



CITY OF SARATOGA SPRINGS

PLANNING BOARD

City Hall - 474 Broadway
Saratoga Springs, New York 12866
Tel: 518-587-3550 fax: 518-580-9480
www.saratoga-springs.org

MARK TORPEY, Chair
ROBERT F. BRISTOL, Vice-Chair
TOM L. LEWIS
CLIFFORD VAN WAGNER
HOWARD PINSLEY
JANET CASEY
JAMIN TOTINO
AMY DURLAND, Alternate
RUTH HORTON, Alternate

Planning Board Meeting City Council Room – 7:00 PM

Agenda

Planning Board Meeting - Thursday, July 14, 2016
City Council Room – 7:00 PM

Applications Under Consideration

- A. 16.021 223 Lake Avenue
Proposed special use permit for convenience sales in the Urban-Residential-3 (UR-3) District.

Documents:

16.021 223LAKECOMMERCIALUSE_APP_REDACTED.PDF
16.021 223LAKEAVECOMMERCIALUSE_APPCORR6-28-16_REDACTED.PDF
16.021 223LAKEAVECOMMERCIALUSE_COUNTYRESPONSE.PDF
16.021 223LAKECOMMERCIALUSE_REVISEDLOORPLAN7-11-16.PDF

- B. 16.029 Union Avenue Condos (Moore Hall)
46 Union Avenue, final site plan review for 26 multi-family residential units in the Urban Residential-4 (UR-4) District.

Documents:

16.029 MOOREHALLSITEPLAN_FULLAPP_REDACTED.PDF
16.029 MOOREHALLSITEPLAN_COUNTYRESPONSE.PDF
16.029 MOOREHALLSITEPLAN_VARIOUSCORR_REDACTED.PDF
16.029 MOOREHALLSITEPLAN_CHAZENCOMMENTRESPONSE_REDACTED.PDF

Workshop: June 20, 2016 At 5pm In The City Council Room

Salute To Flag

- A. Approval Of Minutes: June 9, 2016

Next Meeting: Thursday, July 28, 2016 (W/ Monday, July 25, 2016 Caravan & Workshop)



CITY OF SARATOGA SPRINGS

PLANNING BOARD

City Hall - 474 Broadway
Saratoga Springs, New York 12866-2296
Tel: 518-587-3550 fax: 518-580-9480
<http://www.saratoga-springs.org>

[FOR OFFICE USE]

(Application #)

(Date received)

APPLICATION FOR: SPECIAL USE PERMIT

(Rev: 05/2016)

Project Name: 223 Lake Avenue

Property Address/Location: 223 Lake Avenue, Saratoga Springs, NY 12866

Tax Parcel #: 166.46-2-59 Zoning District: UR-3
(for example: 165.52-4-37)

Proposed Use: To use the commercial portion of the building for Convenience Sales (< 2000 gross sq ft)

Type of Special Use Permit: Permanent Temporary Renewable

	<u>APPLICANT(S)*</u>	<u>OWNER(S) (If not applicant)</u>	<u>ATTORNEY/AGENT</u>
Name	<u>223 Lake Avenue, LLC</u>	<u>223 Lake Avenue, LLC</u>	<u>Michael J. Toohey, Esq.</u>
Address	<u>162 Woodlawn Avenue</u> <u>Saratoga Springs, NY 12866</u>	<u>162 Woodlawn Avenue</u> <u>Saratoga Springs, NY 12866</u>	<u>P. O. Box 4367, 160 West Avenue</u> <u>Saratoga Springs, NY 12866</u>

Phone

Email

Identify primary contact person: Applicant Owner Agent

* An applicant must be the property owner, lessee, or one with an option to lease or purchase the property in question.

Please check the following to affirm information is included with submission.

Sketch Plan Attached:
Applicant is encouraged to submit sketch plans showing features of the site and /or neighborhood and illustrate proposed use.

Environmental Assessment Form:
All applications must include a completed SEQR Short or Long Form. SEQR Forms can be completed at <http://www.dec.ny.gov/permits/6191.html>.

Water Service Connection Agreement- For all projects including new water connections to the City system, a copy of a signed water service connection fee agreement with the City Department of Public Works is required and **MUST** be submitted with this application. ***The Property is already connected to public water and sanitary sewer.***

Application Fee: \$750.00 (check box)
A check for the total amount made payable to: "Commissioner of Finance" **MUST** accompany this application.

3 hard copies (*1 signed original) and one electronic copy (PDF) of complete application and ALL attachments.

Submission Deadline - Check City's website (www.saratoga-springs.org) for application deadlines and meeting dates.

Does any City officer, employee or family member thereof have a financial interest (as defined by General Municipal Law Section 809) in this application? YES NO . If YES, a statement disclosing the name, residence, nature and extent of this interest must be filed with this application.

I, the undersigned owner, leasee or purchaser under contract for the property, hereby request Special Use Permit approval by the Planning Board for the identified property above. I agree to meet all requirements under Section 240-7.1 of the Zoning Code of the City of Saratoga Springs.

Furthermore, I hereby authorize members of the Planning Board and designated City staff to enter the property associated with this application for purposes of conducting any necessary site inspections relating to this application.

Applicant Signature:  _____

Date: 6/6/2016 _____

If applicant is not current owner, owner must also sign.

