrologic group D soils. The soil is poorly drained. Surface runoff is slow. Saturated hydraulic conductivity is moderately high or high. Leicester soils have a water table at or near the surface much of the year.

Slopes:
The site is predominantly flat with slopes ranging from zero to 2 percent. The proposed development will provide slopes generally within the 1 to 2 percent range.

Drainage Patterns:
The site slopes generally from north to south to a wetland area and watercourse that traverses adjacent to the rear property line of the site. The existing drainage pattern will be maintained under the developed condition.

Vegetation:
The site is developed and fully cleared except for a small portion of the site along the rear property line adjacent to the watercourse and wetlands. The majority of the site is compacted dirt drive and storage area.

1.5 Construction Site Estimates

The following are estimates of the construction site.

Area of development parcel:	0.99 acres
Total project area:	1.04 acres
Construction site area to be disturbed:	1.04 acres
Percentage impervious area before construction:	26.5 %
Runoff curve number (CN) before construction:	89
Percentage impervious area after construction:	68.1 %
Runoff curve number (CN) after construction	92.6

1.6 Receiving Waters

Description of receiving waters:

Stormwater runoff currently discharges un-detained and untreated to the watercourse running east to west adjacent to the rear property line. Stormwater from this area of the Town of Ossining discharges to the Pocanitico River which is a tributary of the Hudson River. After construction, stormwater runoff will discharge to an underground stormwater detention system equipped with an outlet control structure and a water quality treatment device. Discharge will be into the existing watercourse via a 15-inch diameter pipe and a scour hole at the pipe outlet.

Description of impaired waters or waters subject to TMDLs:

Pocanitico River is not listed as an impaired water or subject to TMDLs.

1.7 Site Features and Sensitive Areas to be Protected

The rear property line of the site is bordered by a wetland feature and watercourse that connects twin 48-inch diameter culvert pipes. The buffer area adjacent to the watercourse and wetland will be enhanced by improving slope stability and an enhanced landscape planting plan.

1.8 Potential Sources of Pollution

Potential sources of sediment to stormwater runoff:

- Grading and site excavation operations
- Vehicle tracking
- Landscaping operations

Potential pollutants and sources, other than sediment, to stormwater runoff:

- Combined Staging Area—small fueling activities, minor equipment maintenance,
- Materials Storage Area—general building materials, solvents, adhesives, paving materials, paints, aggregates, trash, and so on.

- Construction Activity—paving, curb installation, concrete pouring/mortar/stucco, and building construction

- Concrete Washout Area

For all potential construction site pollutants, see Table 2 below.

Table 2. Potential construction site pollutants

Trade Name Material	Stormwater Pollutants	Location
Pesticides (insecticides, fungicides, herbicides, rodenticides)	Chlorinated hydrocarbons, organophosphates, carbamates, arsenic	Herbicides used for noxious weed control
Fertilizer	Nitrogen, phosphorous	Newly seeded areas
Plaster	Calcium sulphate, calcium carbonate, sulfuric acid	Building construction
Asphalt	Oil, petroleum distillates	Streets and roofing
Concrete	Limestone, sand, pH, chromium	Curb, walkways, and building construction
Glue, adhesives	Polymers, epoxies	Building construction
Paints	Metal oxides, stoddard solvent, talc, calcium carbonate, arsenic	Building construction
Wood preservatives	Stoddard solvent, petroleum distillates, arsenic, copper, chromium	Timber pads and building construction
Hydraulic oil/fluids	Mineral oil	Leaks or broken hoses from equipment
Gasoline \ Diesel Fuel	Benzene, ethyl benzene, toluene, xylene, MTBE \ Petroleum distillate, oil & grease, naphthalene, xylenes	Secondary containment/staging area
Kerosene	Coal oil, petroleum distillates	Secondary containment/staging area
Antifreeze/coolant	Ethylene glycol, propylene glycol, heavy metals (copper, lead, zinc)	Leaks or broken hoses from equipment
Sanitary toilets	Bacteria, parasites, and viruses	Staging area

1.9 Endangered Species Certification

Are endangered or threatened species and critical habitats on or near the project area?

☐ Yes ☒ No

Describe how this determination was made:

This determination was made by the project ecologist, Jay Fain, MS, PSS, CPESC, CERP, Of Jay Fain & Associates.

1.10 Historic Preservation

Are there any historic sites on or near the construction site?

☐ Yes ☒ No

Describe how this determination was made:

Determination made based on observation. The site is a vacant, fully disturbed commercial site.

1.11 Applicable Federal, Tribal, State or Local Programs

- The SWPPP complies with the Town of Ossining's erosion and sediment control requirements.

1.12 Maps

See Appendix B

SECTION 2: EROSION AND SEDIMENT CONTROL BMPS

2.1 Minimize Disturbed Area and Protect Natural Features and Soil

BMP Description: The site is developed and devoid of topsoil. No activity will take place in an undisturbed area. The wetland feature and watercourse beyond the rear property line of the site will be protected and enhanced with slope stabilization measures and landscape plantings. If any stockpiling of material is necessitated, it will be protected by silt fence.

Timeline: For a timeline of construction activity, see Section 1.3

Responsible Staff: Briarcliff Manor Partners, LLC

2.2 Phase Construction Activity

BMP Description: The proposed site is too small for phased grading to be practical. To minimize erosion during grading activities, grading and site work will be conducted in late April and May after snowmelt and during periods of predicted dry weather. The areas of the site that will remain vegetated after construction will be graded first and stabilized with hydromulch or seeding immediately after grading activities are completed. All other areas of the construction site will be stabilized if site work is not planned for more than 14 days. To minimize potential erosion from the site, only areas necessary to construct the underground detention system will be disturbed initially. These areas will be stabilized immediately after construction but no later than 14 days after construction ceases.

Timeline: For a timeline of construction activity, see Section 1.3

Responsible Staff: Briarcliff Manor Partners, LLC

2.3 Control Stormwater Flowing onto and through the Project

BMP Description: A underground detention basin will be installed below the parking area of the site to capture stormwater from the nearly all the impervious surface of the development. The detention basin will be designed with an outflow control structure to mitigate peak strom flows for the 2, 10, and 100 year storm events such that under proposed conditions, the peak flows leaving the site are less than the existing condition peak flows for the same storm events.

Installation Schedule: The underground detention system will be constructed prior to site grading operations begin on the site.

Maintenance & Inspection: The underground basin will be inspected for structural failures

weekly and immediately after storm events. Before vegetation has been established on site, it will be inspected for accumulation of debris and sediment. Remove debris, sediment immediately.

Responsible Staff: Briarcliff Manor Partners, LLC

2.4 Stabilize Soils

Temporary Stabilization

BMP Description: Hydromulching will provide immediate protection to exposed soils where construction will cease for more than 14 days and over the winter months. Straw mulch and wood fiber will be mixed with a tackifier (amount specified per manufacturer's instructions) and applied uniformly by machine with an application rate of 90–100 pounds (2–3 bales) per 1,000 square feet or 2 tons (100–200 bales) per acre. If the tackifier does not appear effective in anchoring the mulch to the disturbed soil, crimping equipment will be used to provide additional binding to the soil. The mulch will cover 75 to 90 percent of the ground surface. In areas, where hydromulching is inaccessible, straw mulch will be applied by hand with an application rate of 90–100 pounds (2–3 bales) per 1,000 square feet. Winter stabilization will occur between November 15 and March 15. All disturbed areas are scheduled to be stabilized well before winter; however, if any vegetated areas show signs of erosion, mulch will be applied at the same rate as described above.

Installation Schedule: Portions of the site where construction activities will temporarily cease for more than 14 days will be stabilized with mulch. Winter stabilization will occur between November 15th and March 15.

Maintenance & Inspection: Mulched areas will be inspected weekly and after storm events to check for movement of mulch or erosion. If washout, breakage, or erosion occurs, the surface will be repaired, and new mulch will be applied to the damaged area.

Responsible Staff: Briarcliff Manor Partners, LLC

Permanent Stabilization

BMP Description: Permanent stabilization will be done immediately after the final design grades are achieved but no later than 14 days after construction ceases. Native species of plants will be used to establish vegetative cover on exposed soils. Permanent stabilization will be completed in
accordance with the final stabilization procedures in Section 7

Installation Schedule: Portions of the site where construction activities have permanently ceased will be stabilized, as soon as possible but no later than 14 days after construction ceases.

Maintenance & Inspection: All seeded areas will be inspected weekly during construction activities for failure and after storm events until a dense cover of vegetation has been established. If failure is noticed at the seeded area, the area will be reseeded, fertilized, and mulched immediately. After construction is completed at the site, permanently stabilized areas will be monitored until final stabilization is reached.

Responsible Staff: Briarcliff Manor Partners, LLC

2.5 Protect Slopes

No steep slopes requiring slope protection exist on the site.

2.6 Protect Storm Drain Inlets

Existing Storm Drain Inlets

There are no existing storm drain inlets immediately fronting our property on North State Road.

2.7 Establish Perimeter Controls and Sediment Barriers

Silt Fence

BMP Description: Silt fence will be installed along all perimeters of the site and around the topsoil stockpile, if one is utilized. Silt fences will be installed by excavating a 12-inch-deep trench along the line of proposed installation. Wooden posts supporting the silt fence will be spaced 4 to 6 feet apart and driven securely into the ground; a minimum of 18 to 20 inches deep. The silt fence will be fastened securely to the wooden posts with wire ties spaced every 24 inches at the top, mid section, and bottom of the wooden post. The bottom edge of the silt fence will extend across the bottom of the trench and the trench will be backfilled and compacted to prevent stormwater and sediment from discharging underneath the silt fence.

Installation Schedule: The silt fences will be installed before construction begins at the site and around topsoil stockpiles once they have been established.

Maintenance & Inspection: Silt fences will be inspected weekly and immediately after storm events to ensure it is intact and that there are no gaps where the fence meets the ground or tears along the length of the fence. If gaps or tears are found during the inspection, the fabric will be repaired or replaced immediately. Accumulated sediment will be removed from the fence base if it reaches one-third the height of the silt fence and hauled off-site for disposal at Middletown Landfill. If accumulated sediment is creating noticeable strain on the fabric and the fence might fail from a sudden storm event, the sediment will be removed more frequently. Before the fence is removed from the project area, the sediment will be removed. The anticipated life span of the silt fence is 6 months and will likely need to be replaced after this period.

Responsible Staff: Briarcliff Manor Partners, LLC

2.8 Retain Sediment On-Site

No separate and distinct sediment basin will be constructed as part of this project.

2.9 Establish Stabilized Construction Exits

Stabilized Construction Exits

BMP Description: Anti-tracking pads consisting of a 6" stone tracking pad over filter fabric will be installed at the drive to North State Road, as identified on the site map, to prevent the off-site transport of sediment by construction vehicles. The anti-tracking pads will be at least 50 feet long, a minimum of 10 feet wide, flared at the end closest to the paved road, and will consist of a 6-inch-thick layer of crushed stone (2 inches in diameter). The crushed stone will be placed over a layer of geotextile filter fabric to reduce the mitigation of sediment from the underlying soil. A *rumble pad* will be placed on top of the stone. Orange-colored plastic mesh fence will be installed along the length of the construction exit to keep construction vehicles and equipment on the anti-tracking pads.

Installation Schedule: The stabilized exits will be installed before construction begins on the site. The stone will remain in place until the subgrade of pavement is installed at the site. The anti-tracking pads will be placed on the pavement and will remain until all areas of the site have been stabilized.

Maintenance & Inspection: The exit will be inspected weekly and after storm events or heavy use. The exits will be maintained in a condition that will prevent tracking or flowing of sediment onto North State Road. This could require adding additional crushed stone to the exit. All sediment tracked, spilled, dropped, or washed onto North State Road will be swept up immediately and hauled off-site for disposal at an acceptable location. Sediment will be swept from the antitracking pad at least weekly, or more often if necessary. If excess sediment has clogged the pad, the exit will be topdressed with new crushed stone. Replacement of the entire pad might be necessary when the pad becomes completely filled with sediment. The pad will be reshaped as needed for drainage and runoff control. Broken road pavement as a result of construction activities on roadways immediately adjacent to the project site will be repaired immediately. The stone anti-tracking pad will be removed before the subgrade of pavement is applied to the parking lot. The removed stone and sediment from the pad will be hauled off-site and disposed of at an acceptable location.

Responsible Staff: Briarcliff Manor Partners, LLC

SECTION 3: GOOD HOUSEKEEPING BMPS

3.1 Material Handling and Waste Management

Waste Materials

BMP Description: All waste materials will be collected and disposed of into two metal trash dumpsters in the materials storage area. Dumpsters will have a secure watertight lid, be placed away from stormwater conveyances and drains, and meet all federal, state, and municipal regulations. Only trash and construction debris from the site will be deposited in the dumpster. No construction materials will be buried on-site. All personnel will be instructed, during tailgate training sessions, regarding the correct disposal of trash and construction debris. Notices that state these practices will be posted in the office trailer and the individual who manages day-today site operations will be responsible for seeing that these practices are followed.

Installation Schedule:	Trash dumpsters will be installed once the materials storage area has been established
Maintenance and Inspection:	The dumpsters will be inspected weekly and immediately after storm events. The dumpster will be emptied weekly and taken to Middletown Landfill by Ways Waste and Sanitary Services. If trash and construction debris are exceeding the dumpster's capacity, the dumpsters will be emptied more frequently
Responsible Staff:	Briarcliff Manor Partners, LLC

Hazardous Waste Materials

BMP Description: All hazardous waste materials such as oil filters, petroleum products, paint, and equipment maintenance fluids will be stored in structurally sound and sealed shipping containers, within the hazardous materials storage area. Hazardous waste materials will be stored in appropriate and clearly marked containers and segregated from other non-waste materials. Secondary containment will be provided for all waste materials in the hazardous materials storage area and will consist of commercially available spill pallets. Additionally, all hazardous waste materials will be disposed of in accordance with federal, state, and municipal regulations. Hazardous waste materials will not be disposed of into the on-site dumpsters. All personnel will be instructed, during tailgate training sessions, regarding proper procedures for hazardous waste disposal. Notices that state these procedures will be posted in the office trailer and the individual who manages day-to-day site operations will be responsible for seeing that these procedures are followed.

Installation Schedule:	Shipping containers used to store hazardous waste materials will be installed once the site materials storage area has been installed
Maintenance and Inspection:	The hazardous waste material storage areas will be inspected weekly and after storm events. The storage areas will be kept

	clean, well organized, and equipped with ample cleanup supplies as appropriate for the materials being stored. Material safety data sheets, material inventory, and emergency contact numbers will be maintained in the office trailer
Responsible Staff:	Briarcliff Manor Partners, LLC

Sanitary Waste

BMP Description: One temporary sanitary facility (portable toilet) will be provided at the site throughout the construction phase. The toilet will be in the staging area. The portable toilet will be located away from a concentrated flow paths and traffic flow and will have collection pans underneath as secondary containment.

Installation Schedule:	The portable toilets will be brought to the site once the staging area as been established.
Maintenance and Inspection:	All sanitary waste will be collected from the portable facility a minimum of two times per week. The portable toilet will be inspected weekly for evidence of a leaking holding tank. Toilets with leaking holding tanks will be removed from the site and replaced with new portable toilets.
Responsible Staff:	Briarcliff Manor Partners, LLC

Recycling

BMP Description: Wood pallets, cardboard boxes, and other recyclable construction scraps will be disposed of in a designated dumpster for recycling. The dumpster will have a secure watertight lid, be placed away from stormwater conveyances and drains and meet all local and state solid-waste management regulations. Only solid recyclable construction scraps from the site will be deposited in the dumpster. All personnel will be instructed, during tailgate training sessions, regarding the correct procedure for disposal of recyclable construction scraps. Notices that state these procedures will be posted in the office trailer, and the individual who manages day-to-day site operations will be responsible for seeing that these procedures are followed.

Installation Schedule:	Designated recycling dumpsters will be installed once the combined staging area has been established.
Maintenance and Inspection:	The recycling dumpster will be inspected weekly and immediately after storm events. The recycling dumpster will be emptied weekly and taken to an approved recycling center. If recyclable construction wastes are exceeding the dumpster's capacity, the dumpsters will be emptied more frequently
Responsible Staff:	Briarcliff Manor Partners, LLC

3.2 Establish Proper Building Material Staging Areas

Materials Storage Area

BMP Description: Construction equipment and maintenance materials will be stored at the combined staging area and materials storage areas.

Installation Schedule:	Material storage area will be installed after grading and before any infrastructure is constructed on site.
Maintenance and Inspection:	The storage area will be inspected weekly and immediately after storm events. The area will be kept clean, and well organized.
Responsible Staff:	Briarcliff Manor Partners, LLC

3.3 Designate Washout Areas

Due to the small size of this development project and minimum concrete work, no designated concrete washout area is proposed for this site.

3.4 Establish Proper Equipment/Vehicle Fueling and Maintenance Practices

Vehicle/Equipment Fueling and Maintenance

BMP Description: Several types of vehicles and equipment will be used on-site throughout the project, including graders, scrapers, excavators, loaders, paving equipment, rollers, trucks and trailers, backhoes, and forklifts. All major equipment/vehicle fueling and maintenance will be performed off-site. When vehicle fueling must occur on-site, the fueling activity will occur in the staging area. Only minor equipment maintenance will occur on-site. All equipment fluids generated from maintenance activities will be disposed of into designated drums stored on spill pallets in accordance with Part 3.1. Absorbent, spill-cleanup materials and spill kits will be available at the combined staging and materials storage area. Drip pans will be placed under all equipment receiving maintenance and vehicles and equipment parked overnight.

Installation Schedule:	BMPs implemented for equipment and vehicle maintenance and fueling activities will begin at the start of the project
Maintenance and Inspection:	Inspect equipment/vehicle storage areas weekly and after storm events. Vehicles and equipment will be inspected on each day of use. Leaks will be repaired immediately, or the problem vehicle(s) or equipment will be removed from the project

	site. Keep ample supply of spill-cleanup materials on-site and immediately clean up spills and dispose of materials properly.
Responsible Staff:	Briarcliff Manor Partners, LLC

3.5 Control Equipment/Vehicle Washing

All equipment and vehicle washing will be performed off-site.

3.6 Spill Prevention and Control Plan

Spill prevention and control procedures

BMP Description:

i. Employee Training: All employees will be trained via tailgate sessions, as detailed in Section 6, Part 6.3.
ii. Vehicle Maintenance: Vehicles and equipment will be maintained off-site. All vehicles and equipment including subcontractor vehicles will be checked for leaking oil and fluids. Vehicles leaking fluids will not be allowed on-site. Drip pans will be placed under all vehicles and equipment that are parked overnight.
iii. Hazardous Material Storage: Hazardous materials will be stored in accordance with Section 3, Part 1 and federal and municipal regulations.
iv. Spill Kits: Spill kits will be within the materials storage area and concrete washout areas.
v. Spills: All spills will be cleaned up immediately upon discovery. Spent absorbent materials and rags will be hauled off-site immediately after the spill is cleaned up for disposal at a proper location. Spills large enough to discharge to surface water will be reported to the National Response Center at 1-800-424-8802.
vi. Material safety data sheets, a material inventory, and emergency contact information will be maintained at the on-site project trailer.

Installation Schedule:	The spill prevention and control procedures will be implemented once construction begins on-site.
Maintenance and Inspection:	All personnel will be instructed, during tailgate training sessions, regarding the correct procedures for spill prevention and control. Notices that state these practices will be posted in the office trailer, and the individual who manages day-to-day site operations will be responsible for seeing that these procedures are followed.
Responsible Staff:	Briarcliff Manor Partners, LLC

3.7 Any Additional BMPs

No additional BMPs identified.

3.8 Allowable Non-Stormwater Discharge Management

Water used to control dust

BMP Description: Dust control will be implemented as needed once site grading has begun and during windy conditions (forecasted or actual wind conditions of 20 mph or greater) while site grading is occurring. Spraying of potable water at a rate of 300 gallons per acre or less will be performed by a mobile pressure-type distributor truck no more than three times a day during the months of May–September and once per day during the months of October–April or whenever the dryness of the soil warrants it.

Installation Schedule:	N/A
Maintenance and Inspection:	N/A
Responsible Staff:	Briarcliff Manor Partners, LLC

Uncontaminated Excavation Dewatering

BMP Description: Because of the nature of the on-site soils, there is the potential need for dewatering to occur on site. If dewatering does occur, the SWPPP will be revised to address the need for appropriate BMPs.

Installation Schedule:	N/A
Maintenance and Inspection:	N/A
Responsible Staff:	Briarcliff Manor Partners, LLC

Landscape Irrigation

BMP Description: Irrigation waters will not be sprayed onto impermeable surfaces such as paved driveways and roads. Waters will be directed onto soil and lawns by using hoses and correctly sized sprinklers with adjustable spray patterns. To avoid discharges of irrigation waters, the sprinklers will have low-flow rates and increased watering time. The irrigated area will be inspected for excess watering and to adjust watering times and schedules.

Installation Schedule:	N/A
Maintenance and Inspection:	N/A
Responsible Staff:	Briarcliff Manor Partners, LLC

SECTION 4: SELECTING POST-CONSTRUCTION BMPs

Underground Detention Basin

BMP Description: An underground detention system consisting of 560 linear feet of solid double wall 36-inch HDPE pipe will be utilized to store and control post-developed run-off rates to pre-developed runoff rates.

Installation Schedule:	The underground detention system will be installed prior to any grading and infrastructure construction.
Maintenance and Inspection:	The system will be inspected weekly and after storm events for structural integrity and build of sediment and debris. Any sediment and debris shall be removed immediately and disposed of in accordance with all local, state and federal rules.
Responsible Staff:	Briarcliff Manor Partners, LLC

Water Quality Control

BMP Description: The underground detention system will include the integration of the "Downstream Defender" manufactured treatment device (MTD) to treat the storm runoff from the water quality design storm.

Installation Schedule:	The MTD will be installed with the underground detention prior to any grading activities and infrastructure construction.
Maintenance and Inspection:	The system will be inspected weekly and after storm events for build of sediment and debris. Any sediment and debris shall be removed immediately and disposed of in accordance with all local, state and federal rules.
Responsible Staff:	Briarcliff Manor Partners, LLC

Outlet Protection

BMP Description: The outlet pipe from the detention system will be constructed with a rip-rap scour hole.