Owner Signature:  _____

Date: 6/6/2016 _____

Short Environmental Assessment Form

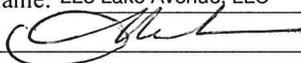
Part 1 - Project Information

Instructions for Completing

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

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

Part 1 - Project and Sponsor Information			
Name of Action or Project: 223 Lake Avenue			
Project Location (describe, and attach a location map): 223 Lake Avenue, Saratoga Springs, New York; Northwest corner Lake Avenue and Forest Avenue			
Brief Description of Proposed Action: To use the existing commercial portion of the building for Convenience Sales (< 2000 gross sq ft)			
Name of Applicant or Sponsor: 223 Lake Avenue, LLC		Telephone: [REDACTED]	
Address: 162 Woodlawn Avenue		E-Mail: [REDACTED]	
City/PO: Saratoga Springs		State: NY	Zip Code: 12866
1. Does the proposed action only involve the legislative adoption of a plan, local law, ordinance, administrative rule, or regulation? If Yes, attach a narrative description of the intent of the proposed action and the environmental resources that may be affected in the municipality and proceed to Part 2. If no, continue to question 2.			NO <input type="checkbox"/>
2. Does the proposed action require a permit, approval or funding from any other governmental Agency? If Yes, list agency(s) name and permit or approval:			YES <input type="checkbox"/>
3.a. Total acreage of the site of the proposed action? _____ 9008 acres			
b. Total acreage to be physically disturbed? _____ 180 acres			
c. Total acreage (project site and any contiguous properties) owned or controlled by the applicant or project sponsor? _____ 9008 acres			
4. Check all land uses that occur on, adjoining and near the proposed action.			
<input type="checkbox"/> Urban <input type="checkbox"/> Rural (non-agriculture) <input type="checkbox"/> Industrial <input type="checkbox"/> Commercial <input checked="" type="checkbox"/> Residential (suburban)			
<input type="checkbox"/> Forest <input type="checkbox"/> Agriculture <input type="checkbox"/> Aquatic <input checked="" type="checkbox"/> Other (specify): <u>Recreational</u>			
<input type="checkbox"/> Parkland			

<p>18. Does the proposed action include construction or other activities that result in the impoundment of water or other liquids (e.g. retention pond, waste lagoon, dam)? If Yes, explain purpose and size: _____ _____ _____</p>	<p>NO</p> <p><input checked="" type="checkbox"/></p>	<p>YES</p> <p><input type="checkbox"/></p>
<p>19. Has the site of the proposed action or an adjoining property been the location of an active or closed solid waste management facility? If Yes, describe: _____ _____ _____</p>	<p>NO</p> <p><input checked="" type="checkbox"/></p>	<p>YES</p> <p><input type="checkbox"/></p>
<p>20. Has the site of the proposed action or an adjoining property been the subject of remediation (ongoing or completed) for hazardous waste? If Yes, describe: _____ _____ _____</p>	<p>NO</p> <p><input checked="" type="checkbox"/></p>	<p>YES</p> <p><input type="checkbox"/></p>
<p>I AFFIRM THAT THE INFORMATION PROVIDED ABOVE IS TRUE AND ACCURATE TO THE BEST OF MY KNOWLEDGE</p> <p>Applicant/sponsor name: 223 Lake Avenue, LLC Signature: BY:  Date: 6/6/2016</p>		

NARRATIVE

The building located at 223 Lake Avenue has had a history of a mixed-residential use and commercial use prior to the modern zoning code being introduced to the City of Saratoga Springs. Attached, as Exhibit A, is a page from the 1960 Saratoga Springs Directory showing this property as the residence of William J. Davis and the William J. Davis Grocery Store. This mixed use utilization of this structure was augmented by the granting of a Use Variance on July 20, 1988, allowing the building to be used as a commercial kitchen and deli.

The commercial configuration of the building is only being altered by the addition of a handicap ramp to the front of the building to permit easier access to the property to a broader portion of the population. The construction and placement of the handicap ramp was approved by the Zoning Board of the City of Saratoga Springs granting an Area Variance on June 6, 2016.

The purpose of this Application is to allow the commercial portion of the building to be converted to a “Convenience Sales” (< 2000 gross sq ft) business operation which is a permitted use in this Zoning District (UR-3). “Convenience Sales” as defined in the Zoning Code is:

“A small retail establishment providing a limited line of groceries and household items and catering primarily to nearby residential areas. The use may have up to twenty seats for customers consuming food sold or prepared on premises. Gasoline pumps shall not be permitted unless separately authorized.”

This Application does not seek “Gasoline pumps”.

The parking requirement for “Convenience Sales” is 1 space per 200 sq ft of sales floor area, plus 1 per 2 employees. This property consists of one residential unit and the store, as shown on the attached floor plan (“Exhibit B”) would consist of 611 sq ft of Sale Area. The norm for employees working at any time, would be 2 employees, but for purpose of this Application let’s suggest three (3), that would be a total of:

Parking Residence:	2
Parking Sales Area:	4
<u>Parking Employees:</u>	<u>2</u>
Parking Total	8

The Plan provides ten (10) parking spaces, plus a two car garage for a total of 12 spaces, fifty percent (50%) above the Zoning Code requirement. (Exhibit C Site Sketch)

Standard Criteria for Special Use Permit (Zoning Code 7.1.3)

1. The extent to which the use is in harmony with and promotes the general purposes and intent of the Comprehensive Plan and this Chapter

Both the Zoning Code and the Comprehensive Plan recognize the right of land owners to continue the utilization of the property that are pre-existing non-conforming or uses granted by means of a Variance.

The attached (Exhibit A) portion of the 1960 City Directory shows that at a date prior to modern zoning, this property had a dual permitted use as a residence and grocery store. As noted above, the sale of groceries is a permitted component of a "Convenience Store".

D On July 20, 1988, the Zoning Board granted a Use Variance for this property allowing the introduction of a commercial kitchen and deli. A copy of the executed Resolution is attached as Exhibit C. This variance is consistent with the right to sell food "prepared on premises" as a portion of the convenience sale operation.

As a result, the proposed use of the property for convenience sales is consistent with the Zoning Code and the Comprehensive Plan.

2. The density, intensity and compatibility of the use with the neighborhood and community character.

The Zoning Board, in granting of the Use Variance recognized that the type of use that is proposed has existed at this site for an extended period of time. The City Directory clearly demonstrates that this style of use pre-existed the Zoning Code and it is a permitted use under the Zoning Code. Thus, the character of this neighborhood includes this site having a use that by today's definition is convenience sales.

3. Safe and efficient pedestrian and vehicle access, circulation and parking.

Parking has always been located along the east side of this building on Forest Avenue. Rounding up on a parking requirement, there is fifty percent (50%) more off street parking than required. As seen in pictures (Exhibits ^{EFG}~~D, E~~ and F), the parking along the side of the building would be situated 10 ft from the paved portion of Forest Avenue and gives direct pedestrian access to the entrance to the store. There is no documented history of motor vehicle or pedestrian accidents on this corner, as a result of the movement of motor vehicles on or off of this site. Also, there is a sidewalk along the Lake Avenue front of this Property.

4. Existing and Future demand on infrastructure, public facilities and services.

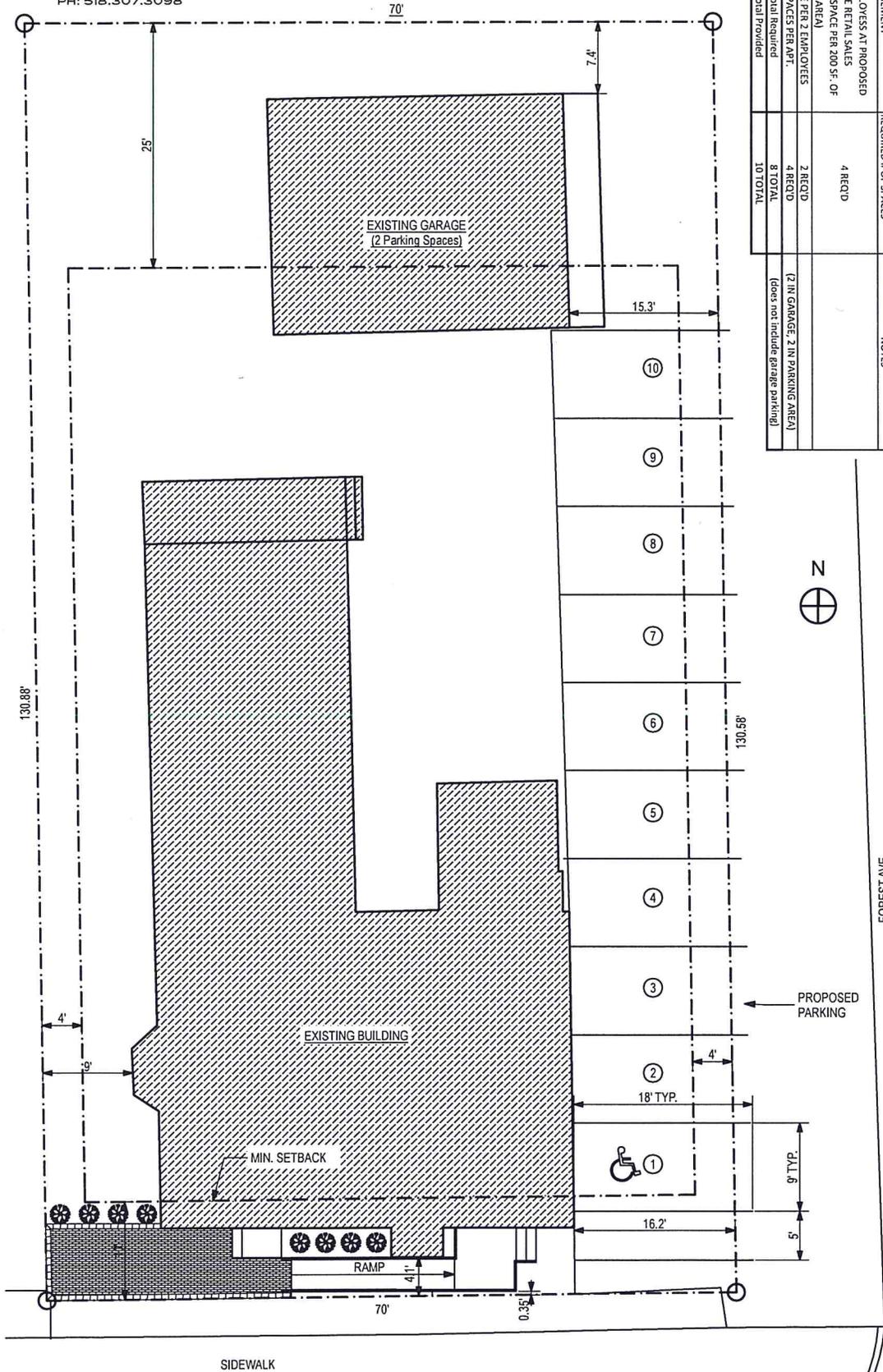
There will be no significant change on the existing "demand on infrastructure, public facilities and services" as a result of the modification of this space into a business operation classified as "Convenience Sales".

5. The environmental and natural resources of the site and neighboring lands including any potential erosion, flooding or excess light, noise, vibration and the like.

Other than for the construction of the handicap ramp, the commercial portion of the structure and the exterior will remain the same. As a result, the environmental and natural resources of the site and neighboring lands, including any potential erosion, flooding or excessive light, vibration and the like will remain the same. The introduction of outdoor seating (6 seats) will not introduce any noise to the neighborhood above or beyond the traffic noise on Lake Avenue and the noise generated at the East Side Recreational fields.

6. The long-term economic viability of the site, neighboring properties and districts.

The property in question has had a dual use (commercial/residential) since before the City of Saratoga Springs had a Zoning Code. There is no property owner in this neighborhood that pre-dates the use of this property in this fashion. Based on its history, the long term viability of this site is excellent and does not appear to have had any effect on neighboring properties or the district in which the property is located.