Installation Schedule:	The scour hole will be installed with the storm piping and detention system prior to any grading activities and infrastructure construction.
Maintenance and Inspection:	The system will be inspected weekly and after storm events for build of sediment and debris. Any sediment and debris shall be removed immediately and disposed of in accordance with all local, state and federal rules.
Responsible Staff:	Briarcliff Manor Partners, LLC

SECTION 5: INSPECTIONS

5.1 Inspections

Inspection personnel has yet to be determined. The SWPPP can be amended when such personnel has been identified.

For a copy of the inspection report, see Appendix E

5.2 Delegation of Authority

Personnel has yet to be determined. The SWPPP can be amended when such personnel has been identified.

See Appendix K – Delegation of Authority

5.3 Corrective Action Log

See Appendix F – Corrective Action Log

SECTION 6: RECORDKEEPING AND TRAINING

6.1 Recordkeeping

Records will be retained for a minimum period of at least 3 years after the permit is terminated.

Date(s) when major grading activities occur:
See Appendix I – Grading and Stabilization Activities Log

Date(s) when construction activities temporarily or permanently cease on a portion of the site:
See Appendix I – Grading and Stabilization Activities Log

Date(s) when an area is either temporarily or permanently stabilized:
See Appendix I – Grading and Stabilization Activities Log

6.2 Log of Changes to the SWPPP

Log of changes and updates to the SWPPP

See Appendix G – SWPPP Amendment Log

SECTION 7: FINAL STABILIZATION

Permanent Seeding

BMP Description: Permanent seeding will be applied immediately after the final design grades are achieved on portions of the site but no later than 14 days after construction activities have permanently ceased. After the entire site is stabilized, any sediment that has accumulated will be removed and hauled off-site for disposal. Construction debris, trash and temporary BMPs (including silt fences, material storage areas, sanitary toilets, and inlet protection) will also be removed and any areas disturbed during removal will be seeded immediately.

Seedbed Preparation

a. In areas where disturbance results in subsoil being the final grade surface, topsoil will be spread over the finished area at minimum depth of 2 to 6 inches.
b. The seedbed will be free of large clods, rocks, woody debris and other objectionable materials.
c. Fertilizer and lime will be applied to the seedbed according to the manufacturer's recommendations.
d. The top layer of soil will be loosened to a depth of 3–5 inches by raking, tilling, disking or other suitable means.

Grass Selection/Application

a. Common areas at the site will be stabilized with a mixture of Tall Fescue, Creeping Red Fescue and Redtop at an application rate of 30 pounds per acre or 0.95 pounds per 1,000 square feet. Lawns will be stabilized with a mixture of Kentucky Blue Grass and Creeping Red Fescue at an application rate of 100 pounds per acre or 2.3 pounds per 1,000 square feet.
b. Seed will be applied uniformly by hydroseeding or broadcasting. Where broadcasting is used, the seed will be covered with .25 inch of soil or less, by cultipacking or raking.

Mulching

a. Hydromulch will be applied immediately following seeding at an application rate of 90–100 pounds (2–3 bales) per 1,000 square feet.

Installation Schedule:	Portions of the site where construction activities have permanently ceased will be stabilized, as soon as possible but no later than 14 days after construction ceases
Maintenance and Inspection:	All seeded areas will be inspected weekly during construction activities for failure and after storm events until a dense cover of vegetation has been established. If failure is noticed at the seeded area, the area will be reseeded, fertilized, and mulched immediately. After construction is completed at the site, permanently stabilized areas will be monitored until final stabilization is reached
Responsible Staff:	Briarcliff Manor Partners, LLC

SECTION 8: CERTIFICATION AND NOTIFICATION

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 there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Name: Matthew B. Jarmel Title: Project Owner\Developer

Signature: _____ Date: _____

SWPPP APPENDICES

Appendix A – General Location Map

Appendix B – Site Maps

Appendix C – Construction General Permit

Appendix D – NOI and Acknowledgement Letter from EPA/State

Appendix E – Inspection Reports

Appendix F – Corrective Action Log

Appendix G – SWPPP Amendment Log

Appendix H – Subcontractor Certifications/Agreements

Appendix I – Grading and Stabilization Activities Log

Appendix J – Training Log

Appendix K – Delegation of Authority

Appendix L – Additional Information

Appendix M – Stormwater Management\Hydraulic Calculations

APPENDIX A

GENERAL LOCATION MAP

S:\PROJECTS\TLENY-5-17-155 TLE OSSINING NY\DESIGN DATA\SWMGEN LOCATION MAP.DWG GGESARIO PLOTTED: 05/21/2018

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www.jarmelkizel.com

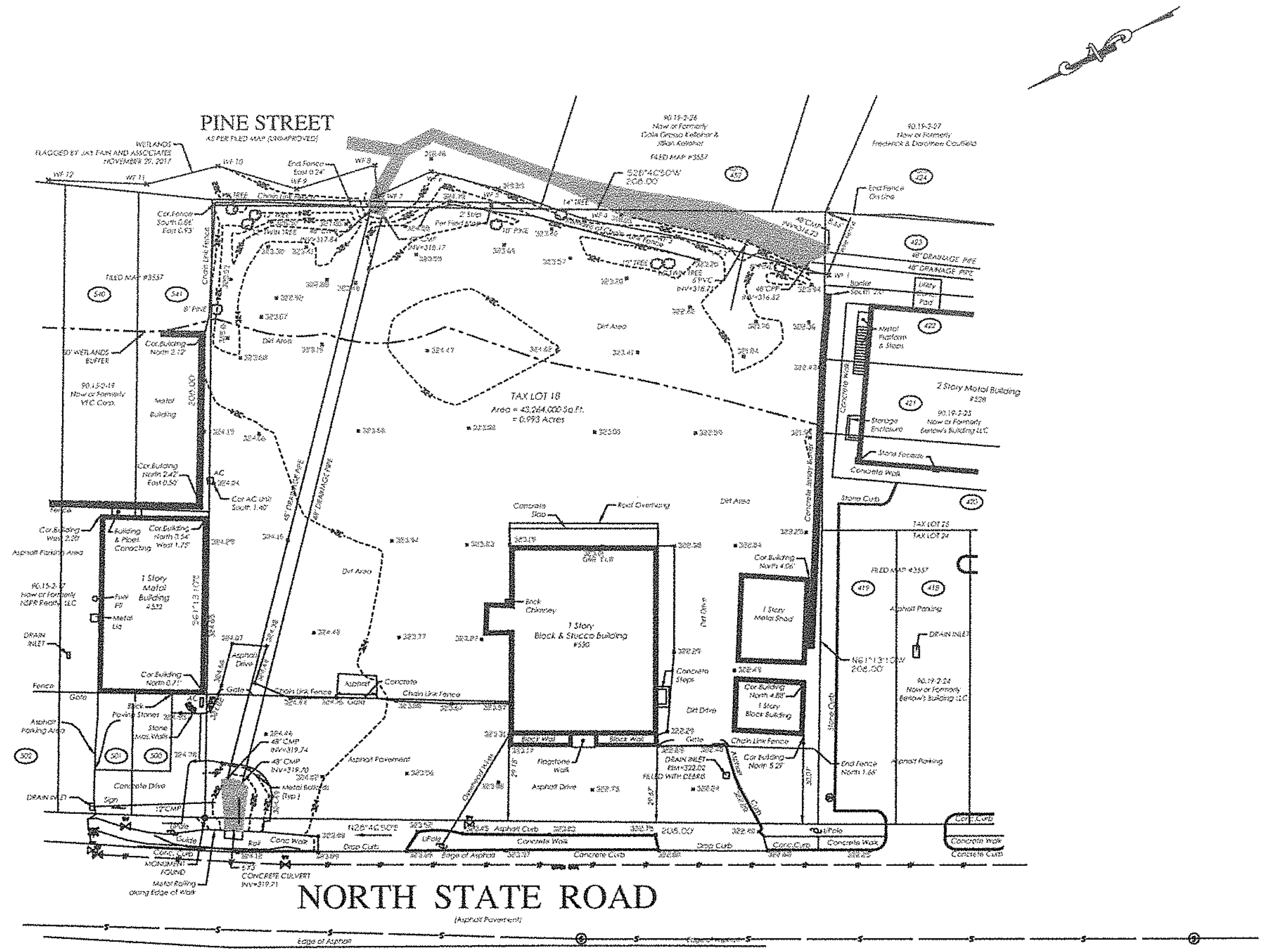
Project: **TLE Ossining, NY**		Drawing Name: **LOCATION MAP**	
Project Number: **TLENY-5-17-155**	Scale: **1"=300'**	Drawing Number: **Figure-1**	
Drawn By: **GPG**	Approved By:	Initial Date: **5/10/18**	

APPENDIX B

SITE MAPS

EXISTING CONDITIONS NOTE:

1. BOUNDARY & TOPOGRAPHY INFORMATION IS BASED ON A SURVEY TITLED "TOPOGRAPHY OF PROPERTY PREPARED FOR NSRR REALTY, LLC SITUATED IN THE TOWN OF OSSINING, WESTCHESTER COUNTY, NEW YORK" BY TC MERRITTS LAND SURVEYORS, 394 BEDFORD ROAD, PLEASANTVILLE, NY 10570 WITH LATEST REVISION DATE 12/4/2017.



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NO.	DATE	DESCRIPTION	INT.
1.	[illegible]	INITIAL SUBMISSION	[illegible]

REVISION

NO.	DATE	DESCRIPTION	INT.

PRINCIPALS
MATTHEW B. JARMEL, AIA, MBA
IRWIN M. KIZEL, AIA, PP
RICHARD A. JARMEL, PE

ASSOCIATES

Project: THE LEARNING EXPERIENCE
550 NORTH STATE ROAD
TOWN OF OSSINING
BRIARCLIFF MANOR, NY
SECTION 90.15, BLOCK 2, LOT 18

Project No.: TLENY-5-17-155	Scale: 1" = 20'
Drawn By: LB	Approved By: RAJ

Drawing Name: EXISTING CONDITIONS PLAN

Drawing Number: C-100

Sheet No: 2 of: 11

Initial Date: APRIL 27, 2018

RICHARD A. JARMEL
PROFESSIONAL ENGINEER
N.Y. LIC. #073898-1

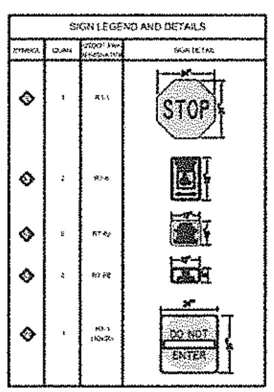
S:\PROJECTS\TLENY-5-17-155 TLE OSSINING NY\CAD\17-155 C-100 EXISTING.DWG GOLSARO PLOTTED: 05/21/2018

GENERAL NOTES:

1. BOUNDARY & TOPOGRAPHY INFORMATION IS BASED ON A SURVEY TITLED "TOPOGRAPHY OF PROPERTY PREPARED FOR NSBR REALTY, LLC SITUATED IN THE TOWN OF OSSINING, WESTCHESTER COUNTY, NEW YORK" BY TC MERRITTS LAND SURVEYORS, 394 BEDFORD ROAD, PLEASANTVILLE, NY 10570 WITH LATEST REVISION DATE 12/4/2017.
2. REFER TO ARCHITECTURAL DRAWINGS FOR EXACT DOOR LOCATIONS.
3. ALL CONSTRUCTION IS TO BE PERFORMED IN CONFORMANCE WITH ALL APPLICABLE LOCAL, COUNTY, STATE, AND FEDERAL CODES.
4. CONSTRUCTION MATERIALS AND METHODS NOT OTHERWISE SPECIFIED OR SHOWN HEREIN SHALL CONFORM TO NJDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION (LATEST EDITION AND AMENDMENTS).
5. THESE PLANS DEPICT THE SITE WORK IMPROVEMENTS FOR THIS PROJECT. THE CONTRACTOR SHALL FURNISH, INSTALL, TEST AND COMPLETE ALL WORK TO THE SATISFACTION OF THE ENGINEER AND OWNER IN ACCORDANCE WITH THE CONTRACT DOCUMENTS. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR MEANS AND METHODS, TECHNIQUES, SEQUENCE OF CONSTRUCTION AND JOB SITE SAFETY. AS SUCH, THESE PLANS ARE NOT INTENDED TO REPRESENT SPECIFIC INSTRUCTIONS REQUIRED FOR SITE WORK CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE TO CONSTRUCT ALL IMPROVEMENTS DEPICTED ON THESE PLANS IN ACCORDANCE WITH ALL APPLICABLE RULES, REGULATIONS AND LAWS IN EFFECT AT THE TIME OF CONSTRUCTION.
6. THE CONTRACTOR SHALL ACCEPT THE SITE AS IS. THE CONTRACTOR SHALL ASSESS CONDITIONS, AND THE KIND, QUALITY AND QUANTITY OF WORK REQUIRED. THE OWNER MAKES NO GUARANTEE IN REGARD TO THE ACCURACY OF ANY AVAILABLE INFORMATION WHICH WAS OBTAINED DURING INVESTIGATIONS. THE CONTRACTOR SHALL MAKE A THOROUGH INSPECTION OF THE SITE IN ORDER TO REVEAL EXISTING CONDITIONS, CORRELATE CONDITIONS WITH THE DRAWINGS AND RESOLVE ANY POSSIBLE CONSTRUCTION CONFLICTS WITH THE OWNER AND ENGINEER PRIOR TO BIDDING, ORDERING MATERIALS, AND COMMENCEMENT OF WORK. THE CONTRACTOR SHALL MAKE ADDITIONAL TOPOGRAPHIC SURVEYS HE DEEMS NECESSARY, PROVIDED THEY ARE COORDINATED WITH THE OWNER. ANY CONDITIONS DETERMINED BY THE CONTRACTOR THAT DIFFER FROM THE INFORMATION SHOWN ON THE DRAWINGS THAT ARE NOT BROUGHT TO THE ATTENTION OF THE OWNER AND ENGINEER PRIOR TO THE START OF WORK SHALL NOT BE CONSIDERED GROUNDS FOR ADDITIONAL PAYMENT OR CHANGES TO THE CONTRACT DURATION, OR ANY OTHER CLAIMS AGAINST THE OWNER OR OWNER'S ENGINEER.
7. THE CONTRACTOR SHALL PROVIDE WRITTEN REQUESTS FOR INFORMATION (RFIS) TO THE OWNER AND ENGINEER PRIOR TO THE CONSTRUCTION OF ANY SPECIFIC SITE WORK ITEM. THE (RFI) SHALL BE IN A FORM ACCEPTABLE TO OWNER AND ENGINEER AND SHALL ALLOW FOR A MINIMUM OF TWO WORK DAYS OR ADDITIONAL REASONABLE TIME FOR A WRITTEN REPLY. RFIS SHALL BE NUMBERED CONSECUTIVELY BY DATE SUBMITTED. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR SITE WORK ITEMS CONSTRUCTED DIFFERENTLY THAN INTENDED OR AS DEPICTED ON THE PLANS.
8. THE CONTRACTOR IS RESPONSIBLE TO CONTACT NEW YORK ONE CALL NOT LESS THAN 3 BUSINESS DAYS AND NOT MORE THAN 10 BUSINESS DAYS PRIOR TO THE BEGINNING OF ANY EXCAVATION OR DEMOLITION. NEW YORK ONE CALL INFORMATION – PHONE: 811, WEB: WWW.DIGSAFELYNEWYORK.COM
9. THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK, USING THE CONTRACTOR'S BEST SKILL AND ATTENTION. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE AND HAVE CONTROL OVER CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES AND JOB SITE SAFETY.
10. THE MUNICIPAL ENGINEER MUST BE NOTIFIED ONE WEEK PRIOR TO THE CONSTRUCTION OF ANY CURBING, SIDEWALKS, PAVEMENT GRADING, OR OTHER UTILITIES.
11. THE CONTRACTOR MUST NOTIFY THE DESIGN ENGINEER OF ANY CONDITION OF CONFLICTS THAT WILL ALTER THE INTENT OF THE DESIGN HEREIN.
12. CONTRACTOR IS REQUIRED TO REMOVE ALL UNSUITABLE MATERIALS FROM THE SITE IN ACCORDANCE WITH ALL APPLICABLE STATE AND LOCAL REGULATIONS.
13. ALL PROPOSED IMPROVEMENTS TO BE IN ACCORDANCE WITH CURRENT ADA AND NY BARRIER FREE CODE REQUIREMENTS.
14. SUBJECT TO ALL APPLICABLE RULES, REGULATIONS, ORDINANCES AND STATUTES OF THE TOWN OF OSSINING, WESTCHESTER COUNTY AND STATE OF NEW YORK AND ANY OTHER JURISDICTION.
15. NO DEED RESTRICTIONS OR COVENANTS EXIST ON SITE NOR ARE ANY PROPOSED.
16. CONTRACTOR SHALL REPLACE ALL CURBING ALONG THE SITE FRONTAGE THAT HE DAMAGES (AS DIRECTED BY THE TOWNSHIP OR COUNTY, AS APPLICABLE).
17. ALL WORK WITHIN THE TOWNSHIP ROAD RIGHT OF WAY SHALL BE ACCORDING TO TOWN OF OSSINING STANDARDS.

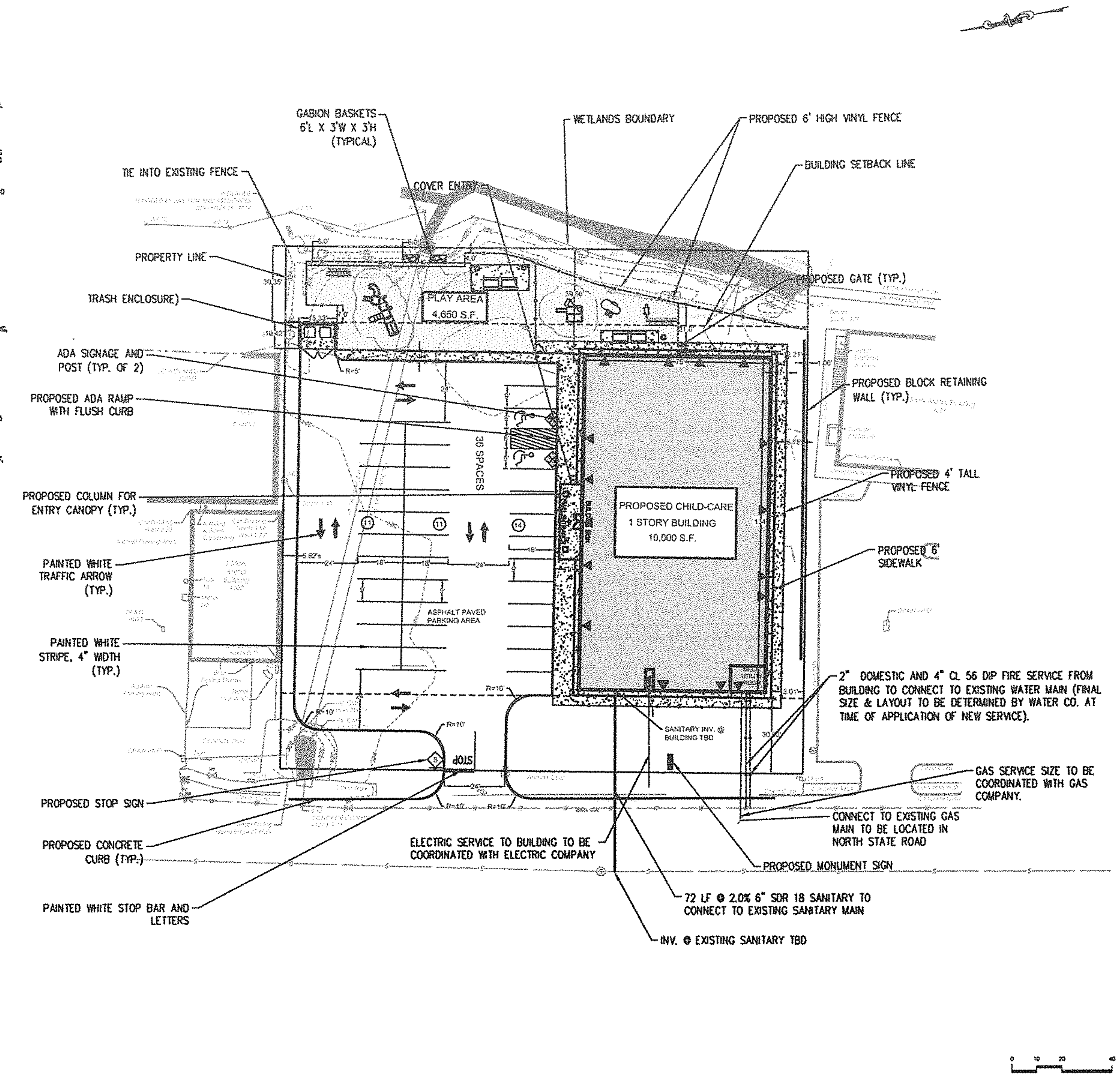
LEGEND

	EXISTING	PROPOSED
PROPERTY LINE		
BUILDING LINE		
BUILDING CANOPY		
CURB LINE		
DEPRESSED CURB	N/A	
CONCRETE WALK	N/A	
SIGN		
FENCE		



SIGN NOTES:

1. ALL SIGNS SHALL CONFORM TO THE MANUAL ON TRAFFIC CONTROL DEVICES
2. SIGNS, SIGN POSTS AND THEIR FOUNDATIONS AND SIGN MOUNTING SHALL BE SO CONSTRUCTED AS TO HOLD SIGNS IN A PROPER AND PERMANENT POSITION, TO RESIST SWAYING IN THE WIND OR DISPLACEMENT BY VANDALISM
3. REFER TO MOUNTING DETAILS FOR HEIGHTS. ALL SIGNS SHALL BE MEASURED FROM PAVEMENT OR GROUND TO BOTTOM OF SIGN



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1	2-22-18	INITIAL SUBMISSION	GRG

REVISION

NO.	DATE	DESCRIPTION	INT.

PRINCIPALS
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KEVIN M. KIZEL, AIA, PP
RICHARD A. JARMEL, PE
ASSOCIATES
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GERARD P. GESARIO, PE
FREDERICK KINCAID, RA
JEROME LESLIE ENGEN, FAIA, PP
CHERYL SEVENBERG, PSA

Project: THE LEARNING EXPERIENCE
530 NORTH STATE ROAD
TOWN OF OSSINING
BRIARCLIFF MANOR, NY
SECTION 90.15, BLOCK 2, LOT 18

Project No: TLENY-S-17-155	Scale: 1" = 20'
Drawn By: LB	Approved By: RAJ

Drawing Name: SITE AND UTILITIES PLAN

Drawing Number: C-300

Sheet No: 4 of: 11

Issue Date: APRIL 27, 2018

RICHARD A. JARMEL
PROFESSIONAL
ENGINEER
N.Y. LIC. #073898-1

GRADING AND DRAINAGE PLAN NOTES

1. BOUNDARY & TOPOGRAPHY INFORMATION IS BASED ON A SURVEY TITLED "TOPOGRAPHY OF PROPERTY PREPARED FOR NSRR REALTY, LLC SITUATED IN THE TOWN OF OSSINING, WESTCHESTER COUNTY, NEW YORK" BY TC MERRITTS LAND SURVEYORS, 394 BEDFORD ROAD, PLEASANTVILLE, NY 10570 WITH LATEST REVISION DATE 12/4/2017.

2. THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AS SHOWN ON THESE PLANS IS BASED ON SURVEY AND, WHERE POSSIBLE MEASUREMENTS SHOULD BE TAKEN IN THE FIELD. THE INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE CONTRACTOR MUST CALL THE APPROPRIATE UTILITY COMPANY AT LEAST 48 HOURS BEFORE ANY EXCAVATION TO REQUEST EXACT FIELD LOCATION OF UTILITIES. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS.

3. CONTRACTOR SHALL REFER TO ARCHITECTURAL PLANS AND SPECIFICATIONS FOR ACTUAL LOCATIONS OF ALL UTILITY ENTRANCES TO INCLUDE SANITARY SEWER LATERALS, DOMESTIC AND FIRE PROTECTION WATER SERVICE, ELECTRICAL, TELEPHONE AND GAS SERVICE. CONTRACTOR SHALL COORDINATE INSTALLATION OF UTILITES IN SUCH A MANNER AS TO AVOID CONFLICTS AND TO ENSURE PROPER DEPTHS ARE ACHIEVED AS WELL AS COORDINATING WITH THE UTILITY COMPANIES AS TO LOCATION AND SCHEDULING OF CONNECTIONS TO THEIR FACILITIES.

4. EXCAVATED MATERIAL CONTAINING ROCK OR STONE GREATER THAN SIX (6) INCHES IN LARGEST DIMENSION IS UNACCEPTABLE AS FILL TO WITHIN THE PROPOSED BUILDING AND PAVING AREA.

5. ROCK OR STONE LESS THAN SIX (6) INCHES IN LARGEST DIMENSION IS ACCEPTABLE AS FILL TO WITHIN TWENTY-FOUR (24) INCHES OF SURFACE OF PROPOSED SURGED WHEN MIXED WITH SUITABLE MATERIAL AS PERMITTED BY THE OWNER'S GEOTECHNICAL ENGINEER.

6. ROCK OR STONE LESS THAN TWO (2) INCHES IN LARGEST DIMENSION AND MIXED WITH SUITABLE MATERIAL IS ACCEPTABLE AS FILL WITHIN THE UPPER TWENTY-FOUR (24) INCH OF PROPOSED SUBGRADE AS PERMITTED BY THE OWNER'S GEOTECHNICAL ENGINEER.

7. ALL SITEWORK AND EARTHWORK OPERATIONS CONDUCTED ON THE SITE TO BE PERFORMED IN ACCORDANCE WITH THE GEOTECHNICAL ENGINEERING REPORT PREPARED BY THE OWNER'S GEOTECHNICAL ENGINEER.

8. COMPACTION CRITERIA FOR FILL PLACED IN THE FOLLOWING AREAS SHALL MEET OR EXCEED THE FOLLOWING MINIMUM PERCENTAGE OF MAXIMUM MODIFIED PROCTOR DRY DENSITY AS DETERMINED BY ASTM D-1557 USED ON REPRESENTATIVE SOIL SAMPLES, UNLESS MORE STRINGENT CRITERIA GIVEN ELSEWHERE:

FILL AREA	STANDARD PROCTOR DRY DENSITY
SIDEWALKS	95%
PAVEMENTS AND ROADWAYS	95%
LANDSCAPE AREAS	93%
TRENCH BACKFILL	SAME AS SURROUNDING AREA

9. PROTECT SUBGRADE FROM EXCESSIVE WHEEL LOADING DURING CONSTRUCTION, INCLUDING TRUCKS AND DUMP TRUCKS.

10. REMOVE AREAS OF FINISHED SUBGRADE FOUND TO HAVE INSUFFICIENT COMPACTION DENSITY TO DEPTH NECESSARY AND REPLACE IN A MANNER THAT WILL COMPLY WITH COMPACTION REQUIREMENTS BY USE OF MATERIAL EQUAL TO OR BETTER THAN BEST SUBGRADE MATERIAL ON SITE. SURFACE OF SUBGRADE AFTER COMPACTION SHALL BE HARD, UNIFORM, SMOOTH, STABLE, AND TRUE TO GRADE AND CROSS-SECTION.

11. GRADE ALL AREAS WHERE FINISH GRADE ELEVATIONS OR CONTOURS ARE INDICATED ON DRAWINGS, OTHER THAN PAVED AREAS AND BUILDINGS, INCLUDING EXCAVATED AREAS, FILLED AND TRANSITION AREAS, AND LANDSCAPED AREAS. GRADED AREAS SHALL BE UNIFORM AND SMOOTH, FREE FROM ROCK, DEBRIS, OR IRREGULAR SURFACE CHANGES. FINISHED SUBGRADE SURFACE SHALL NOT BE MORE THAN 0.10 FEET ABOVE OR BELOW ESTABLISHED FINISHED SUBGRADE ELEVATION, AND ALL GROUND SURFACES SHALL VARY UNIFORMLY BETWEEN INDICATED ELEVATIONS. FINISH DITCHES SHALL BE GRADED TO ALLOW FOR PROPER DRAINAGE WITHOUT PONDING AND IN A MANNER THAT WILL MINIMIZE EROSION POTENTIAL.

12. ALL CONCRETE, UNLESS OTHERWISE NOTED OR SPECIFIED BY REGULATORY AUTHORITIES, SHALL BE 4000 PSI.

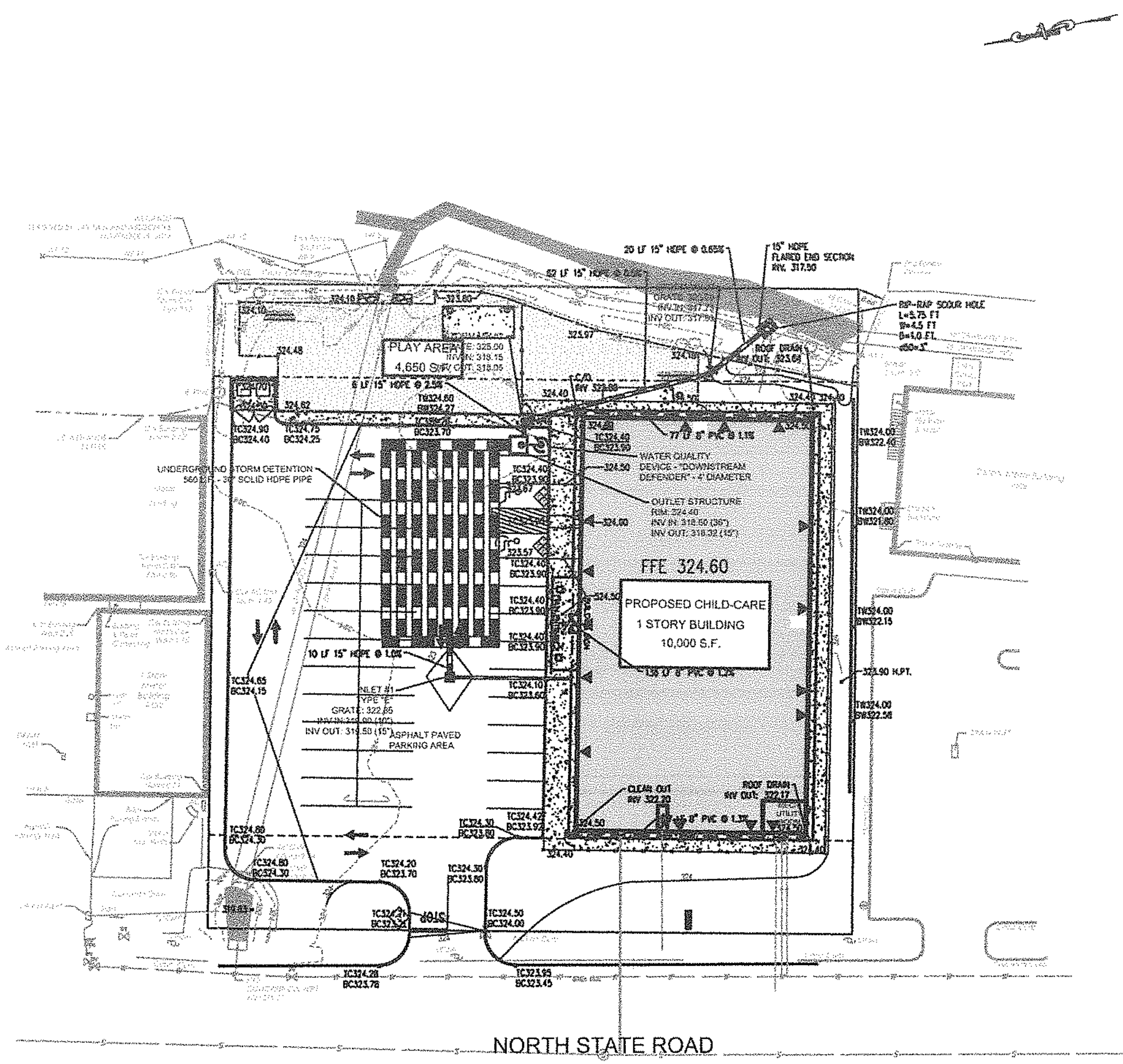
13. REPRESENTATIVES OF THE MUNICIPALITY SHALL HAVE THE RIGHT TO INSPECT THE DRAINAGE FACILITIES LOCATED ON THE PROPOSED LOT FROM TIME TO TIME AS DEEMED NECESSARY.

14. CATCH BASINS SHALL BE CLEANED OUT PERIODICALLY TO PREVENT THE BUILDUP OF SEDIMENT AND DEBRIS IN STRUCTURES.

15. ROOF LEADER CLEANOUTS LOCATED IN GRASSED AREAS SHALL BE PLASTIC SCREW CAPS WHILE ROOF LEADER CLEANOUTS LOCATED WITHIN CONCRETE AREAS SHALL BE FLUSH BRASS CAPS.

LEGEND

	EXISTING	PROPOSED
STORM SEWER	N/A	
PROPERTY LINE		
MANHOLE	N/A	
CATCH BASIN	N/A	
SPOT ELEVATION		99.32
CONTOUR		



SUJPROJECTS\TLENY-S-17-155 TLE OSSINING-NY\CAD\17-155 C-400 GRAD PLAN.DWG CGESARO PLOTTED 05/21/2018

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Project: THE LEARNING EXPERIENCE
520 NORTH STATE ROAD
TOWN OF OSSINING
BRIARCLIFF MANOR, NY
SECTION 90.15, BLOCK 2, LOT 18

Project No:	Scale:
TLENY-S-17-155	1" = 20'
Drawn By: LB	Approved By: RAJ

Drawing Name:
GRADING AND DRAINAGE PLAN

Drawing Number: C-400

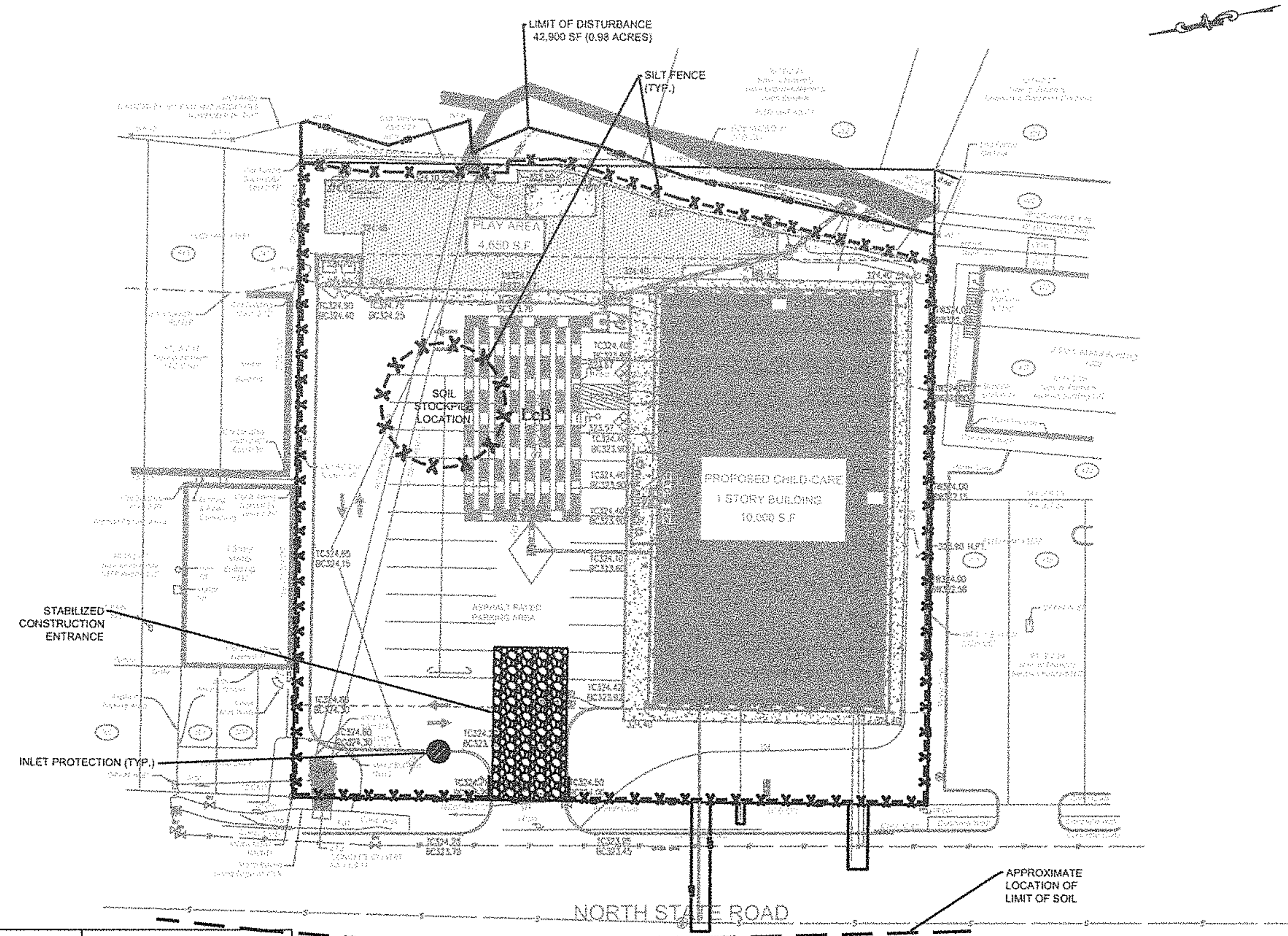
Sheet No: 5 of: 11

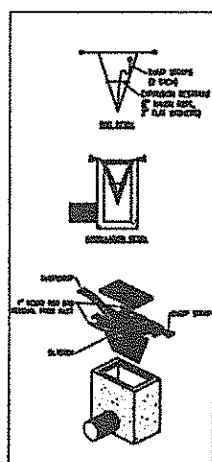
Initial Date: APRIL 27, 2018

RICHARD A. JARMEL
PROFESSIONAL ENGINEER
N.Y. LIC. #073898-1

SOIL EROSION AND SEDIMENT CONTROL NOTES:

1. ALL SOIL EROSION AND SEDIMENT CONTROL PRACTICES SHALL BE INSTALLED PRIOR TO ANY MAJOR SOIL DISTURBANCES, OR IN THEIR PROPER SEQUENCE AND MAINTAINED UNTIL PERMANENT PROTECTION IS ESTABLISHED.
2. ANY DISTURBED AREAS THAT WILL BE LEFT EXPOSED MORE THAN 30 DAYS AND NOT SUBJECT TO CONSTRUCTION TRAFFIC, WILL IMMEDIATELY RECEIVE A TEMPORARY SEEDING. IF THE SEASON PREVENTS THE ESTABLISHMENT OF A TEMPORARY COVER, THE DISTURBED AREAS WILL BE MULCHED WITH STRAW, OR EQUIVALENT MATERIAL, AT A RATE OF TWO (2) TONS PER ACRE, ACCORDING TO NY STATE STANDARDS.
3. PERMANENT VEGETATION SHALL BE SEEDED OR SODDED ON ALL EXPOSED AREAS WITHIN TEN (10) DAYS AFTER FINAL GRADING. MULCH WILL BE USED FOR PROTECTION UNTIL SEEDING IS ESTABLISHED.
4. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE NEW YORK STATE STANDARDS FOR SOIL EROSION AND SEDIMENT CONTROL.
5. ALL WORK WITHIN COUNTY RIGHT-OF-WAY SHALL BE DONE IN ACCORDANCE WITH NASSAU COUNTY RULES AND REGULATIONS.
6. A SUB-BASE COURSE WILL BE APPLIED IMMEDIATELY FOLLOWING ROUGH GRADING AND INSTALLATION OF IMPROVEMENTS IN ORDER TO STABILIZE STREETS, ROADS, DRIVEWAYS AND PARKING AREAS. IN AREAS WHERE NO UTILITIES ARE PRESENT, THE SUB-BASE SHALL BE INSTALLED WITHIN 15 DAYS OF PRELIMINARY GRADING.
7. AT THE TIME WHEN THE SITE PREPARATION FOR PERMANENT VEGETATIVE STABILIZATION IS GOING TO BE ACCOMPLISHED, ANY SOIL THAT WILL NOT PROVIDE A SUITABLE ENVIRONMENT TO SUPPORT ADEQUATE VEGETATIVE GROUND COVER, SHALL BE REMOVED OR TREATED IN SUCH A WAY THAT WILL PERMANENTLY ADJUST THE SOIL CONDITIONS AND RENDER IT SUITABLE FOR VEGETATIVE GROUND COVER. IF THE REMOVAL OR TREATMENT OF THE SOIL WILL NOT PROVIDE SUITABLE CONDITIONS, NON-VEGETATIVE MEANS OF PERMANENT GROUND STABILIZATION WILL HAVE TO BE EMPLOYED.
8. CONTRACTOR IS RESPONSIBLE FOR KEEPING ALL ADJACENT ROADS CLEAN DURING LIFE OF CONSTRUCTION OF PROJECT.
9. THE DEVELOPER SHALL BE RESPONSIBLE FOR REMEDIATING ANY EROSION OR SEDIMENT PROBLEMS THAT ARISE AS A RESULT OF ONGOING CONSTRUCTION AT THE REQUEST OF THE SOMERSET-UNION SOIL CONSERVATION DISTRICT.

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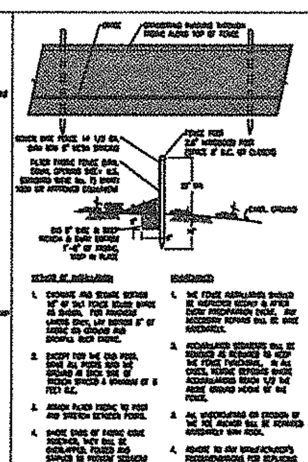
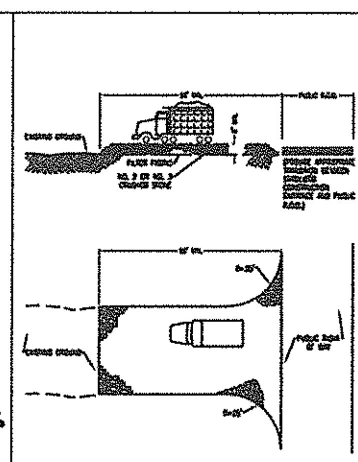
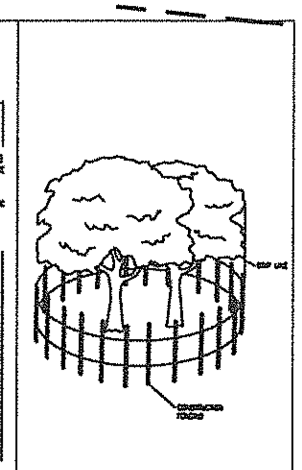

36" SILT FENCE DETAIL


STABILIZED CONSTRUCTION ENTRANCE


TREE PROTECTION DETAIL

SEQUENCE OF CONSTRUCTION:

ITEM	DURATION
1. INSTALL SOIL EROSION MEASURES	2
2. DEMO SITE	7
3. GRADE SITE FOR BUILDING AND PAVEMENT	5
4. CONSTRUCT BUILDING AND PLAY AREA	200
5. CONSTRUCT STORM SYSTEM	15
6. CONNECT UTILITIES	5
7. INSTALL NEW CURB	5
8. POUR NEW WALKWAYS	5
9. PAVE DRIVEWAYS & LINESTRIPING	10
10. PLANT NEW VEGETATION	5
11. REMOVE SOIL EROSION MEASURES	1
TOTAL:	260 DAYS

LEGEND

PROPERTY LINE	
CONSTRUCTION ENTRANCE	
SILT FENCE	—X—X—
LIMIT OF DISTURBANCE	
SOIL TYPE	LcB: LEICESTER LOAM, 3% TO 8% SLOPES, STONY
	CrC: CHARLTON-CHATFIELD COMPLEX, 0% TO 15% SLOPES, VERY ROCKY

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ISSUE

NO.	DATE	DESCRIPTION	INT.
1	5.20.18	INITIAL SUBMISSION	DRG

REVISION

NO.	DATE	DESCRIPTION	INT.

Project: THE LEARNING EXPERIENCE
530 NORTH STATE ROAD
TOWN OF OSSINING
BRIARCLIFF MANOR, NY
SECTION 90.15, BLOCK 2, LOT 78

Project No: TLENY-S-17-155	Scale: 1" = 20'
Drawn By: LB	Approved By: RAJ

Drawing Name:
SOIL EROSION AND SEDIMENT CONTROL PLAN

Drawing Number: C-700

Sheet No: 8 of: 11

Initial Date: APRIL 27, 2018

RICHARD A. JARMEL
PROFESSIONAL ENGINEER
N.Y. LIC. #073898-1

APPENDIX C

CONSTRUCTION GENERAL PERMIT

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APPENDIX D

NOI AND ACKNOWLEDGEMENT LETTER FROM EPA/STATE

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APPENDIX E

INSPECTION REPORTS

Stormwater Construction Site Inspection Report

General Information

Project Name:	
Location:	
Date of Inspection:	Start/End Time:
Inspector's Name:	
Inspector's Title:	
Inspector's Contact Information:	
Describe present phase of construction:	
Type of Inspection: ☐ 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:

Certification Statement

"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 there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

Signature of Inspector *Printed Name and Title* *Date*

Overall Site Issues

Below are some general site issues that should be assessed during inspections. Customize this list as needed for conditions at your site.