CODE REQUIREMENT	REQUIRED # OF SPACES	NOTES
QTY. OF EMPLOYEES AT PROPOSED CONVENIENCE RETAIL SALES LOCATION (1 SPACE PER 200 SF OF SALES FLOOR AREA)	4 REQ'D	
1 SPACE PER 2 EMPLOYEES	2 REQ'D	
2 SPACES PER APT.	4 REQ'D	(2 IN GARAGE, 2 IN PARKING AREA)
Total Required	8 TOTAL	(does not include garage parking)
Total Provided	10 TOTAL	

Zoning Requirements for Zoning District URS-3	
MIN. LOT SIZE	EXIST. LOT SIZE
8,000 SF (2 UNITS)	3,000 SF
MIN. AVG. WIDTH	EXIST. AVG. WIDTH
80 FT. (2 UNITS)	70 FT. (2 UNITS)
MIN. % TO SQUARE FOOTAGE	% PERMISSIBLE
25% (2,250 SF)	30% (3,300 SF)

MAX. BLDG. COVERAGE PERCENTAGE		EXISTING BLDG. COVERAGE PERCENTAGE		SETBACK REQUIREMENTS	
PRINCIPAL BLDG.	ACCESS. BLDG.	PRINCIPAL BLDG.	ACCESS. BLDG.	MIN. FRONT	EXIST. FRONT
30% (2,700 SF)	10% (900 SF)	33% (2,965 SF)	6% (532 SF)	10'	35'
MIN. REAR	EXIST. REAR	MIN. FRONT	EXIST. FRONT	MIN. REAR	EXIST. REAR
25'	7.4'	4'	8' 6.62'	25'	7.4'
MIN. REAR	EXIST. REAR	MIN. FA. SIDE	EXIST. SIDES	MIN. TOTAL SIDE	EX. TOTAL SIDE
25'	7.4'	4'	8' 6.62'	12'	23.2'

1 SUP-1 Parking Plan-223 Lake Ave.
SCALE: 1" = 10'

EXHIBIT C

SUP-1
ISSUED 5/12/16 REV. 0

RESOLUTION ON Appeal

BEFORE THE

ZONING BOARD OF APPEALS

OF THE CITY OF SARATOGA SPRINGS

IN THE MATTER OF THE APPEAL

of

NAME: Henry C. Mazurkiewicz

ADDRESS: 25 Roberts Lane

Saratoga Springs, NY

from the determination of the Building Inspector involving the premises, No. 223 Lake Avenue, in the City of Saratoga Springs, being Section 166.46, Block 2, Lot 59 on the Assessment Map of said City,

WHEREAS, The appellant having applied for a [X] Use Variance, [X] Area Variance, [] Special Permit, and/or [X] Interpretation under the Zoning Ordinance of said City as amended, and due public notice having been duly given of a hearing on said application held on the 8th day of June 1988.

WHEREAS, after due consideration, the Board makes the following resolution and finding of fact: With respect to the request for reinterpretation of the non-conforming use issue presented at the meeting of April 13, 1988, the Board finds that no substantial new evidence has been presented so as to allow for a rehearing. Request for reinterpretation denied.

2. With respect to the request for a use variance for a commercial kitchen and deli, the Board finds:

- a. The property has a unique history of a combination use dating back to the 1920's.
b. The applicant can not obtain a reasonable return from this property if used for the permitted two family residential use. The evidence shows that costs of conversion to permitted use would be prohibitive and such a conversion could not produce reasonable rental income. There was also evidence that a permitted residential professional use would not justify conversion costs or produce reasonable rental income.

Dated, July 20 19 88

ADOPTED by the following vote:

AYES: 4

NAYS:

MOTION PASSES (Mr. Ritchie, Mr. Casey)

ZONING BOARD OF APPEALS OF THE CITY OF SARATOGA SPRINGS, N. Y.

Date: August 8, 1988

Waverly R. Lopez, Chairman

I HEREBY certify the above to be a full, true, and correct copy of a resolution duly adopted by the Zoning Board of Appeals of the City of Saratoga Springs on the date above mentioned, 6 members of the Board being present.

Date: August 8, 1988

Thomas E. Simone, Secretary

- c. The kitchen/deli use would not alter the essential character of the neighborhood. The testimony and affidavits submitted by several individuals show that the property has been long used as a combination residence and deli. The evidence shows that, at the very least, some type of food service operation has existed on the premises for decades. The Board notes that even certain individuals who spoke against some of the requests made by applicant remembered times when prepared food had been sold on the premises.

Request for use variance granted.

(OVER)

EXHIBIT D



EXHIBIT E



EXHIBIT F



EXHIBIT G

SNYDER, KILEY, TOOHEY, CORBETT & COX, LLP
ATTORNEYS AT LAW

PLEASE REPLY TO:

P.O. BOX 4367

SARATOGA SPRINGS, N.Y. 12866
STREET ADDRESS: 160 WEST AVENUE

TELEPHONE

FACSIMILE

OF COUNSEL
LOREN N. BROWN*

*RETIRED JUSTICE
NEW YORK STATE
SUPREME COURT

Sharie T. Walerstein
Paralegal

HARRY D. SNYDER
MICHAEL J. TOOHEY
KATHLEEN A. CORBETT
JAMES G. SNYDER
JAMES S. COX

ANNE MARIE ZSAMBA

June 28, 2016

Ms. Kate Maynard, Planner
City of Saratoga Springs
474 Broadway, City Hall
Saratoga Springs, New York 12866

VIA: Email and First Class Mail

RE: 223 Lake Avenue, LLC Special Use Permit

Dear Kate,

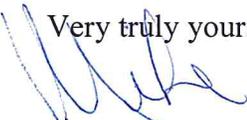
With regard to the above specified Special Use Permit it occurred to me that one of the questions that would arise has to do with the positioning of the parking on the east side of the subject property. Although there is more parking than the code requires, I felt it necessary to inquire of the Saratoga Springs Police Department for a history of accidents (pedestrian and motor vehicle) in the area of Forest Avenue and Lake Avenue over the last ten years.

Enclosed please find the Police Department's response referencing four (4) accidents involving motor vehicles, none of which arose as a result of any action or lack of action on our client's site.

I would appreciate it if you would distribute this information to the other members of the Planning Board with the other information that we have supplied.

If you have any questions, please do not hesitate to contact me.

Very truly yours,


Michael J. Toohey

MJT/cb

Enclosure

POLICE ACCIDENT REPORT

MV-104A (6/04)

Local Codes
SS-017903-13
NL4208218832

AMENDED REPORT

1	Accident Date Month: 7, Day: 28, Year: 2013 Day of Week: Sunday Military Time: 11:30	No. of Vehicles: 2	No. Injured: 0 No. Killed: 0	Not Investigated at Scene: <input type="checkbox"/> Accident Reconstructed: <input type="checkbox"/>	Left Scene: <input type="checkbox"/>	Police Photos: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	19	
2	VEHICLE 1 Driver: DESESSA, MARK A License ID Number: [REDACTED] State of Lic.: NY Address: [REDACTED]	VEHICLE 2 Driver: YOO, HAESUN License ID Number: 813082750 State of Lic.: NY Address: [REDACTED]						20
3	City/Town: [REDACTED] State: NY Zip Code: [REDACTED]	City/Town: [REDACTED] State: NY Zip Code: [REDACTED]						21
4	Date of Birth: [REDACTED] Sex: [REDACTED] Unlicensed: <input type="checkbox"/> No. of Occupants: 00 Public Property Damaged: <input type="checkbox"/>	Date of Birth: [REDACTED] Sex: F Unlicensed: <input type="checkbox"/> No. of Occupants: 02 Public Property Damaged: <input type="checkbox"/>						22
5	Name: DESESSA, MARK A Address: [REDACTED]	Name: PV HOLDING CORP Address: [REDACTED]						23
6	Date of Reg: NY Vehicle Year & M: 1993 GMC Ins. Code: PICK 478	Date of Reg: NY Vehicle Year & M: 2014 FORD Ins. Code: SUBN 997						24
7	Ticket/Arrest Number(s): [REDACTED]	Ticket/Arrest Number(s): 4208						25
8	Violation Section(s): [REDACTED]	Violation Section(s): 1128A						26
9	Check if involved vehicle is: more than 95 inches wide; <input type="checkbox"/> more than 34 feet long; <input type="checkbox"/> operated with an overweight permit; <input type="checkbox"/> operated with an overdimension permit. <input type="checkbox"/>	Check if involved vehicle is: more than 95 inches wide; <input type="checkbox"/> more than 34 feet long; <input type="checkbox"/> operated with an overweight permit; <input type="checkbox"/> operated with an overdimension permit. <input type="checkbox"/>	Circle the diagram below that describes the accident, or draw your own diagram in space #9. Number the vehicles. <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;"> Rear End 1. ← </div> <div style="text-align: center;"> Left Turn 3. ↙ </div> <div style="text-align: center;"> Right Angle 4. ↓ </div> <div style="text-align: center;"> Right Turn 5. → </div> <div style="text-align: center;"> Head On 7. ↔ </div> </div>					27
10	VEHICLE 1 DAMAGE CODES Box 1 - Point of Impact: [REDACTED] Box 2 - Most Damage: [REDACTED]	VEHICLE 2 DAMAGE CODES Box 1 - Point of Impact: [REDACTED] Box 2 - Most Damage: [REDACTED]	ACCIDENT DIAGRAM 9. Cost of repairs to any one vehicle will be more than \$1000. <input type="checkbox"/> Unknown/Unable to determine <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No					28
11	Reference Marker: [REDACTED] Coordinates (if available): Latitude/Northing: [REDACTED] Longitude/Easting: [REDACTED]	Place Where Accident Occurred: County: SARATOGA <input checked="" type="checkbox"/> City <input type="checkbox"/> Village <input type="checkbox"/> Town of SARATOGA SPRINGS Road on which accident occurred: FOREST AVE at 1) intersecting street LAKE AVE or 2) [REDACTED] N S of [REDACTED] E W (Milepost, Nearest intersecting Route Number or Street Name)					29	
12	Accident Description/Officer's notes V1 PARKED ON FOREST AVE. V2 TRAVELING NORTH ON FOREST AVE. V2 COLLIDED WITH V1 WHEN THE OPERATOR OF V2 MOVED TO THE RIGHT TO PROVIDE SPACE FOR AN APPROACHING SOUTHBOUND VEHICLE. OPERATOR OF V2 STATED THAT WHEN SHE ATTEMPTED TO MOVE HER VEHICLE SHE STRUCK THE PARKED V1.						30	

ALL INVOLVED	8	9	10	11	12	13	14	15	16	17 BY	TO 18	Names of all involved	Date of Death Only
A	2	1	-	1	26	F	-	-	-			YOO, HAESUN	
B	2	3	4	1	24	M	-	-	-			CASTANHEINA, MACHAD	
C													
D													
E													
F													
Officer's Rank and Signature: PTL [Signature] Print Name in Full: AMY EVERTSEN												Badge/ID No.: 13 NCIC No.: 04501	Precinct/Post Troop/Zone: Station/Beat Sector: Reviewing Officer: SANTOS, GREGORY Date/Time Reviewed: 8/9/2013 07:30

USE COVER SHEET

POLICE ACCIDENT REPORT

MV-104A (6/04)