BMP/activity	Implemented?	Maintenance Required?	Corrective Action Needed and Notes
1. All inactive slopes and disturbed areas have been stabilized.	☐Yes ☐No	☐Yes ☐No	
2. Are natural resource areas (e.g., streams, wetlands, mature trees, etc.) protected with barriers or similar BMPs?	☐Yes ☐No	☐Yes ☐No	
3. Are all sanitary waste recepticles placed in secondary containment and free of leaks?	☐Yes ☐No	☐Yes ☐No	
4. Are perimeter controls and sediment barriers adequately installed (keyed into substrate) and maintained?	☐Yes ☐No	☐Yes ☐No	
5. Are discharge points and receiving waters free of any sediment deposits?	☐Yes ☐No	☐Yes ☐No	
6. Are storm drain inlets properly protected?	☐Yes ☐No	☐Yes ☐No	
7. Is the construction exit preventing sediment from being tracked into the street?	☐Yes ☐No	☐Yes ☐No	
8. Is trash/litter from work areas collected and placed in covered dumpsters?	☐Yes ☐No	☐Yes ☐No	
9. Are washout facilities (e.g., paint, stucco, concrete) available, clearly marked, and maintained?	☐Yes ☐No	☐Yes ☐No	
10. Are vehicle and equipment fueling, cleaning, and maintenance areas free of spills, leaks, or any other deleterious material?	☐Yes ☐No	☐Yes ☐No	
11. Are materials that are potential stormwater contaminants stored inside or under cover?	☐Yes ☐No	☐Yes ☐No	
12. Are non-stormwater discharges (e.g., wash water, dewatering) properly controlled?	☐Yes ☐No	☐Yes ☐No	
13. (Other)	☐Yes ☐No	☐Yes ☐No	

APPENDIX F

CORRECTIVE ACTION LOG

Appendix F – Corrective Action Log

Project Name:
SWPPP Contact:

Inspection Date	Inspector Name(s)	Description of BMP Deficiency	Corrective Action Needed (including planned date/responsible person)	Date Action Taken/Responsible person

APPENDIX G

SWPPP AMENDMENT LOG

Appendix G – SWPPP Amendment Log

Project Name:
SWPPP Contact:

Amendment No.	Description of the Amendment	Date of Amendment	Amendment Prepared by [Name(s) and Title]

APPENDIX H

SUBCONTRACTOR CERTIFICATION/AGREEMENTS

Appendix H – Subcontractor Certifications/Agreements

SUBCONTRACTOR CERTIFICATION
STORMWATER POLLUTION PREVENTION PLAN

Project Number: _____

Project Title: _____

Operator(s): _____

As a subcontractor, you are required to comply with the Stormwater Pollution Prevention Plan (SWPPP) for any work that you perform on-site. Any person or group who violates any condition of the SWPPP may be subject to substantial penalties or loss of contract. You are encouraged to advise each of your employees working on this project of the requirements of the SWPPP. A copy of the SWPPP is available for your review at the office trailer.

Each subcontractor engaged in activities at the construction site that could impact stormwater must be identified and sign the following certification statement:

I certify under the penalty of law that I have read and understand the terms and conditions of the SWPPP for the above designated project and agree to follow the BMPs and practices described in the SWPPP.

This certification is hereby signed in reference to the above named project:

Company: _____

Address: _____

Telephone Number: _____

Type of construction service to be provided: _____

_____

_____

Signature: _____

Title: _____

Date: _____

APPENDIX I

GRADING & STABILIZATION ACTIVITIES LOG

Appendix I – Grading and Stabilization Activities Log

Project Name:
SWPPP Contact:

Date Grading Activity Initiated	Description of Grading Activity	Date Grading Activity Ceased (Indicate Temporary or Permanent)	Date When Stabilization Measures are Initiated	Description of Stabilization Measure and Location

APPENDIX J

TRAINING LOG

Appendix J – SWPPP Training Log

Stormwater Pollution Prevention Training Log

Project Name:

Project Location:

Instructor's Name(s):

Instructor's Title(s):

Course Location: _____ Date: _____

Course Length (hours): _____

Stormwater Training Topic: *(check as appropriate)*

- ❑ **Erosion Control BMPs**
- ❑ **Emergency Procedures**
- ❑ **Sediment Control BMPs**
- ❑ **Good Housekeeping BMPs**
- ❑ **Non-Stormwater BMPs**

Specific Training Objective:_____

_____

Attendee Roster: *(attach additional pages as necessary)*

No.	Name of Attendee	Company
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		

APPENDIX K

DELEGATION OF AUTHORITY

Appendix K – Delegation of Authority Form

Delegation of Authority

I, _____ (name), hereby designate the person or specifically described position below to be a duly authorized representative for the purpose of overseeing compliance with environmental requirements, including the Construction General Permit, at the _____ construction site. The designee is authorized to sign any reports, stormwater pollution prevention plans and all other documents required by the permit.

_____ (name of person or position)
_____ (company)
_____ (address)
_____ (city, state, zip)
_____ (phone)

By signing this authorization, I confirm that I meet the requirements to make such a designation as set forth in _____ (Reference State Permit), and that the designee above meets the definition of a "duly authorized representative" as set forth in _____ (Reference State Permit).

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 there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Name: _____

Company: _____

Title: _____

Signature: _____

Date: _____

APPENDIX L

ADDITIONAL INFORMATION

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APPENDIX M

STORMWATER MANAGEMENT\HYDRAULIC CALCULATIONS

Jarmel Kizel
ARCHITECTS AND ENGINEERS INC.

STORMWATER MANAGEMENT REPORT

FOR

THE LEARNING EXPERIENCE

530 North State Road
Section 90.15 Block 2, Lot 18
Town of Ossining / Briarcliff Manor
Westchester County, New York

Prepared by
Jarmel Kizel Architects & Engineers, Inc.

Prepared For:
Briarcliff Manor Partners, LLC
42 Okner Parkway
Livingston, NJ 07039

Jarmel Kizel Project No. TLENY-S-17-155
Dated: May 21, 2018

Richard A. Jarmel, PE
Professional Engineer
N.Y. License No. 073898-1

Signature

ARCHITECTURE
ENGINEERING
SPACE PLANNING
INTERIOR DESIGN
IMPLEMENTATION SERVICES

PRINCIPALS
MARVIN JARMEL, IIDA
MATTHEW B. JARMEL, AIA, MBA
IRWIN H. KIZEL, AIA, PP
RICHARD A. JARMEL, PE

NJ STATE BOARD OF ARCHITECTS
CERTIFICATE OF AUTHORIZATION NUMBER 161

NJ STATE BOARD OF PROFESSIONAL ENGINEERS AND LAND SURVEYORS
CERTIFICATE OF AUTHORIZATION NUMBER GA278177

42 Okner Parkway
Livingston, NJ 07039

TEL: (973) 994-9669
FAX: (973) 994-4069

www.jarmelkizel.com

Table of Contents

APPENDICES

INTRODUCTION

This report has been prepared on behalf of the applicant, Briarcliff Manor Partners, LLC, in support of their application for the construction of a child daycare center located at 530 North State Road, Town of Ossining\Briarcliff Manor, Westchester County, New York. The purpose of this report is to demonstrate compliance with the local stormwater management regulations applicable to this project.

PROJECT DESCRIPTION

530 North State Road is located along the east side of North State Road roughly midway between the intersections of Blue Lantern Road to the south and Ryder Avenue to the north. Refer to Figure 1, Location Map, located in Appendix A. The parcel is designated as Section 90.15, Block 2, Lot 18 on the tax maps. The property is a square shaped lot with an area of 43,262 square feet (0.993 acres). Commercial properties exist immediately to the north and south of the subject property as well as across North State Road. To the east of the subject property is a residential zoned neighborhood.

The proposed project is for the development of a 10,000 square foot single-story child-care center with an outdoor play area of just over 4,600 square feet, and on-site parking for 36 vehicles.

The Site development will increase the amount of impervious surface from the previously developed conditions thus increasing the amount of stormwater runoff leaving the site. In order to mitigate the increase in runoff, the project will incorporate a sub-surface HDPE detention system.

PROPOSED STORMWATER MANAGEMENT

Existing Site Conditions

The site was formerly developed as a garden center and contains a single story main structure and two (2) smaller ancillary structures. Site access is presently is currently provided via two (2) full-movement driveways along North State Road. The site is paved to roughly the front of the existing main building and the remainder of the lot is bare earthed compacted from its use as a storage area. The existing structures and ancillary impervious surfaces will be demolished for the new development.

The site, roughly 75 percent, slopes mildly from north to south toward the watercourse along the rear of the property. The remaining 25 percent of the site is an area along North State Road that slopes toward North State Road. For analysis, both the above described watershed areas were examined with Area 1, 0.213 acres, being the area draining onto North State Road and Area 2, 0.773 acres, being the area draining directly to the existing watercourse along the rear of the property. An Existing Conditions Drainage Area Map is enclosed for reference. Existing peak flow rates for the watershed areas are provided in Table 1 below.

Table 1: Existing Peak Flows

Storm Event	Existing Peak Flow (cfs)	
	Area 1 0.213 Acres to North State Road	Area 2 0.773 Acres to Ex. Watercourse
2-YR	0.191	0.336
10-YR	0.895	2.823
100-YR	1.565	5.337

Proposed Site Conditions

The development of the proposed child daycare center will require the demolition of all existing structures and impervious surfaces. The proposed development calls for a 10,000 square foot single-story child-care center with an outdoor play area of just over 4,600 square feet, and on-site parking for 36 vehicles. The proposed condition has been divided into three (3) watershed areas for the purposes of analysis. Area 1, 0.103 acres, is the developed condition area that will drain toward North State Road. Area 2, 0.241 acres, is the developed area that will drain directly toward the existing watercourse along the rear of the property, and Area 3, 0.651 acres, is the developed area that will be captured and directed to the sub-surface detention system.

The proposed detention system will consist of a network of solid 36-inch HDPE pipe totaling 560 linear feet located below the parking area. The pipe network will discharge into an outflow control structure designed to attenuate flows such that the total developed runoff from the site when adding the routed outflow to the un-detained flow from Area 2 will be at or below the existing condition flows from Area 2. In addition, the developed peak flow rates for Area 1will

be at or below the existing condition flow rates for Area 1. The watershed areas and associated developed peak flow rates are provided in Table 2 below.

Table 2: Developed Peak Flows

Storm Event	Developed Peak Flow (cfs)		
	Area 1 0.103 Acres to North State Road	Area 2 Un-detained 0.241 Acres to Ex. Watercourse	Area 3 0.651 Acres to Sub-surface Detention to Ex. Watercourse
2-YR	0.024	0.065	0.709
10-YR	0.332	0.797	2.808
100-YR	0.668	1.586	4.832

Water Quantity Design

A comparison of the existing and proposed peak flow rates summarized in Tables 1 and 2 above indicate a decrease in runoff to North State Road and an increase in runoff to the existing watercourse along the rear of the property. In order to mitigate the increase in runoff to the existing watercourse such that the developed peak flow rates will be the same or less than the existing peak flow rates, a sub-surface detention system is proposed. As described above, the proposed detention system will consist of a network of solid 36-inch HDPE pipe totaling 560 linear feet located below the parking area. The pipe network will discharge into an outflow control structure designed to attenuate flows as necessary.

The runoff from Area 2, 0.241 acres un-detained to the existing watercourse, was subtracted from the existing Area 2 peak flow rates to determine the allowable detention system routed peak flow rates. The tank will release collected storm runoff through a 3.5-inch diameter low flow orifice and a secondary 9-inch orifice set 0.8 feet above the low flow orifice, and an 18-weir set 2.50 feet above the low flow orifice invert. The routed peak discharges through the detention structure result in a reduction of peak flows such that the developed peak flow to the existing watercourse is less than the existing peak flow toward the same location.

Tables 3 and 4 below summarize the existing peak flow rates, developed peak flow rates and the actual routed outflows from the proposed detention tank.

Table 3 – Summary of Peak Discharges – North State Road

Storm Event	Peak Flow Comparisons	
	Area 1-Existing 0.213 Acres to North State Road	Area 1-Developed 0.103 Acres to North State Road
2-YR	0.191	0.024
10-YR	0.895	0.332
100-YR	1.565	0.668

Table 4 – Summary of Peak Discharges and Routed Outflow - Watercourse

Storm Event	Existing Peak Flow (cfs)	Bypass Peak Flow (cfs)	Allowable Routed Peak Flow (cfs)	Actual Routed Peak Discharge (cfs)	Peak Flow Reduction %
2-YR	0.336	0.065	0.271	0.251	6.0%
10-YR	2.823	0.797	2.026	1.933	3.3%
100-YR	5.337	1.586	3.751	3.414	6.3%

The routed outflow from the detention basin will discharge via roughly 90 linear feet of 15-inch diameter pipe to a proposed scour hole located at the watercourse just outside the wetland line.

Water Quality Design

The proposed development has been designed to incorporate measures to improve the water quality leaving the site. Due to the predominantly bare earth nature of the existing ground coverage, runoff overland to the existing watercourse most likely contains a high sedimentation rate. The development of the site will eliminate this condition by replacing the bare earth coverage with pavement and a predominantly grassed play area. The change in surface coverage alone will greatly enhance the water quality leaving the site. In addition, the design will incorporate a "Downstream Defender" manufactured treatment device sized appropriately for the flow coming from the one-year design storm, 2.8 inches of rainfall, per the NY State Stormwater Design Manual.

Conclusion

As demonstrated by the above and attached hydraulic computations, there will be no increase, as compared to the existing condition, in the peak runoff rates of stormwater leaving the site for the 2, 25, and 100-year storm events. As is demonstrated in the tables presented in this report, stormwater runoff leaving the site will be reduced.

It is our opinion based on the above and enclosed calculations and supplemental information that the proposed improvements are designed in accordance with local, county and state standards. The measures and design provided herein and as shown on the Preliminary\Final Site Plan Drawings submitted as part of this application are intended to prevent or limit the impact of the proposed development on the site and the surrounding areas with respect to stormwater quantity and quality control.

APPENDIX 1

Existing Peak Flow Hydrographs

Hydrograph Return Period Recap

Hydraflow Hydrographs by Intelisolve v9.1

Hyd. No.	Hydrograph type (origin)	Inflow Hyd(s)	Peak Outflow (cfs)								Hydrograph description
			1-Yr	2-Yr	3-Yr	5-Yr	10-Yr	25-Yr	50-Yr	100-Yr	
1	SCS Runoff	-------	0.468	0.191	-------	-------	0.895	-------	-------	1.565	EX. TO NORTH STATE ROAD
2	SCS Runoff	-------	1.247	0.336	-------	-------	2.823	-------	-------	5.337	EX. TO CHANNEL
3	SCS Runoff	-------	0.129	0.024	-------	-------	0.332	-------	-------	0.668	PR. TO NORTH STATE ROAD
4	SCS Runoff	-------	0.319	0.065	-------	-------	0.797	-------	-------	1.586	PR BYPASSING DETENTION
5	SCS Runoff	-------	1.534	0.709	-------	-------	2.808	-------	-------	4.832	PR TO DETENTION
6	Reservoir	5	0.911	0.251	-------	-------	1.933	-------	-------	3.414	UG STORAGE ROUTING

Hydrograph Summary Report

Hydraflow Hydrographs by Intelisolve v9.1

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph description
1	SCS Runoff	0.191	2	728	734	----	------	------	EX. TO NORTH STATE ROAD
2	SCS Runoff	0.336	2	730	1,352	----	------	------	EX. TO CHANNEL
3	SCS Runoff	0.024	2	730	113	----	------	------	PR. TO NORTH STATE ROAD
4	SCS Runoff	0.065	2	730	291	----	------	------	PR BYPASSING DETENTION
5	SCS Runoff	0.709	2	728	2,880	----	------	------	PR TO DETENTION
6	Reservoir	0.251	2	748	2,871	5	319.26	777	UG STORAGE ROUTING

Hydrograph Report

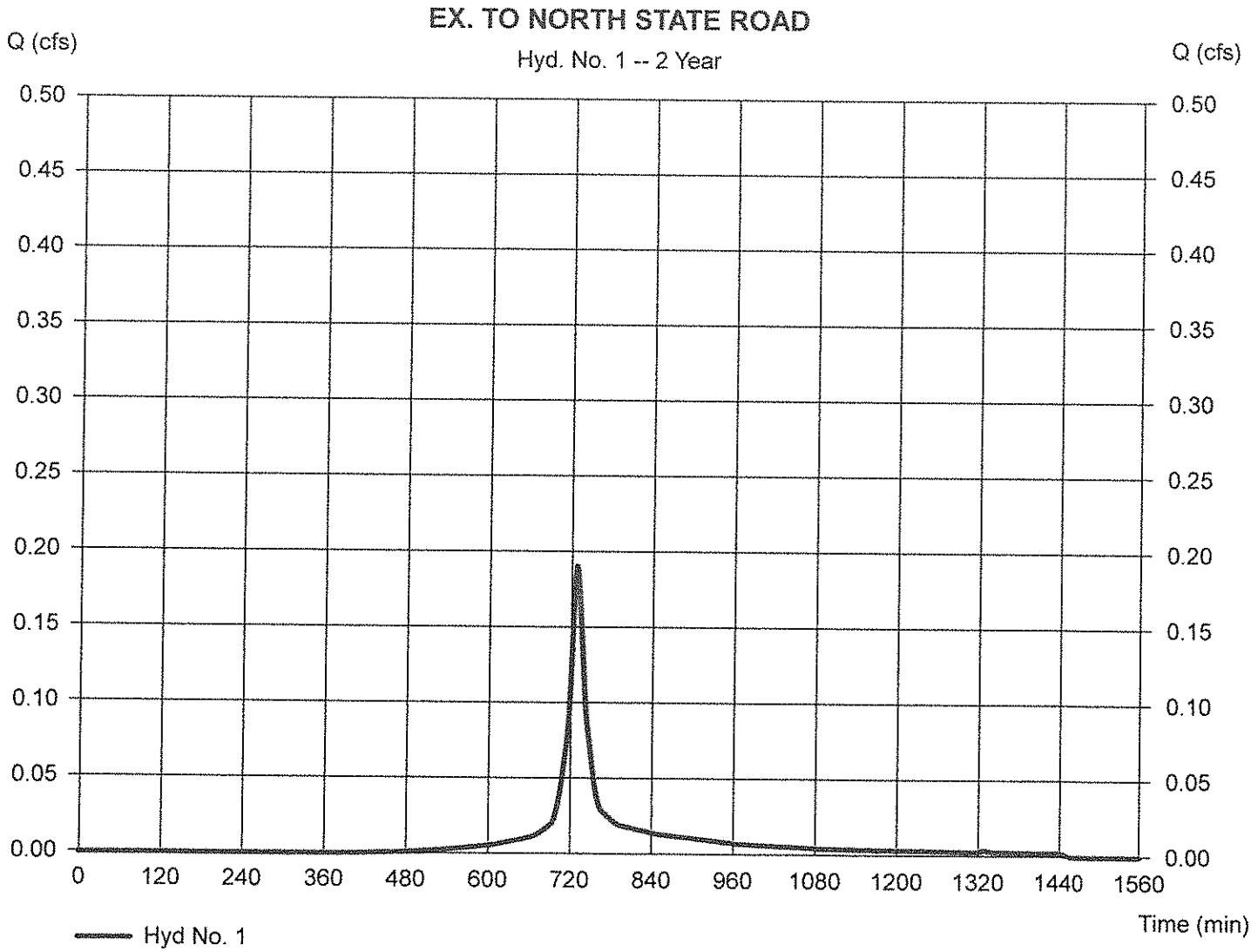
Hydraflow Hydrographs by Intelisolve v9.1

Tuesday, May 22, 2018

Hyd. No. 1

EX. TO NORTH STATE ROAD

Hydrograph type	= SCS Runoff	Peak discharge	= 0.191 cfs
Storm frequency	= 2 yrs	Time to peak	= 728 min
Time interval	= 2 min	Hyd. volume	= 734 cuft
Drainage area	= 0.213 ac	Curve number	= 95
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= USER	Time of conc. (Tc)	= 10.00 min
Total precip.	= 1.40 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484



Hydrograph Report

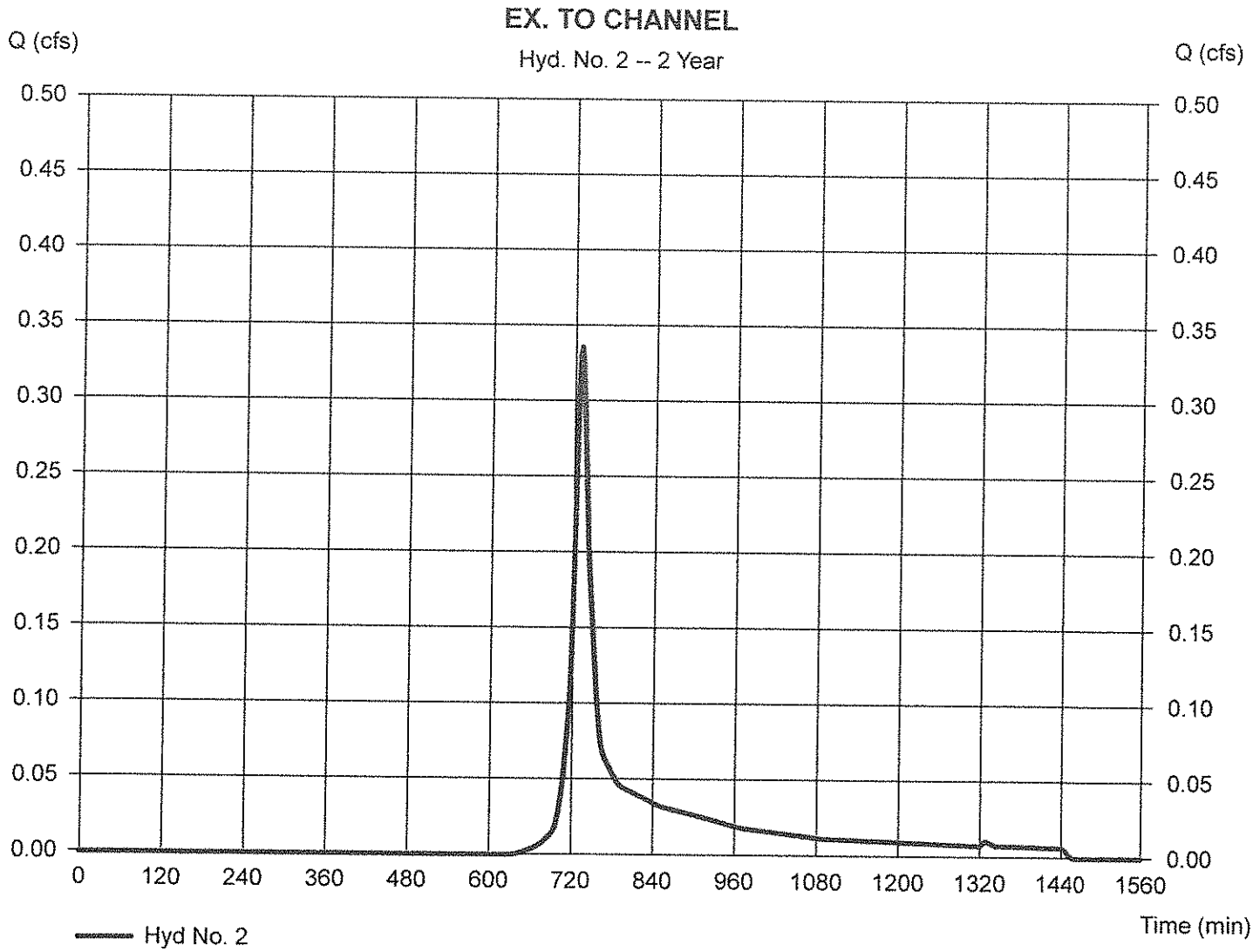
Hydraflow Hydrographs by Intelisolve v9.1