Local Codes
SS-019195-10
NL4209000044

AMENDED REPORT

1	Accident Date Month: 8, Day: 16, Year: 2010 Day of Week: Monday Military Time: 17:55 No. of Vehicles: 2 No. Injured: 0 No. Killed: 0 Not Investigated at Scene: <input type="checkbox"/> Left Scene: <input type="checkbox"/> Police Photos: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Accident Reconstructed: <input type="checkbox"/>	20
2	VEHICLE 1 License ID Number: 254983760 State of Lic.: NY Driver Name: WAGONER, JENNIFER L Address: [REDACTED] City/Town: [REDACTED], State: NY, Zip Code: 12866 Sex: F, No. of Occupants: 03 Date of Birth: [REDACTED] Plate Number: EUY8114, State of Reg.: NY, Vehicle Year & M: 2004 HYUN, Ins. Code: 4DSD 328	21
3	VEHICLE 2 License ID Number: 569194390 State of Lic.: NY Driver Name: DOWNEY, STEPHEN G Address: [REDACTED] City/Town: [REDACTED], State: NY, Zip Code: [REDACTED] Sex: M, No. of Occupants: 02 Date of Birth: [REDACTED] Plate Number: EDT3722, State of Reg.: NY, Vehicle Year & M: 2008 GMC, Ins. Code: PICK 478	22
4	VEHICLE DAMAGE CODING VEHICLE 1: Box 1 - Point of Impact: [REDACTED], Box 2 - Most Damage: [REDACTED] VEHICLE 2: Box 1 - Point of Impact: [REDACTED], Box 2 - Most Damage: [REDACTED]	23
5	VEHICLE DAMAGE CODING 1-13 SEE DIAGRAM ON RIGHT. 14. UNDERCARRIAGE, 15. TRAILER, 16. OVERTURNED, 17. DEMOLISHED, 18. NO DAMAGE, 19. OTHER	24
6	VEHICLE DAMAGE CODING 14. UNDERCARRIAGE, 15. TRAILER, 16. OVERTURNED, 17. DEMOLISHED, 18. NO DAMAGE, 19. OTHER	25
7	VEHICLE DAMAGE CODING 14. UNDERCARRIAGE, 15. TRAILER, 16. OVERTURNED, 17. DEMOLISHED, 18. NO DAMAGE, 19. OTHER	26
8	VEHICLE DAMAGE CODING 14. UNDERCARRIAGE, 15. TRAILER, 16. OVERTURNED, 17. DEMOLISHED, 18. NO DAMAGE, 19. OTHER	27
9	VEHICLE DAMAGE CODING 14. UNDERCARRIAGE, 15. TRAILER, 16. OVERTURNED, 17. DEMOLISHED, 18. NO DAMAGE, 19. OTHER	28
10	VEHICLE DAMAGE CODING 14. UNDERCARRIAGE, 15. TRAILER, 16. OVERTURNED, 17. DEMOLISHED, 18. NO DAMAGE, 19. OTHER	29
11	VEHICLE DAMAGE CODING 14. UNDERCARRIAGE, 15. TRAILER, 16. OVERTURNED, 17. DEMOLISHED, 18. NO DAMAGE, 19. OTHER	30

ALL INVOLVED	8	9	10	11	12	13	14	15	16	17 BY	TO 18	Names of all involved	Date of Death Only
A	1	1	4	1	30	F						WAGONER, JENNIFER L	
B	1	3	4	1	7	M						TAYLOR, ELIJAH J	
C	1	4	2	1	12	M						TAYLOR JR, SANJULO	
D	2	1	4	1	53	M						DOWNEY, STEPHEN G	
E	2	6	2	1	8	F						DOWNEY, ALYSSA M	
F													

Officer's Rank and Signature: PTL [Signature]	Badge/ID No.: 2733	NCIC No.: 04501	Precinct/Post Troop/Zone:	Station/Beat Sector:	Reviewing Officer: BRISCOE, SEAN	Date/Time Reviewed: 8/18/2010 19:58
Print Name in Full: EILEEN COTTER						

POLICE ACCIDENT REPORT

MV-104A (6/04)

Local Codes
 SS-022414-11
 NL4209000146

ORIGINAL REPORT
 AMENDED REPORT

1	Accident Date Month: 9, Day: 17, Year: 2011 Day of Week: Saturday Military Time: 10:40	No. of Vehicles: 2	No. Injured: 0 No. Killed: 0	Not Investigated at Scene: <input type="checkbox"/> Accident Reconstructed: <input type="checkbox"/>	Left Scene: <input checked="" type="checkbox"/>	Police Photos: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	19 3
2	VEHICLE 1 License ID Number: _____ State of Lic.: _____ Driver Name - exactly as printed on license: LSA, Address (Include Number and Street): _____ Apt. No.: _____ City or Town: _____ State: _____ Zip Code: _____		VEHICLE 2 <input checked="" type="checkbox"/> VEHICLE 2 <input type="checkbox"/> BICYCLIST <input type="checkbox"/> PEDESTRIAN <input type="checkbox"/> OTHER PEDESTRIAN License ID Number: _____ State of Lic.: _____ Driver Name - exactly as printed on license: PARKED, Address (Include Number and Street): _____ Apt. No.: _____ City or Town: _____ State: _____ Zip Code: _____		20 X		
3	Date of Birth: _____ Sex: U Unlicensed: <input type="checkbox"/> No. of Occupants: 01 Public Property Damaged: <input type="checkbox"/> Name - exactly as printed on registration: LSA, Address (Include Number and Street): _____ Apt. No.: _____ Haz. Mat. Code: _____ Released: <input type="checkbox"/> City or Town: _____ State: _____ Zip Code: _____		Date of Birth: _____ Sex: _____ Unlicensed: <input type="checkbox"/> No. of Occupants: 00 Public Property Damaged: <input type="checkbox"/> Name - exactly as printed on registration: KELLER, ALISON M Address (Include Number and Street): _____ Apt. No.: _____ Haz. Mat. Code: _____ Released: <input type="checkbox"/> City or Town: _____ State: _____ Zip Code: _____		21 -		
4	Plate Number: UNKNOW State of Reg.: _____ Vehicle Year & Make: _____ Vehicle Type: _____ Ins. Code: _____ Ticket/Arrest Number(s): _____		Plate Number: FRM1385 State of Reg.: NY Vehicle Year & Make: 2000 CADI Ins. Code: 4DSD 287 Ticket/Arrest Number(s): _____		22 -		
5	Violation Section(s): 1		Violation Section(s): _____		23 0		
6	Check if involved vehicle is: V <input type="checkbox"/> more than 95 inches wide; E <input type="checkbox"/> more than 34 feet long; H <input type="checkbox"/> operated with an overweight permit; I <input type="checkbox"/> operated with an overweight permit. C <input type="checkbox"/> operated with an overweight permit.		Check if involved vehicle is: V <input type="checkbox"/> more than 95 inches wide; E <input type="checkbox"/> more than 34 feet long; H <input type="checkbox"/> operated with an overweight permit; I <input type="checkbox"/> operated with an overweight permit. C <input type="checkbox"/> operated with an overweight permit.		24 1		
7	VEHICLE 1 DAMAGE CODES Box 1 - Point of Impact: _____ Box 2 - Most Damage: _____ Enter up to three more damage codes: 7 8 4 Vehicle By: _____ Towed To: _____ VEHICLE DAMAGE CODING 1-13 SEE DIAGRAM ON RIGHT. 14. UNDERCARRIAGE 17. DEMOLISHED 15. TRAILER 18. NO DAMAGE 16. OVERTURNED 19. OTHER		VEHICLE 2 DAMAGE CODES Box 1 - Point of Impact: _____ Box 2 - Most Damage: _____ Enter up to three more damage codes: 10 11 Vehicle By: _____ Towed To: _____		25 10		
8	Reference Marker: _____ Coordinates (if available): _____ Latitude/Northing: _____ Longitude/Easting: _____		Place Where Accident Occurred: County: SARATOGA <input checked="" type="checkbox"/> City <input type="checkbox"/> Village <input type="checkbox"/> Town of SARATOGA SPRINGS Road on which accident occurred: FOREST AVE (Route Number or Street Name) at 1) intersecting street _____ (Route Number or Street Name) or 2) 150 feet _____ miles <input checked="" type="checkbox"/> N <input type="checkbox"/> S <input type="checkbox"/> E <input type="checkbox"/> W of LAKE AVE (Milepost, Nearest intersecting Route Number or Street Name)		26 10		
9	Accident Description/Officer's notes: VEHICLE TWO WAS PARKED ON FOREST AVENUE OVERNIGHT WHEN AN UNKNOWN VEHICLE ONE STRUCK THE REAR DRIVER'S SIDE.		Circle the diagram below that describes the accident, or draw your own diagram in space #9. Number the vehicles. ACCIDENT DIAGRAM See the last page of the MV-104A for the accident diagram. 9. Cost of repairs to any one vehicle will be more than \$1000. <input type="checkbox"/> Unknown/Unable to determine <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		27 1		
10	Accident Description/Officer's notes: VEHICLE TWO WAS PARKED ON FOREST AVENUE OVERNIGHT WHEN AN UNKNOWN VEHICLE ONE STRUCK THE REAR DRIVER'S SIDE.		Cost of repairs to any one vehicle will be more than \$1000. <input type="checkbox"/> Unknown/Unable to determine <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		28 1		

ALL INVOLVED	8	9	10	11	12	13	14	15	16	17 BY	TO 18	Names of all involved	Date of Death Only					
A																		
B																		
C																		
D																		
E																		
F																		
Officer's Rank and Signature	PTL			Badge/ID No. 0576			NCIC No. 04501			Precint/Post Troop/Zone			Station/Beat Sector		Reviewing Officer CROOKS, SHANE		Date/Time Reviewed 10/2/2011 10:26	
Print Name in Full	GLENN BARRETT			0576			04501											

USE COVER SHEET

N

29

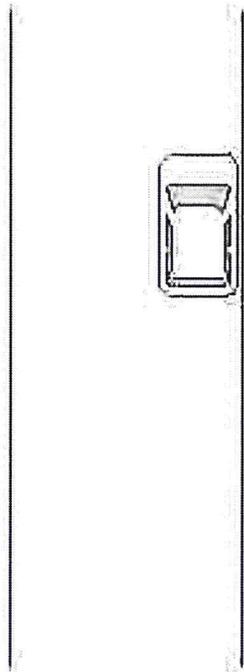
Local Codes
SS-022414-11
NL4209000146

POLICE ACCIDENT REPORT

MV-104A (6/04)

AMENDED REPORT

Accident Date			Day of Week	Military Time	No. of Vehicles	No. Injured	No. Killed	Not Investigated at Scene	<input type="checkbox"/>	Left Scene	Police Photos
Month	Day	Year						Accident Reconstructed	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
9	17	2011	Saturday	10:40	2	0	0				



POLICE ACCIDENT REPORT

MV-104A (6/04)

Local Codes
 SS-000605-12
 NL4214000359

AMENDED REPORT

19
69

1	Accident Date	Month	Day	Year	Day of Week	Military Time	No. of Vehicles	No. Injured	No. Killed	Not Investigated at Scene	<input checked="" type="checkbox"/> Left Scene	Police Photos	20
-	1	9	2013	Wednesday	15:50	1	0	0	Accident Reconstructed	<input type="checkbox"/>	<input type="checkbox"/>	Yes <input checked="" type="checkbox"/> No	-

VEHICLE 1 VEHICLE BICYCLIST PEDESTRIAN OTHER PEDESTRIAN

2	VEHICLE 1- Driver License ID Number	491831557	State of Lic.	NY	VEHICLE - Driver License ID Number		State of Lic.		21
-	Driver Name - exactly as printed on license	WILBUR, KRISTY LEA			Driver Name - exactly as printed on license				
	Address (Include Number and Street)				Address (Include Number and Street)				

3	City or Town	State	Zip Code	City or Town	State	Zip Code	22
---	--------------	-------	----------	--------------	-------	----------	----

3	Month	Day	Year	Sex	Unlicensed	No. of Occupants	Public Property Damaged	Date of Birth	Sex	Unlicensed	No. of Occupants	Public Property Damaged	23
-	5	22	1951	F	<input type="checkbox"/>	01	<input checked="" type="checkbox"/>			<input type="checkbox"/>		<input type="checkbox"/>	