Tuesday, May 22, 2018

Hyd. No. 2

EX. TO CHANNEL

Hydrograph type	= SCS Runoff	Peak discharge	= 0.336 cfs
Storm frequency	= 2 yrs	Time to peak	= 730 min
Time interval	= 2 min	Hyd. volume	= 1,352 cuft
Drainage area	= 0.773 ac	Curve number	= 87
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= USER	Time of conc. (Tc)	= 10.00 min
Total precip.	= 1.40 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484



Hydrograph Summary Report

Hydraflow Hydrographs by Intelisolve v9.1

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph description
1	SCS Runoff	0.895	2	728	3,721	----	------	------	EX. TO NORTH STATE ROAD
2	SCS Runoff	2.823	2	728	11,006	----	------	------	EX. TO CHANNEL
3	SCS Runoff	0.332	2	728	1,274	----	------	------	PR. TO NORTH STATE ROAD
4	SCS Runoff	0.797	2	728	3,068	----	------	------	PR BYPASSING DETENTION
5	SCS Runoff	2.808	2	728	12,216	----	------	------	PR TO DETENTION
6	Reservoir	1.933	2	736	12,207	5	320.23	2,341	UG STORAGE ROUTING

Hydrograph Report

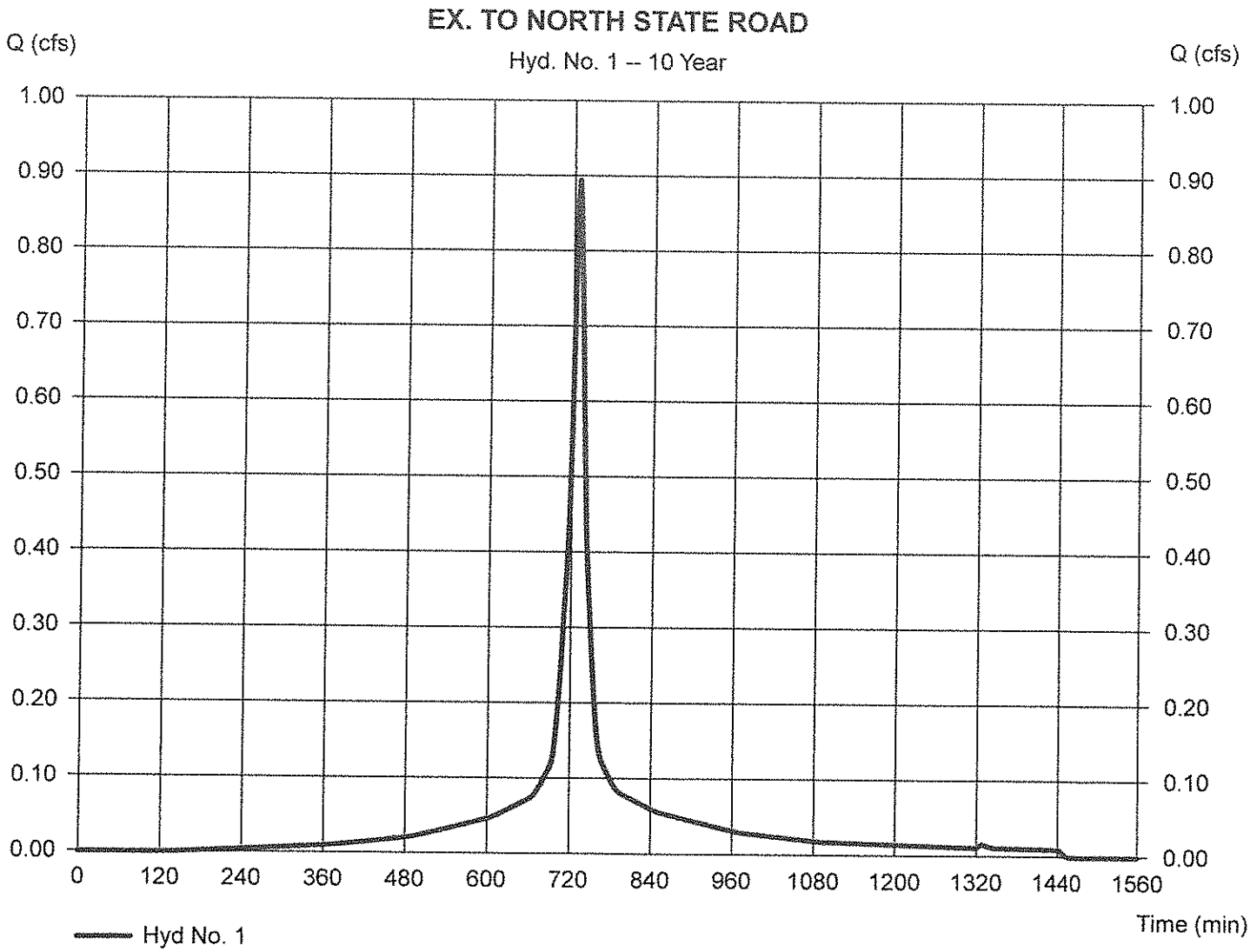
Hydraflow Hydrographs by Intelisolve v9.1

Tuesday, May 22, 2018

Hyd. No. 1

EX. TO NORTH STATE ROAD

Hydrograph type	= SCS Runoff	Peak discharge	= 0.895 cfs
Storm frequency	= 10 yrs	Time to peak	= 728 min
Time interval	= 2 min	Hyd. volume	= 3,721 cuft
Drainage area	= 0.213 ac	Curve number	= 95
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= USER	Time of conc. (Tc)	= 10.00 min
Total precip.	= 5.25 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484



Hydrograph Report

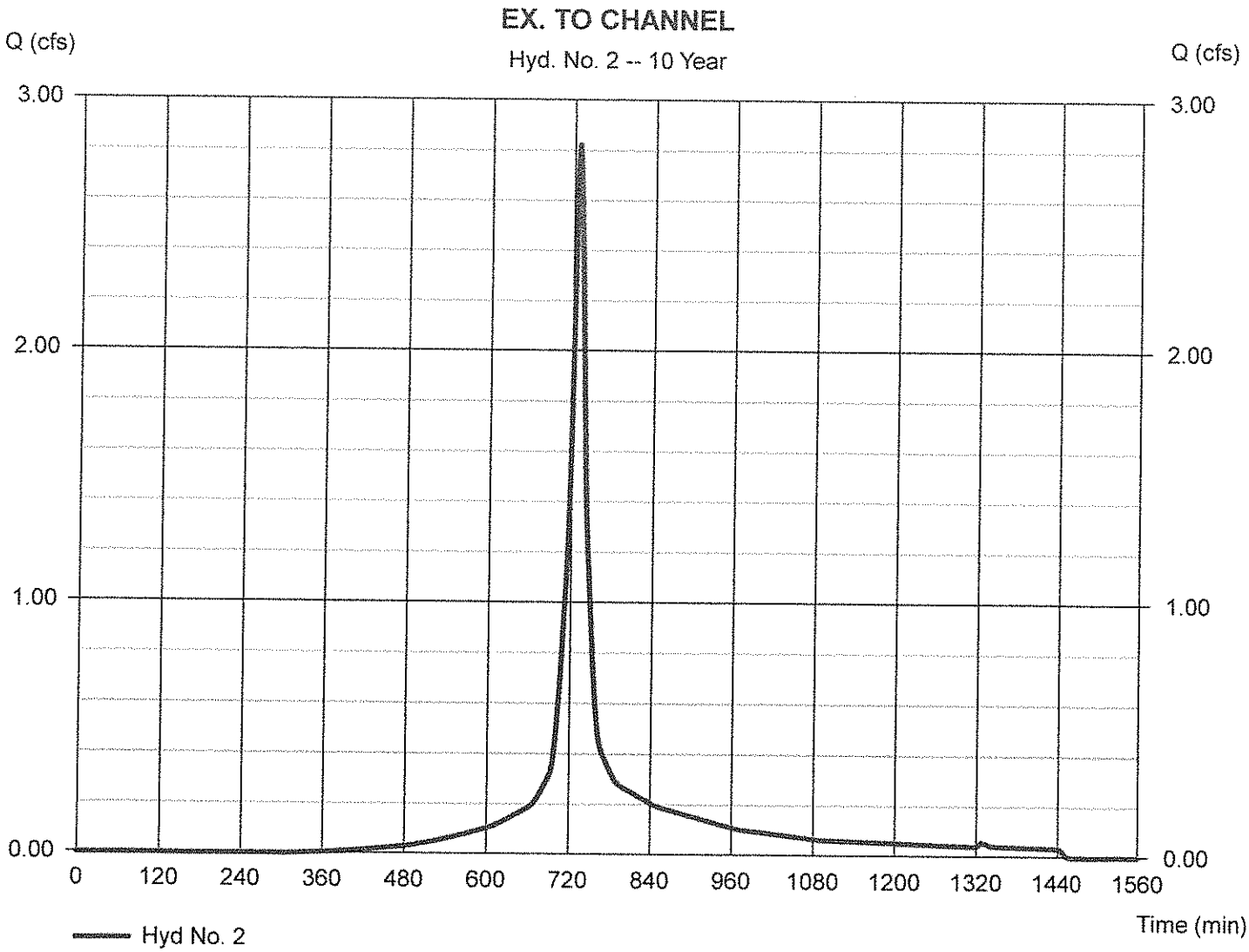
Hydraflow Hydrographs by Intelisolve v9.1

Tuesday, May 22, 2018

Hyd. No. 2

EX. TO CHANNEL

Hydrograph type	= SCS Runoff	Peak discharge	= 2.823 cfs
Storm frequency	= 10 yrs	Time to peak	= 728 min
Time interval	= 2 min	Hyd. volume	= 11,006 cuft
Drainage area	= 0.773 ac	Curve number	= 87
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= USER	Time of conc. (Tc)	= 10.00 min
Total precip.	= 5.25 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484



Hydrograph Summary Report

Hydraflow Hydrographs by Intelisolve v9.1

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph description
1	SCS Runoff	1.565	2	728	6,696	----	------	------	EX. TO NORTH STATE ROAD
2	SCS Runoff	5.337	2	728	21,488	----	------	------	EX. TO CHANNEL
3	SCS Runoff	0.668	2	728	2,627	----	------	------	PR. TO NORTH STATE ROAD
4	SCS Runoff	1.586	2	728	6,258	----	------	------	PR BYPASSING DETENTION
5	SCS Runoff	4.832	2	728	21,347	----	------	------	PR TO DETENTION
6	Reservoir	3.414	2	736	21,338	5	321.18	3,713	UG STORAGE ROUTING

Hydrograph Report

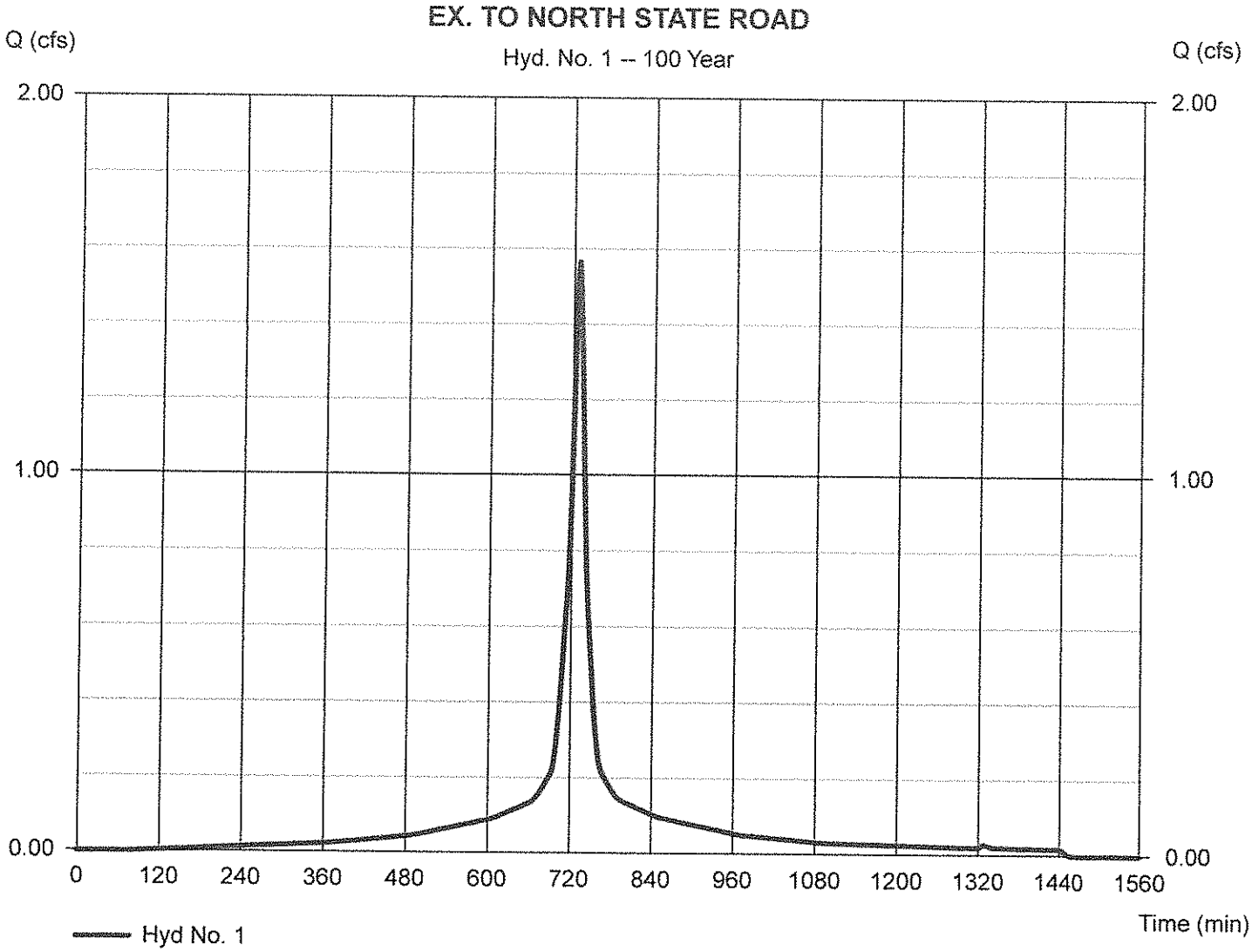
Hydraflow Hydrographs by Intelisolve v9.1

Tuesday, May 22, 2018

Hyd. No. 1

EX. TO NORTH STATE ROAD

Hydrograph type	= SCS Runoff	Peak discharge	= 1.565 cfs
Storm frequency	= 100 yrs	Time to peak	= 728 min
Time interval	= 2 min	Hyd. volume	= 6,696 cuft
Drainage area	= 0.213 ac	Curve number	= 95
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= USER	Time of conc. (Tc)	= 10.00 min
Total precip.	= 9.00 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484



Hydrograph Report

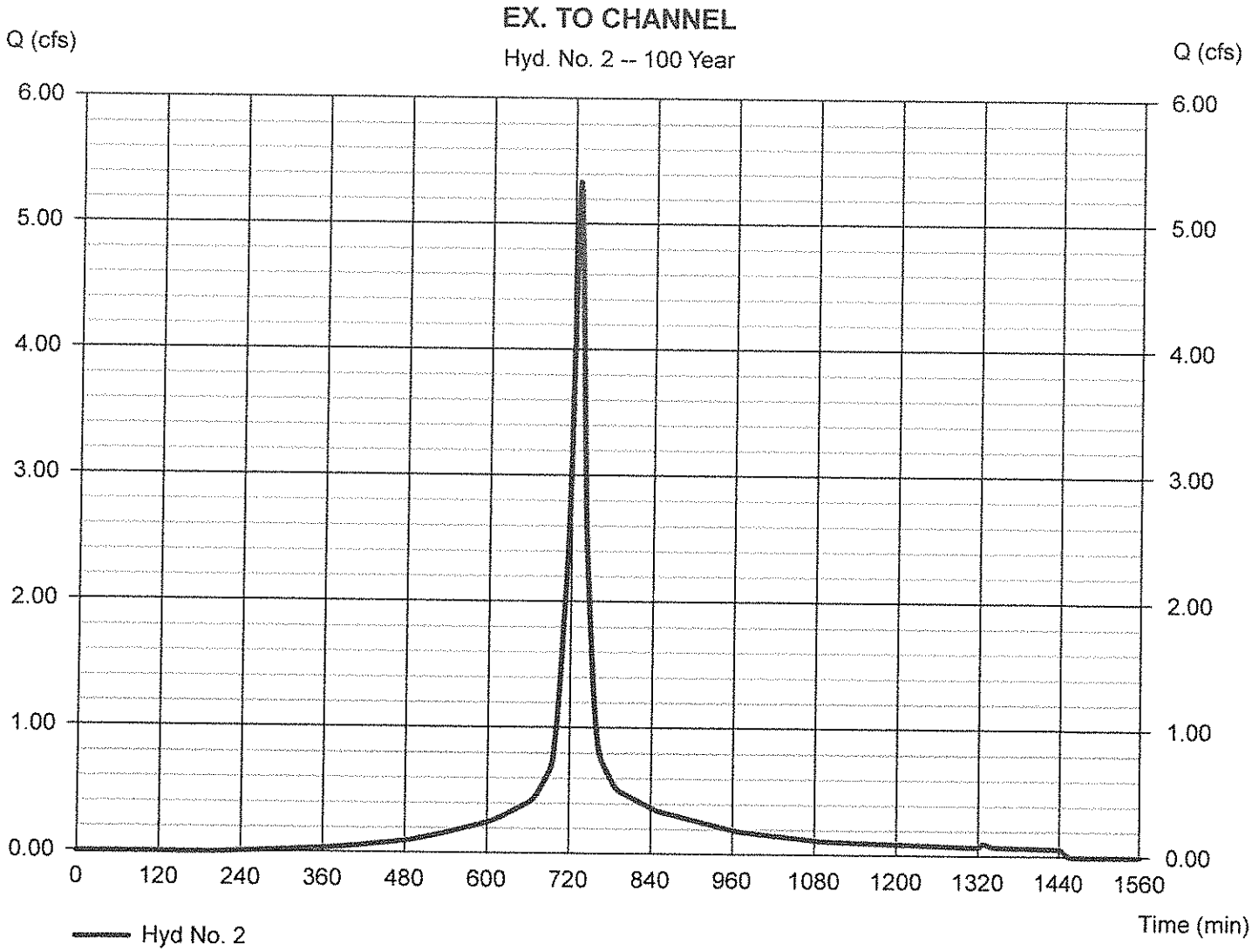
Hydraflow Hydrographs by Intelisolve v9.1

Tuesday, May 22, 2018

Hyd. No. 2

EX. TO CHANNEL

Hydrograph type	= SCS Runoff	Peak discharge	= 5.337 cfs
Storm frequency	= 100 yrs	Time to peak	= 728 min
Time interval	= 2 min	Hyd. volume	= 21,488 cuft
Drainage area	= 0.773 ac	Curve number	= 87
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= USER	Time of conc. (Tc)	= 10.00 min
Total precip.	= 9.00 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484



APPENDIX 2

Proposed Peak Flow Hydrographs

Hydrograph Report

Hydraflow Hydrographs by Intelisolve v9.1

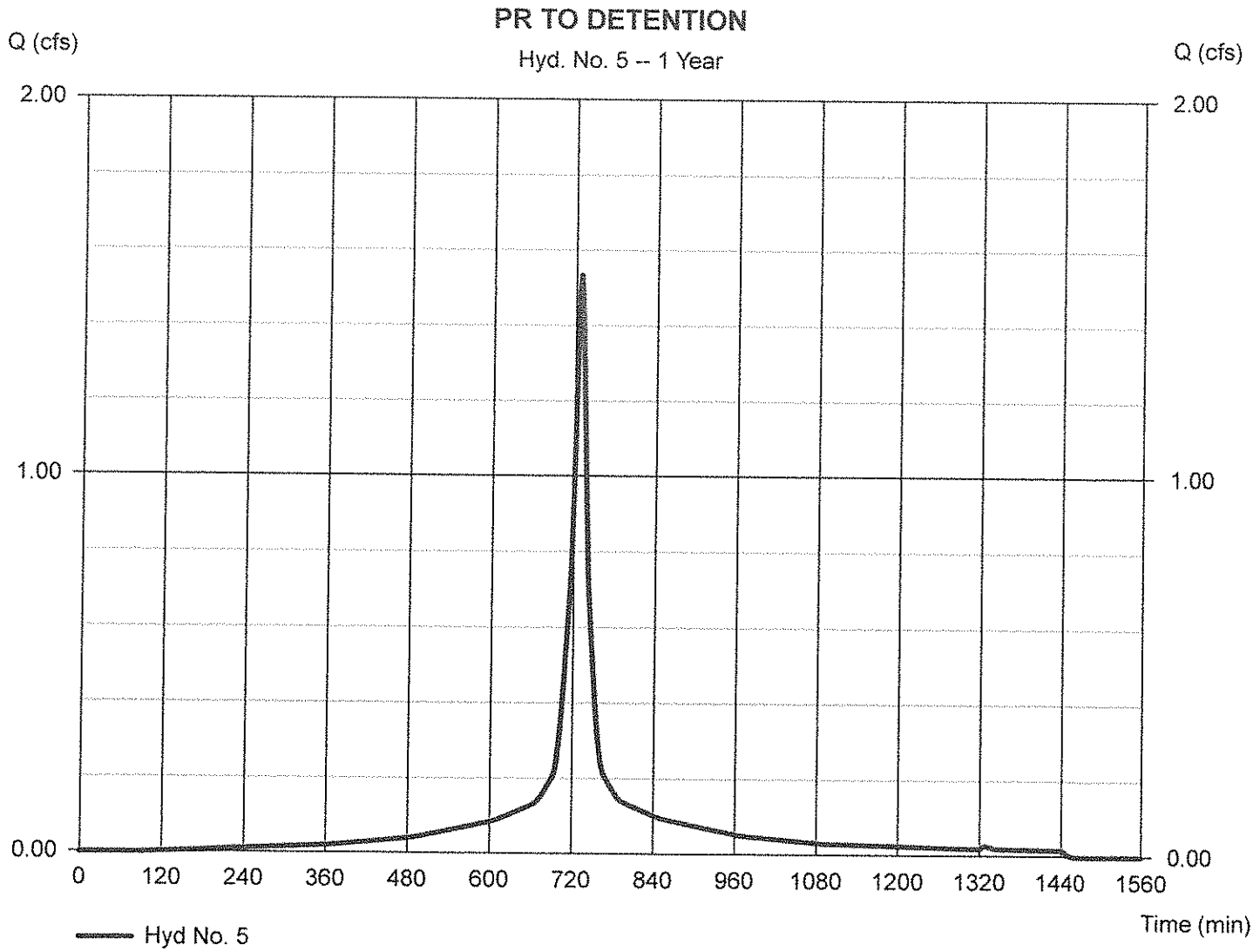
Tuesday, May 22, 2018

Hyd. No. 5

Water Quality

PR TO DETENTION

Hydrograph type	= SCS Runoff	Peak discharge	= 1.534 cfs
Storm frequency	= 1 yrs	Time to peak	= 728 min
Time interval	= 2 min	Hyd. volume	= 6,504 cuft
Drainage area	= 0.651 ac	Curve number	= 98
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= USER	Time of conc. (Tc)	= 10.00 min
Total precip.	= 2.90 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484



Hydrograph Report

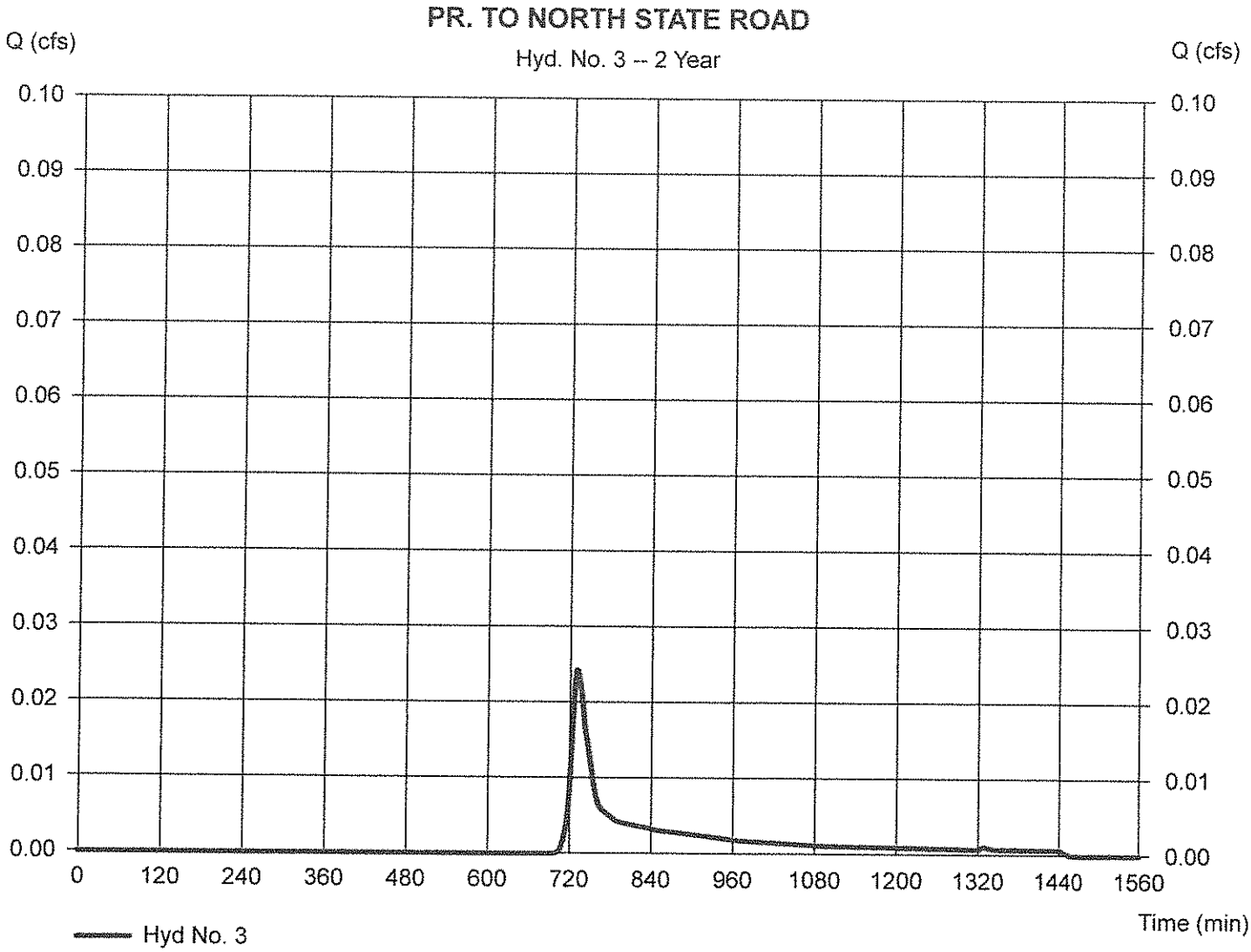
Hydraflow Hydrographs by Intelisolve v9.1

Tuesday, May 22, 2018

Hyd. No. 3

PR. TO NORTH STATE ROAD

Hydrograph type	= SCS Runoff	Peak discharge	= 0.024 cfs
Storm frequency	= 2 yrs	Time to peak	= 730 min
Time interval	= 2 min	Hyd. volume	= 113 cuft
Drainage area	= 0.103 ac	Curve number	= 82
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= USER	Time of conc. (Tc)	= 10.00 min
Total precip.	= 1.40 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484



Hydrograph Report

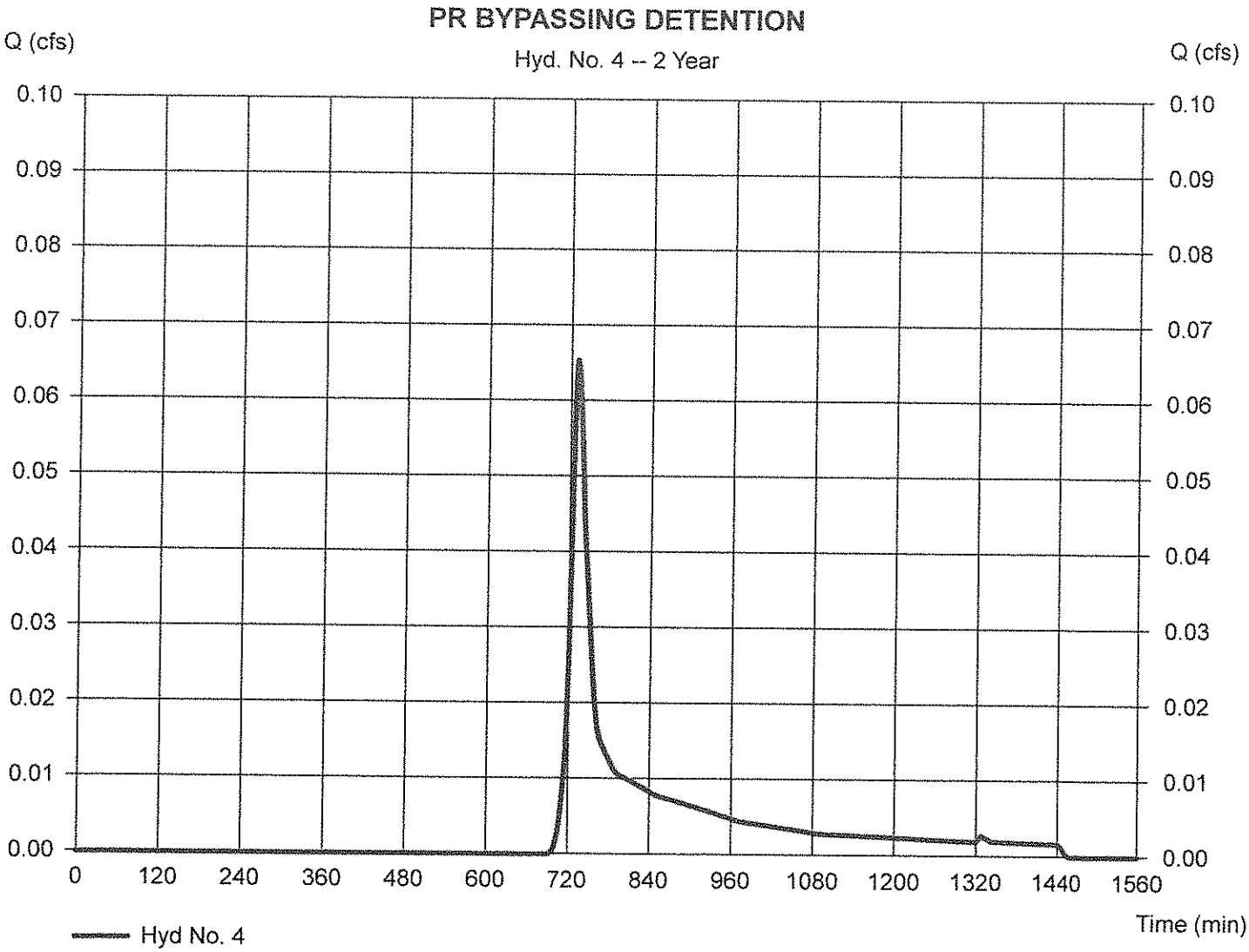
Hydraflow Hydrographs by Intelisolve v9.1

Tuesday, May 22, 2018

Hyd. No. 4

PR BYPASSING DETENTION

Hydrograph type	= SCS Runoff	Peak discharge	= 0.065 cfs
Storm frequency	= 2 yrs	Time to peak	= 730 min
Time interval	= 2 min	Hyd. volume	= 291 cuft
Drainage area	= 0.241 ac	Curve number	= 83
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= USER	Time of conc. (Tc)	= 10.00 min
Total precip.	= 1.40 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484



Hydrograph Report

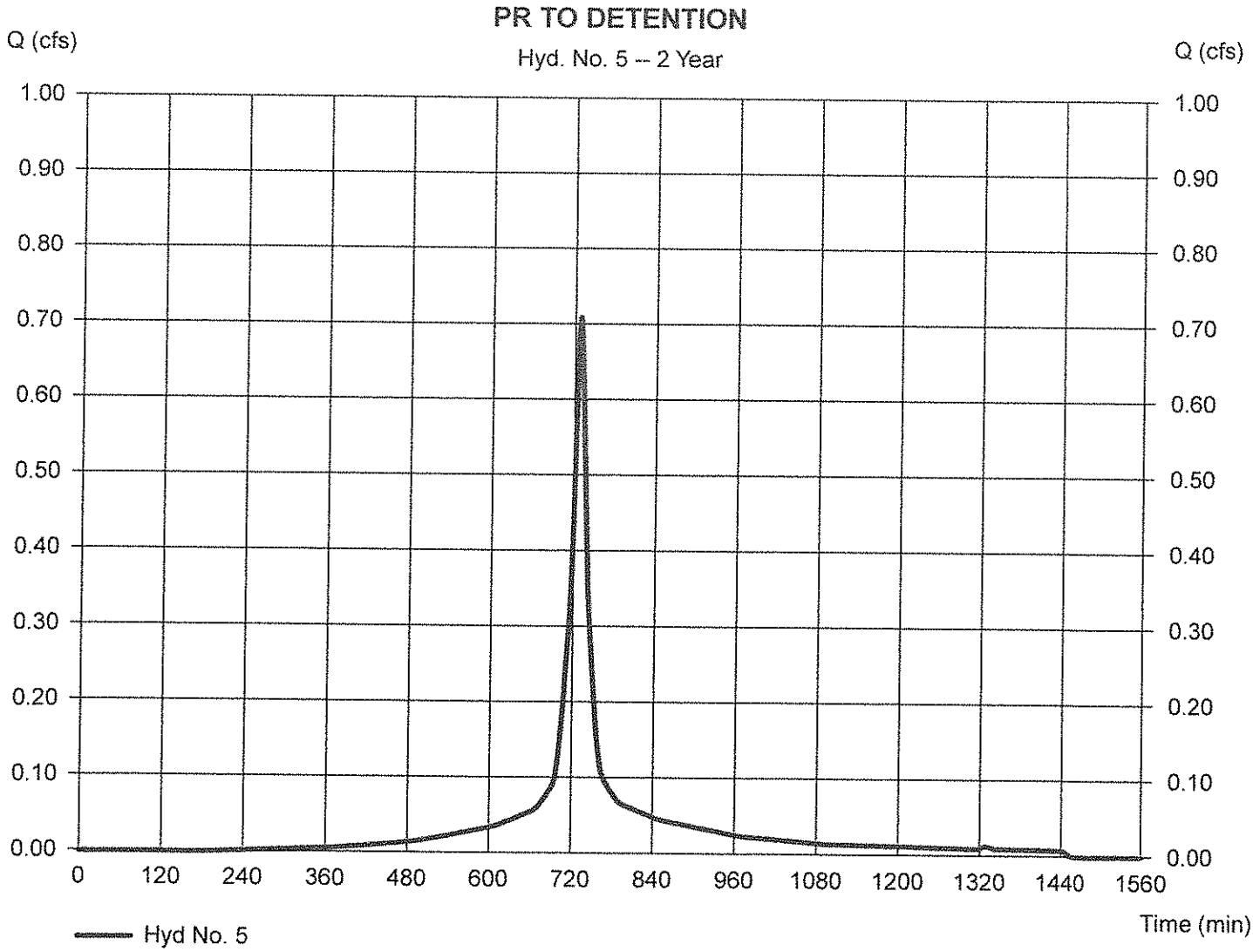
Hydraflow Hydrographs by Intelisolve v9.1

Tuesday, May 22, 2018

Hyd. No. 5

PR TO DETENTION

Hydrograph type	= SCS Runoff	Peak discharge	= 0.709 cfs
Storm frequency	= 2 yrs	Time to peak	= 728 min
Time interval	= 2 min	Hyd. volume	= 2,880 cuft
Drainage area	= 0.651 ac	Curve number	= 98
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= USER	Time of conc. (Tc)	= 10.00 min
Total precip.	= 1.40 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484



Hydrograph Report

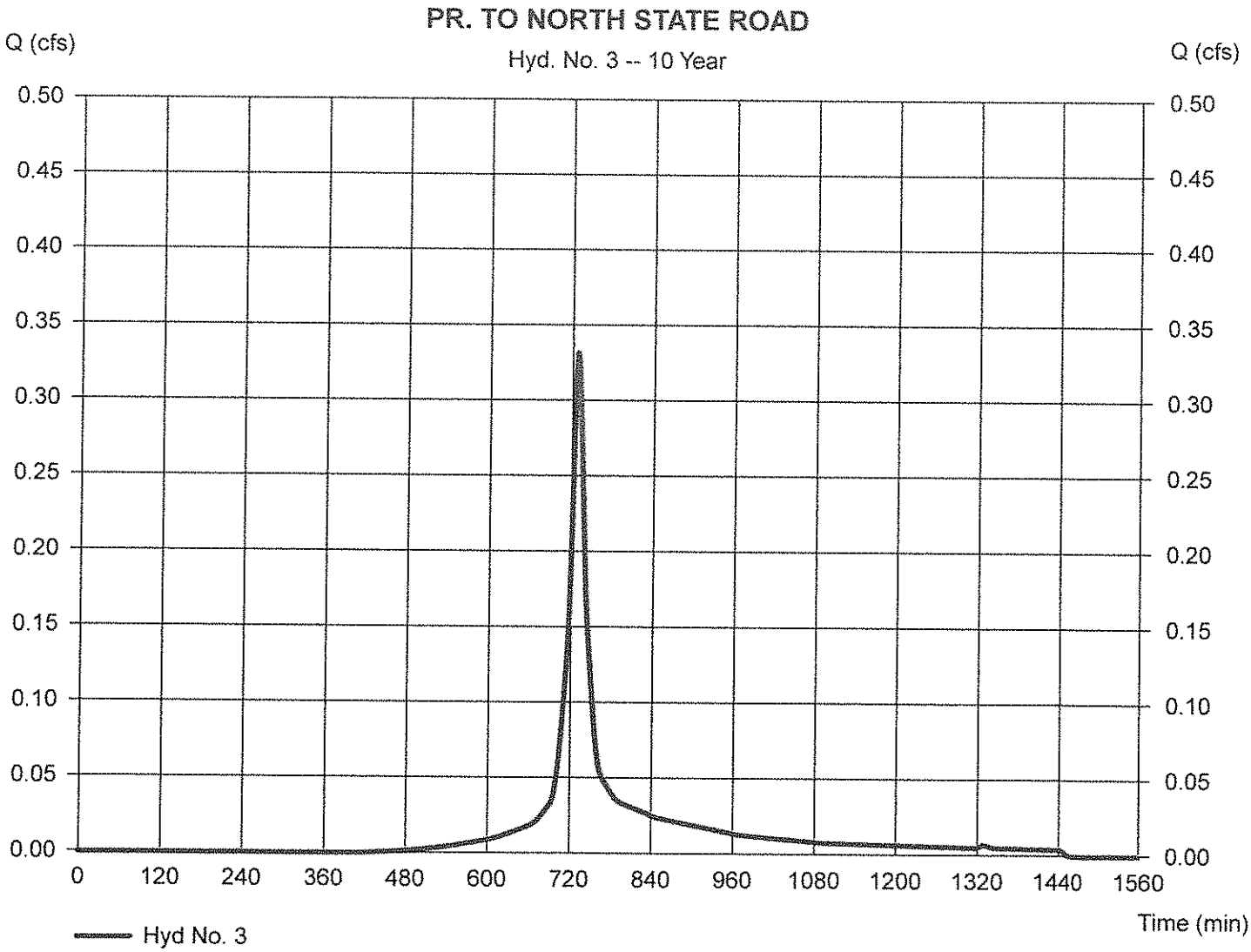
Hydraflow Hydrographs by Intelisolve v9.1

Tuesday, May 22, 2018

Hyd. No. 3

PR. TO NORTH STATE ROAD

Hydrograph type	= SCS Runoff	Peak discharge	= 0.332 cfs
Storm frequency	= 10 yrs	Time to peak	= 728 min
Time interval	= 2 min	Hyd. volume	= 1,274 cuft
Drainage area	= 0.103 ac	Curve number	= 82
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= USER	Time of conc. (Tc)	= 10.00 min
Total precip.	= 5.25 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484



Hydrograph Report

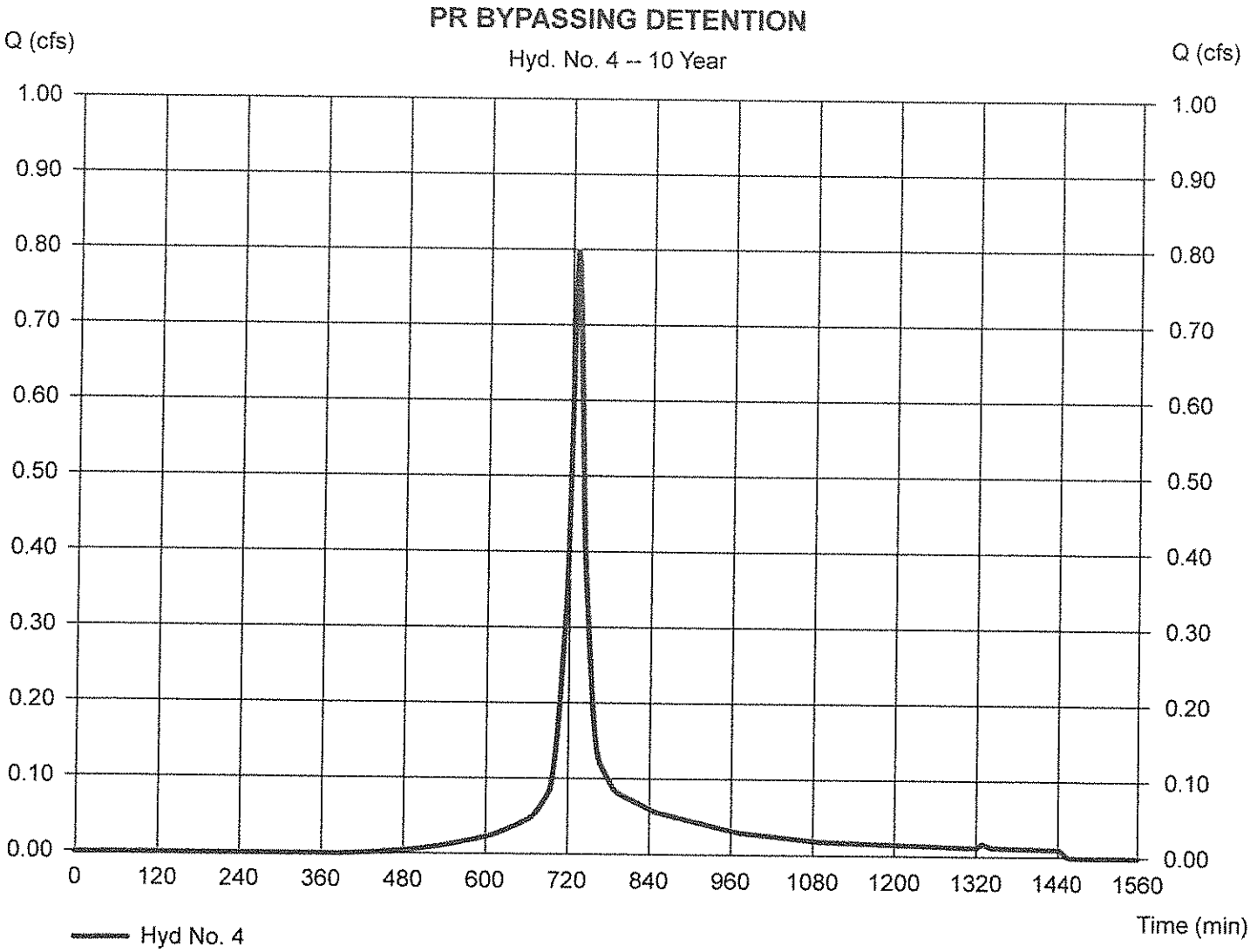
Hydraflow Hydrographs by Intelisolve v9.1

Tuesday, May 22, 2018

Hyd. No. 4

PR BYPASSING DETENTION

Hydrograph type	= SCS Runoff	Peak discharge	= 0.797 cfs
Storm frequency	= 10 yrs	Time to peak	= 728 min
Time interval	= 2 min	Hyd. volume	= 3,068 cuft
Drainage area	= 0.241 ac	Curve number	= 83
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= USER	Time of conc. (Tc)	= 10.00 min
Total precip.	= 5.25 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484



Hydrograph Report

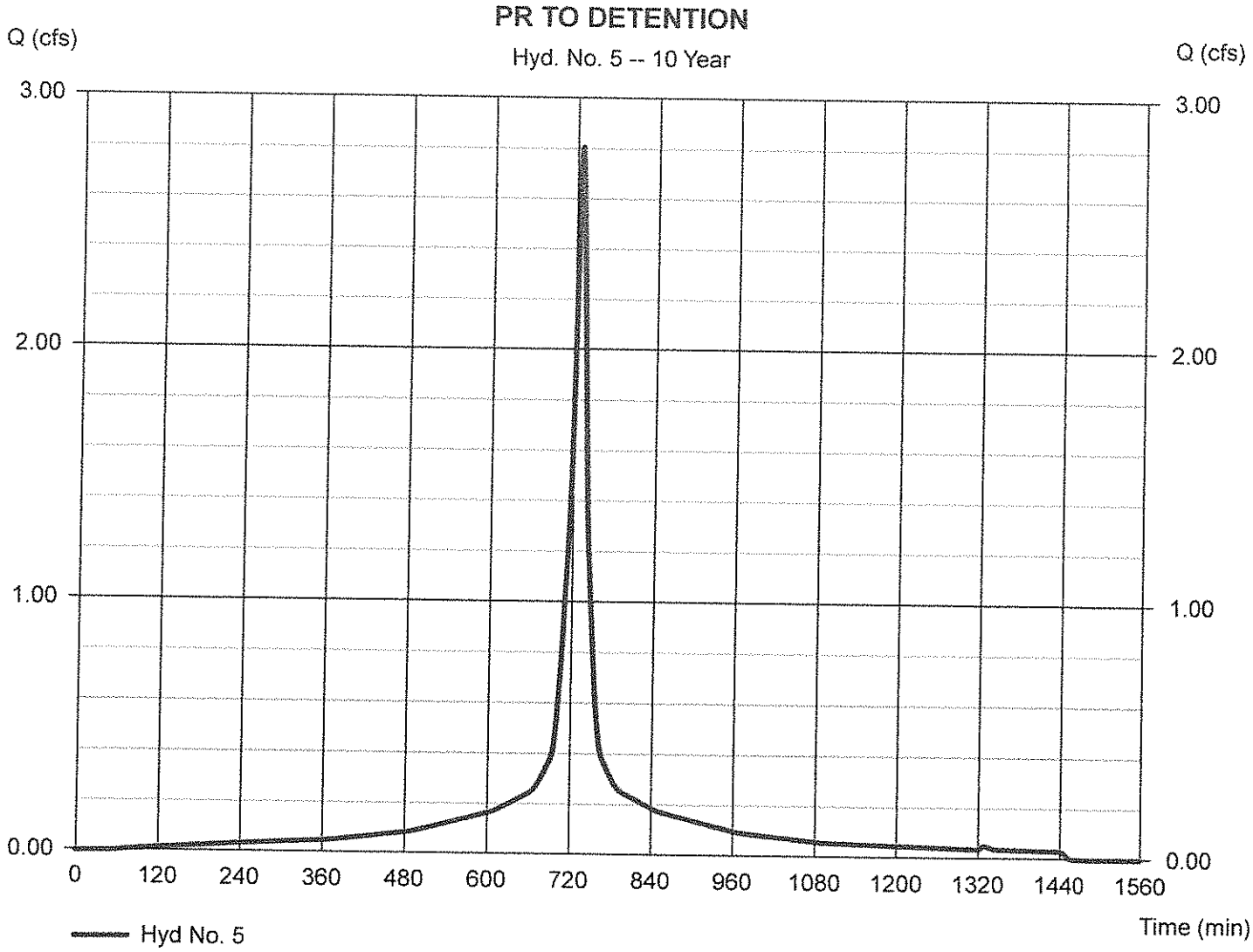
Hydraflow Hydrographs by Intelisolve v9.1

Tuesday, May 22, 2018

Hyd. No. 5

PR TO DETENTION

Hydrograph type	= SCS Runoff	Peak discharge	= 2.808 cfs
Storm frequency	= 10 yrs	Time to peak	= 728 min
Time interval	= 2 min	Hyd. volume	= 12,216 cuft
Drainage area	= 0.651 ac	Curve number	= 98
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= USER	Time of conc. (Tc)	= 10.00 min
Total precip.	= 5.25 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484



Hydrograph Report

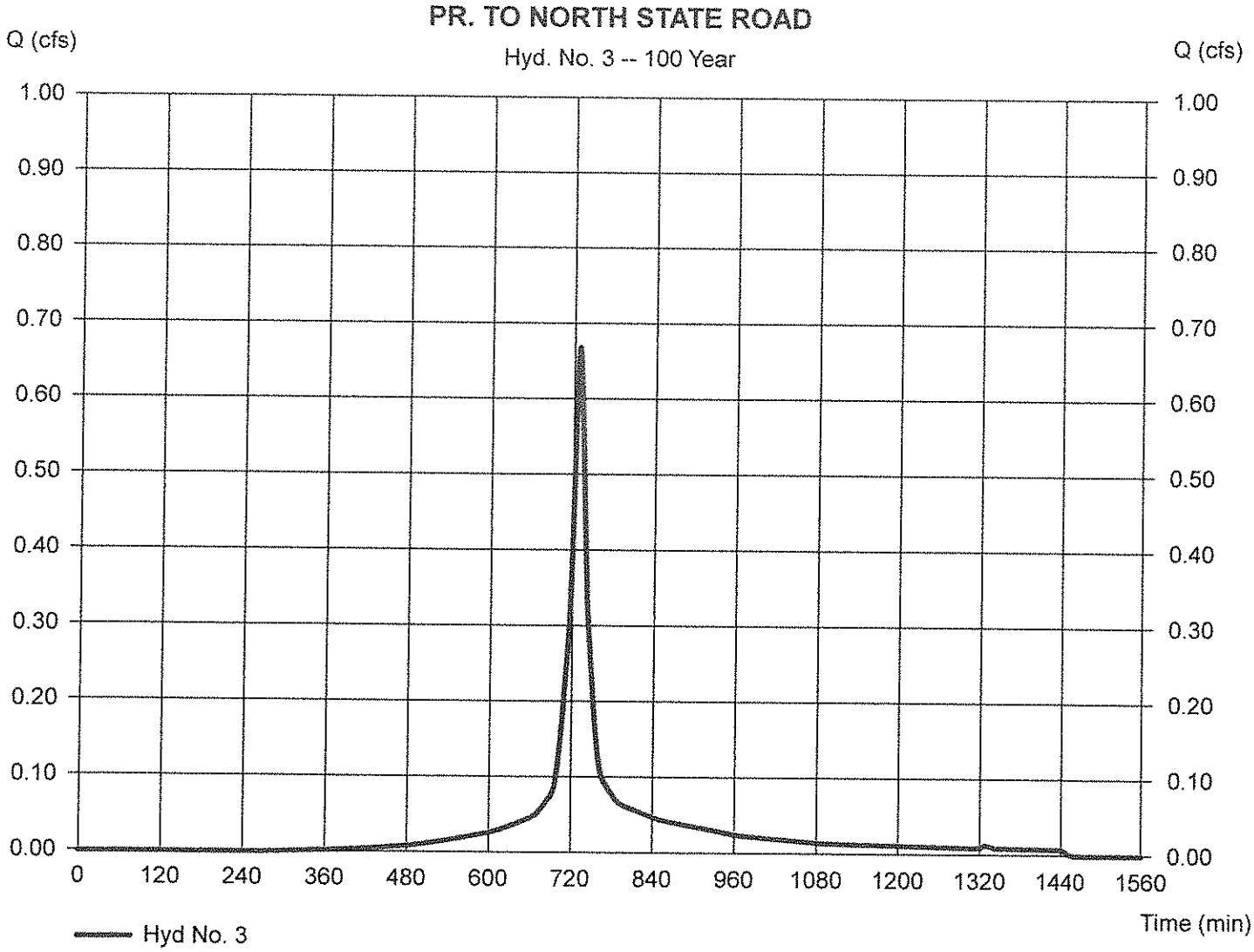
Hydraflow Hydrographs by Intelisolve v9.1

Tuesday, May 22, 2018

Hyd. No. 3

PR. TO NORTH STATE ROAD

Hydrograph type	= SCS Runoff	Peak discharge	= 0.668 cfs
Storm frequency	= 100 yrs	Time to peak	= 728 min
Time interval	= 2 min	Hyd. volume	= 2,627 cuft
Drainage area	= 0.103 ac	Curve number	= 82
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= USER	Time of conc. (Tc)	= 10.00 min
Total precip.	= 9.00 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484



Hydrograph Report

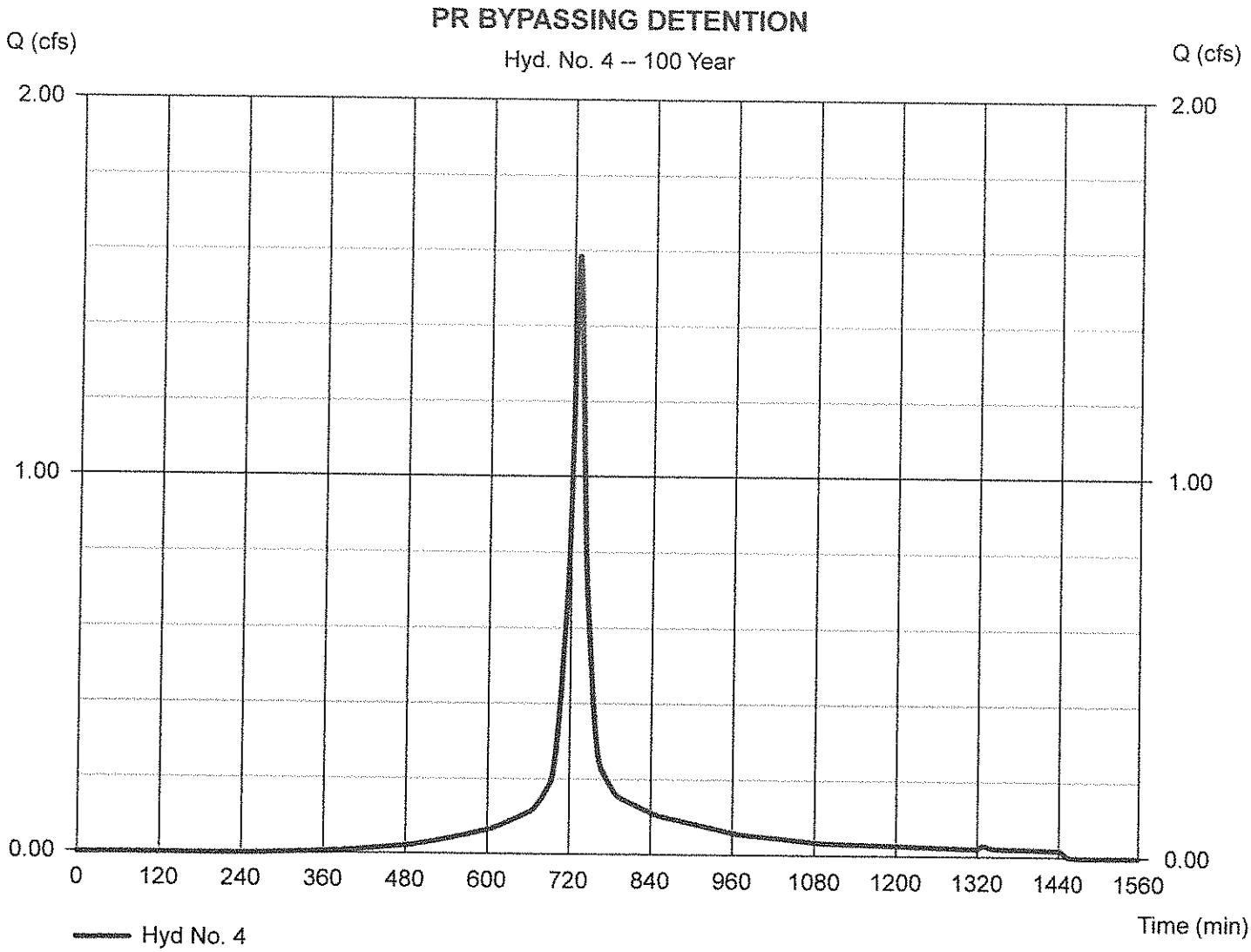
Hydraflow Hydrographs by Intelisolve v9.1

Tuesday, May 22, 2018

Hyd. No. 4

PR BYPASSING DETENTION

Hydrograph type	= SCS Runoff	Peak discharge	= 1.586 cfs
Storm frequency	= 100 yrs	Time to peak	= 728 min
Time interval	= 2 min	Hyd. volume	= 6,258 cuft
Drainage area	= 0.241 ac	Curve number	= 83
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= USER	Time of conc. (Tc)	= 10.00 min
Total precip.	= 9.00 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484



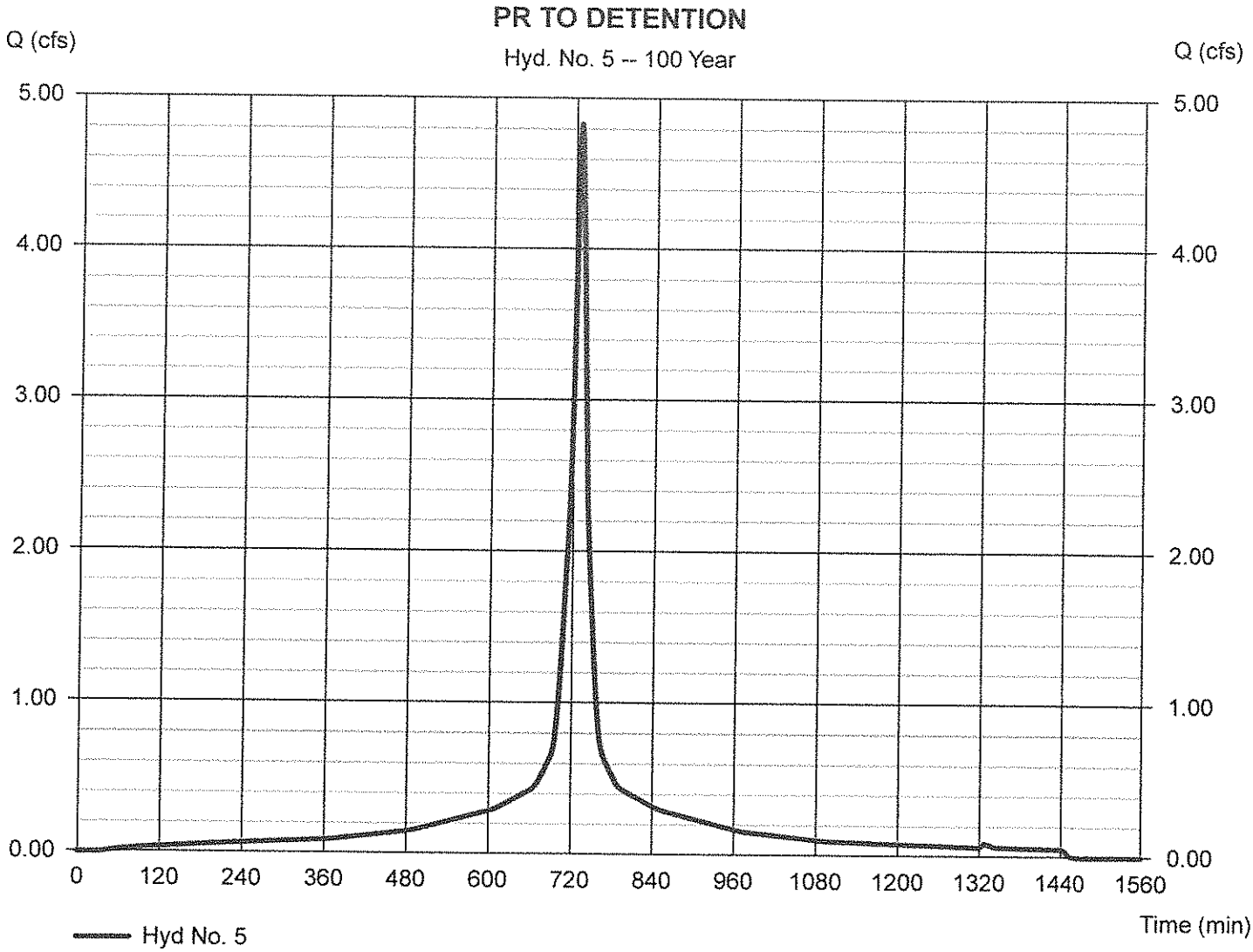
Hydrograph Report

Hydraflow Hydrographs by Intelisolve v9.1 — Tuesday, May 22, 2018

Hyd. No. 5

PR TO DETENTION

Hydrograph type	= SCS Runoff	Peak discharge	= 4.832 cfs
Storm frequency	= 100 yrs	Time to peak	= 728 min
Time interval	= 2 min	Hyd. volume	= 21,347 cuft
Drainage area	= 0.651 ac	Curve number	= 98
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= USER	Time of conc. (Tc)	= 10.00 min
Total precip.	= 9.00 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484



APPENDIX 3

Pond Routing Calculations

Pond Report

Hydraflow Hydrographs by Intelisolve v9.1 — Tuesday, May 22, 2018

Pond No. 1 - PROPOSED STORAGE

Pond Data

UG Chambers - Invert elev. = 318.50 ft, Rise x Span = 3.00 x 3.00 ft, Barrel Len = 560.00 ft, No. Barrels = 1, Slope = 0.00%, Headers = No

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	318.50	n/a	0	0
0.30	318.80	n/a	199	199
0.60	319.10	n/a	358	558
0.91	319.41	n/a	437	994
1.21	319.71	n/a	483	1,477
1.51	320.01	n/a	503	1,980
1.81	320.31	n/a	504	2,484
2.11	320.61	n/a	482	2,966
2.41	320.91	n/a	437	3,403
2.72	321.22	n/a	357	3,760
3.02	321.52	n/a	199	3,959

Culvert / Orifice Structures

	[A]	[B]	[C]	[PrfRsr]
Rise (in)	= 15.00	3.50	9.00	0.00
Span (in)	= 15.00	3.50	9.00	0.00
No. Barrels	= 1	1	1	0
Invert El. (ft)	= 318.32	318.50	319.30	0.00
Length (ft)	= 50.00	0.00	1.00	0.00
Slope (%)	= 1.00	0.00	1.00	n/a
N-Value	= .013	.013	.013	n/a
Orifice Coeff.	= 0.60	0.60	0.60	0.60
Multi-Stage	= n/a	Yes	Yes	No

Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 1.50	4.00	0.00	0.00
Crest El. (ft)	= 321.00	323.50	0.00	0.00
Weir Coeff.	= 3.33	3.33	3.33	3.33
Weir Type	= Rect	Rect	---	---
Multi-Stage	= Yes	Yes	No	No

Exfil.(in/hr) = 0.000 (by Contour)

TW Elev. (ft) = 0.00

Note: Culvert/Orifice outflows are analyzed under inlet (ic) and outlet (oc) control. Weir risers checked for orifice conditions (ic) and submergence (s).

Stage / Storage / Discharge Table

Stage ft	Storage cuft	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	PrfRsr cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Exfil cfs	User cfs	Total cfs
0.00	0	318.50	0.00	0.00	0.00	---	0.00	0.00	---	---	---	---	0.00
0.30	199	318.80	0.16 ic	0.13 ic	0.00	---	0.00	0.00	---	---	---	---	0.13
0.60	558	319.10	0.23 ic	0.22 ic	0.00	---	0.00	0.00	---	---	---	---	0.22
0.91	994	319.41	0.33 ic	0.28 ic	0.04 ic	---	0.00	0.00	---	---	---	---	0.32
1.21	1,477	319.71	0.87 ic	0.31 ic	0.54 ic	---	0.00	0.00	---	---	---	---	0.85
1.51	1,980	320.01	1.59 ic	0.33 ic	1.24 ic	---	0.00	0.00	---	---	---	---	1.57
1.81	2,484	320.31	2.07 ic	0.36 ic	1.70 ic	---	0.00	0.00	---	---	---	---	2.06
2.11	2,966	320.61	2.46 ic	0.40 ic	2.06 ic	---	0.00	0.00	---	---	---	---	2.45
2.41	3,403	320.91	2.80 ic	0.43 ic	2.37 ic	---	0.00	0.00	---	---	---	---	2.79
2.72	3,760	321.22	3.58 ic	0.44 ic	2.64 ic	---	0.50	0.00	---	---	---	---	3.58
3.02	3,959	321.52	5.09 oc	0.42 ic	2.81 ic	---	1.86	0.00	---	---	---	---	5.09

Hydrograph Report

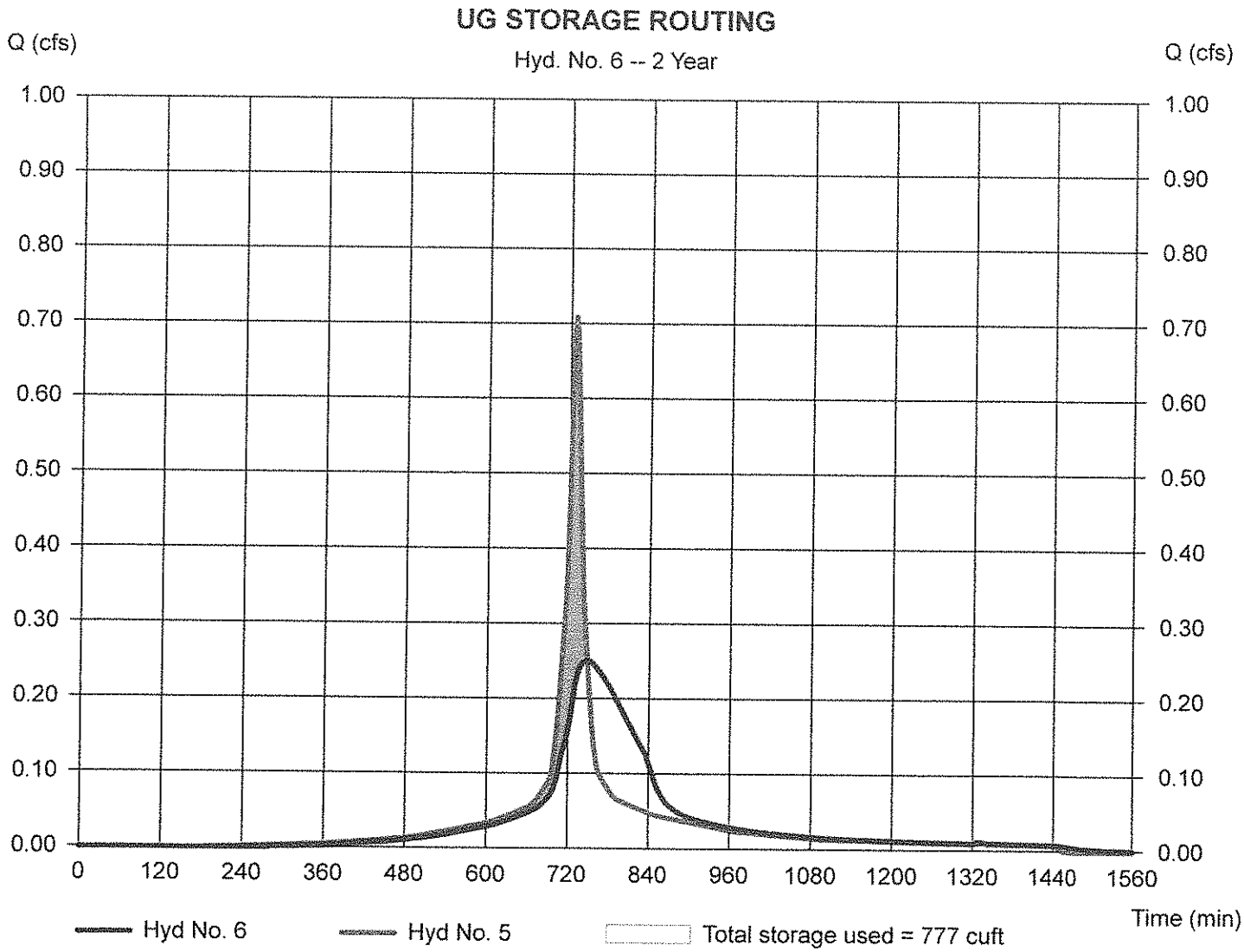
Hydraflow Hydrographs by Intelisolve v9.1 — Tuesday, May 22, 2018

Hyd. No. 6

UG STORAGE ROUTING

Hydrograph type	= Reservoir	Peak discharge	= 0.251 cfs
Storm frequency	= 2 yrs	Time to peak	= 748 min
Time interval	= 2 min	Hyd. volume	= 2,871 cuft
Inflow hyd. No.	= 5 - PR TO DETENTION	Max. Elevation	= 319.26 ft
Reservoir name	= PROPOSED STORAGE	Max. Storage	= 777 cuft

Storage Indication method used.



Hydrograph Report

Hydraflow Hydrographs by Intelisolve v9.1

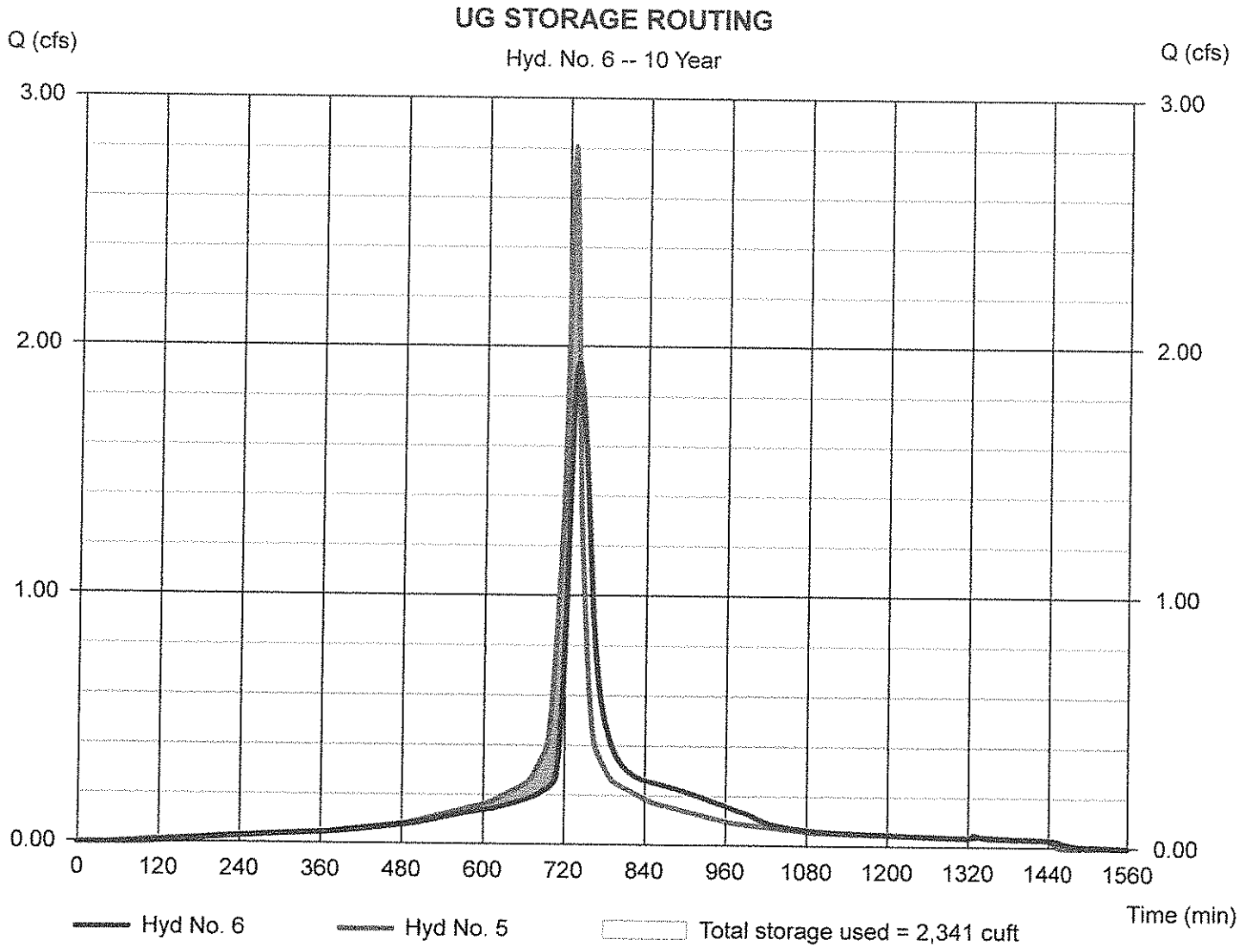
Tuesday, May 22, 2018

Hyd. No. 6

UG STORAGE ROUTING

Hydrograph type	= Reservoir	Peak discharge	= 1.933 cfs
Storm frequency	= 10 yrs	Time to peak	= 736 min
Time interval	= 2 min	Hyd. volume	= 12,207 cuft
Inflow hyd. No.	= 5 - PR TO DETENTION	Max. Elevation	= 320.23 ft
Reservoir name	= PROPOSED STORAGE	Max. Storage	= 2,341 cuft

Storage Indication method used.



Hydrograph Report

Hydraflow Hydrographs by Intelisolve v9.1

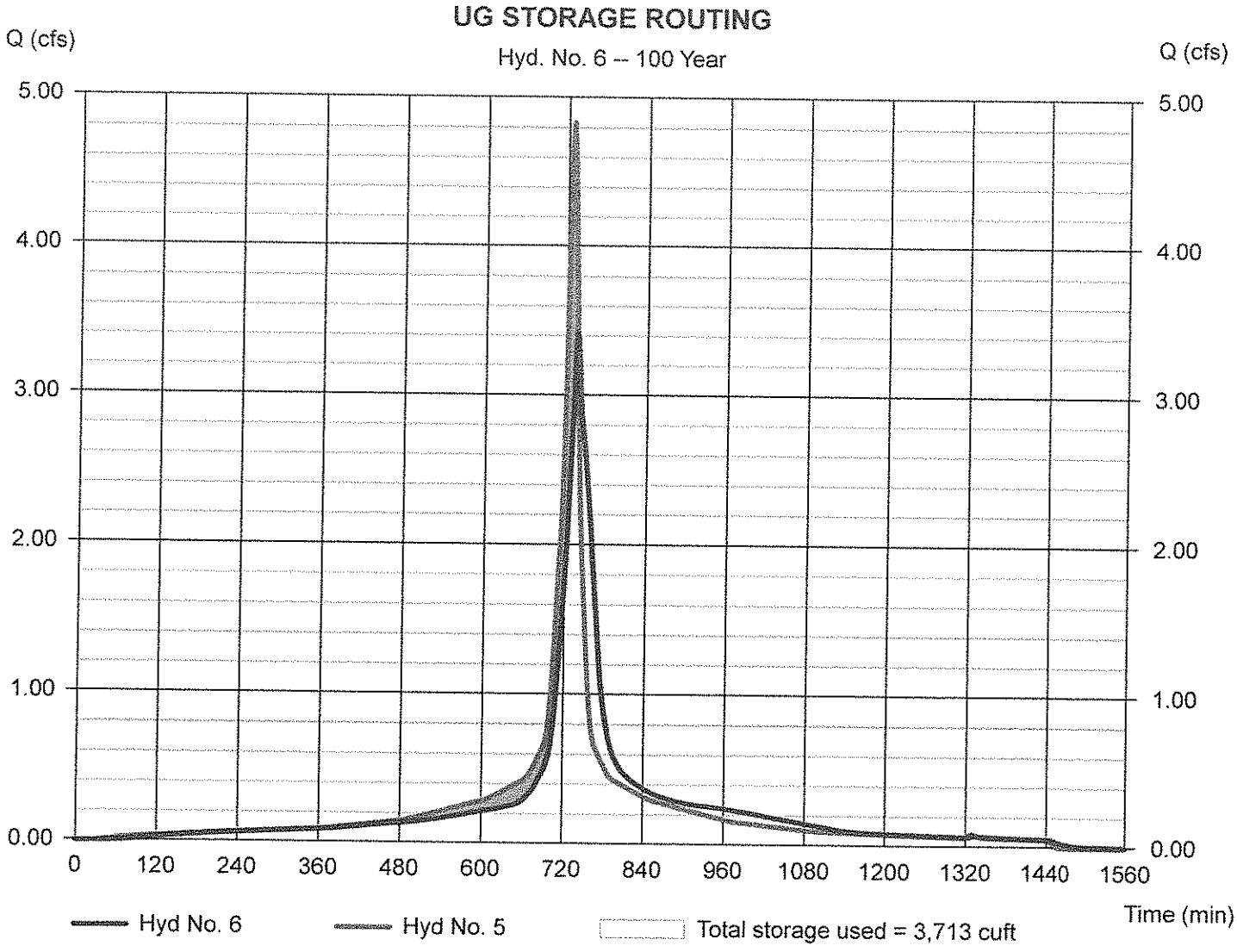
Tuesday, May 22, 2018

Hyd. No. 6

UG STORAGE ROUTING

Hydrograph type	= Reservoir	Peak discharge	= 3.414 cfs
Storm frequency	= 100 yrs	Time to peak	= 736 min
Time interval	= 2 min	Hyd. volume	= 21,338 cuft
Inflow hyd. No.	= 5 - PR TO DETENTION	Max. Elevation	= 321.18 ft
Reservoir name	= PROPOSED STORAGE	Max. Storage	= 3,713 cuft

Storage Indication method used.

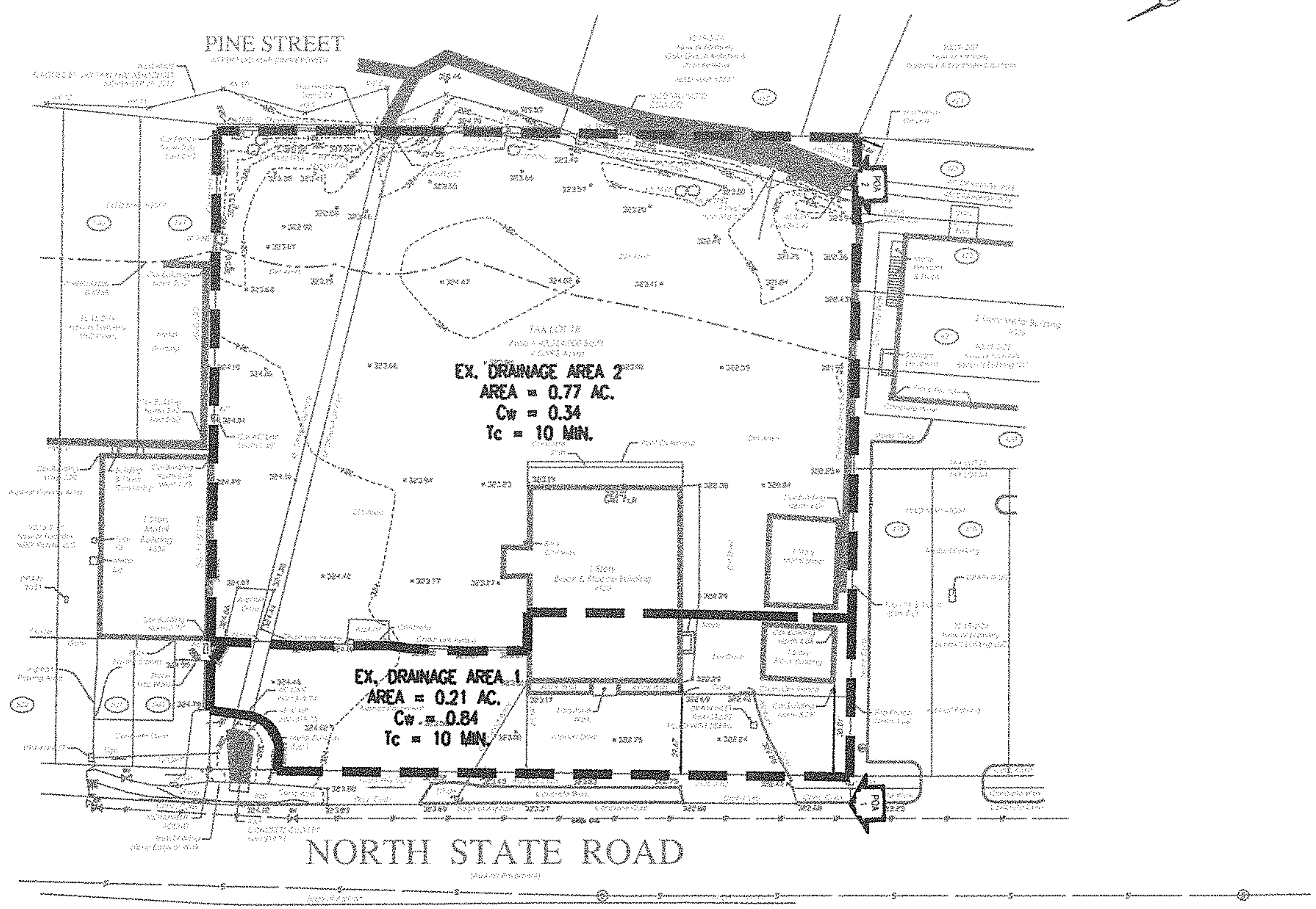


APPENDIX 4

Existing and Proposed Drainage Area Plans

NOTE:

1. BOUNDARY & TOPOGRAPHY INFORMATION IS BASED ON A SURVEY TITLED "TOPOGRAPHY OF PROPERTY PREPARED FOR NSRR REALTY, LLC SITUATED IN THE TOWN OF OSSINING, WESTCHESTER COUNTY, NEW YORK" BY TC MERRITTS LAND SURVEYORS, 394 BEDFORD ROAD, PLEASANTVILLE, NY 10570 WITH LATEST REVISION DATE 12/4/2017.



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NO.	DATE	DESCRIPTION	INT.

REVISION

NO.	DATE	DESCRIPTION	INT.

Project: THE LEARNING EXPERIENCE
530 NORTH STATE ROAD
TOWN OF OSSINING
BRIARCLIFF MANOR, NY
SECTION 90.13, BLOCK 2, LOT 18

Project No: TLENY-5-17-155	Scale: 1" = 20'
Drawn By: LB	Approved By: MBJ

Drawing Name: EXISTING DRAINAGE AREA PLAN

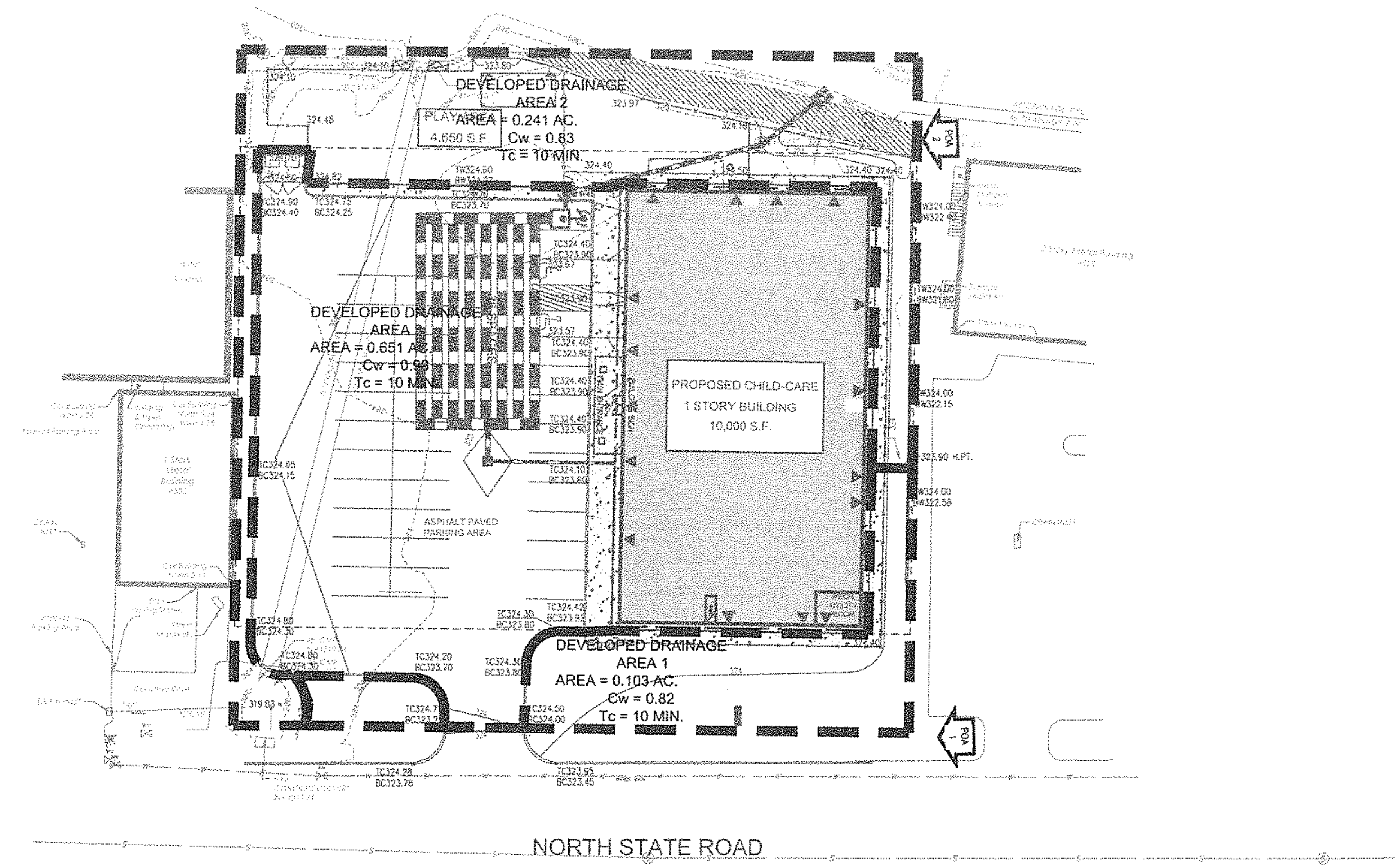
Drawing Number: EX DA

Sheet No: 1 of: 1

Issued Date: MAY 21, 2018

NOTE:

1. BOUNDARY & TOPOGRAPHY INFORMATION IS BASED ON A SURVEY TITLED "TOPOGRAPHY OF PROPERTY PREPARED FOR NSRR REALTY, LLC SITUATED IN THE TOWN OF OSSINING, WESTCHESTER COUNTY, NEW YORK" BY TC MERRITTS LAND SURVEYORS, 394 BEDFORD ROAD, PLEASANTVILLE, NY 10570 WITH LATEST REVISION DATE 12/4/2017.



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NO.	DATE	DESCRIPTION	INT.

REVISION

NO.	DATE	DESCRIPTION	INT.

Project: THE LEARNING EXPERIENCE
530 NORTH STATE ROAD
TOWN OF OSSINING
BRIARCLIFF MANOR, NY
SECTION 90.15, BLOCK 2, LOT 18

Project No: TLENY-5-17-155	Scale: 1" = 20'
Drawn By: LB	Approved By: MBJ

Drawing Name: PROPOSED DRAINAGE AREA PLAN

Drawing Number: PR DA

Sheet No. 1 of 1

Initial Date: MAY 21, 2018