4	Name - exactly as printed on registration	Sex	Date of Birth	Name - exactly as printed on registration	Sex	Date of Birth	23
-	WILBUR, KRISTY LEA						

1	Address (Include Number and Street)	Apt. No.	Haz. Mat. Code	Address (Include Number and Street)	Apt. No.	Haz. Mat. Code	Released	24
---	-------------------------------------	----------	----------------	-------------------------------------	----------	----------------	----------	----

5	City or Town	State	Zip Code	City or Town	State	Zip Code	24
1	CJD3558	NY	2005 HYUN	SUBN	328		

6	Ticket/Arrest Number(s)	Ticket/Arrest Number(s)	25
1	Violation Section(s)	Violation Section(s)	15

7	Check it involved vehicle is:	Check it involved vehicle is:	Circle the diagram below that describes the accident, or draw your own diagram in space #9. Number the vehicles.	26
1	more than 95 inches wide;	more than 95 inches wide;		

1	VEHICLE DAMAGE CODES	VEHICLE DAMAGE CODES	ACCIDENT DIAGRAM	27
	Box 1 - Point of Impact	Box 1 - Point of Impact	See the last page of the MV-104A for the accident diagram.	

	VEHICLE DAMAGE CODING	1-13 SEE DIAGRAM ON RIGHT.	14. UNDERCARRIAGE	17. DEMOLISHED	28
			15. TRAILER	18. NO DAMAGE	14
			16. OVERTURNED	19. OTHER	

	Reference Marker	Coordinates (if available)	Place Where Accident Occurred:	29
		Latitude/Northing	County <u>SARATOGA</u> <input checked="" type="checkbox"/> City <input type="checkbox"/> Village <input type="checkbox"/> Town of <u>SARATOGA SPRINGS</u>	
		Longitude/Easting	Road on which accident occurred <u>FOREST AVE</u> (Route Number or Street Name)	
			at 1) intersecting street <u>LAKE AVE</u> (Route Number or Street Name)	
			or 2) <u> </u> <input type="checkbox"/> N <input type="checkbox"/> S of <u> </u> (Milepost, Nearest intersecting Route Number or Street Name)	

Accident Description/Officer's notes
 OPERATOR OF VEHICLE ONE REPORTS SHE PULLED OVER ON THE NORTH SIDE OF LAKE AVE TO MAKE A CALL. OPERATOR ONE THEN TRIED TO BACK ONTO FOREST TO TURN AROUND. OPERATOR ONE STATED SHE WAS UNABLE TO SEE THE STOP SIGN AND SHE BACKED INTO WHEN SHE BACKED UP KNOCKING THE SIGN DOWN PROPERTY DAMAGED BY VEHICLE #01- STOP SIGN CITY OF SARATOGA SPRING CITY HALL BROADWAY SARATOGA SPRINGS, NY 12866

	8	9	10	11	12	13	14	15	16	17 BY	TO 18	Names of all involved	Date of Death Only
A	1	1	4	1	61	F	-	-	-			WILBUR, KRISTY LEA	
L													
L													
I													
N													
V													
O													
L													
D													
	Officer's Rank and Signature	PTL <i>Patrick O'Leary</i>		Badge/ID No.	2230	NCIC No.	04501	Precinct/Post Troop/Zone		Station/Beat Sector		Reviewing Officer	BRISCOE, SEAN
	Print Name in Full	PATRICK OLEARY										Date/Time Reviewed	1/28/2013 22:56

USE COVER SHEET
N

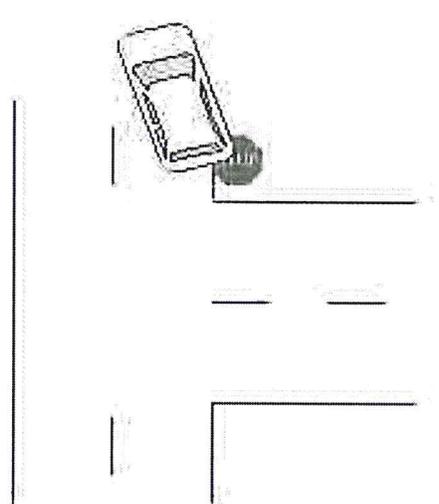
4/R

New York State Department of Motor Vehicles
POLICE ACCIDENT REPORT
MV-104A (6/04)

Local Codes
SS-000605-12
NL4214000359

AMENDED REPORT

Accident Date			Day of Week	Military Time	No. of Vehicles	No. Injured	No. Killed	Not Investigated at Scene	<input checked="" type="checkbox"/>	Left Scene	Police Photos	
Month	Day	Year									Yes	No
1	9	2013	Wednesday	15:50	1	0	0	Accident Reconstructed	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>





SARATOGA COUNTY PLANNING BOARD

TOM L. LEWIS
CHAIRMAN

JASON KEMPER
DIRECTOR

June 22, 2016

Kate Maynard, Principal Planner
City of Saratoga Springs
City Hall 474 Broadway
Saratoga Springs, NY 12866

SCPB Referral Review#16-91-Special Permit-223 Lake Ave, LLC

Convenience sales in UR-3 District (former Davis' Grocery Store)
Lake Avenue (NYS Route 29) and Forest Avenue

Received from the City of Saratoga Springs Planning Board on June 17, 2016.

Reviewed by the Saratoga County Planning Board and Staff on June 21, 2016.

Decision: No Significant County Wide or Inter Community Impact

Comments: In accordance with the Memorandum of Understanding (MOU) between the City of Saratoga Springs Planning Board and the Saratoga County Planning Board, the above-noted referral for a special use permit has been reviewed by staff with necessary concurrence and has been deemed to present no countywide impact. The primary issue of concern with the proposed use and site plan is the provision of necessary parking area to accommodate the expanded commercial/retail use relying upon sit-down eating within. The application material sufficiently addresses parking needs and requirements.

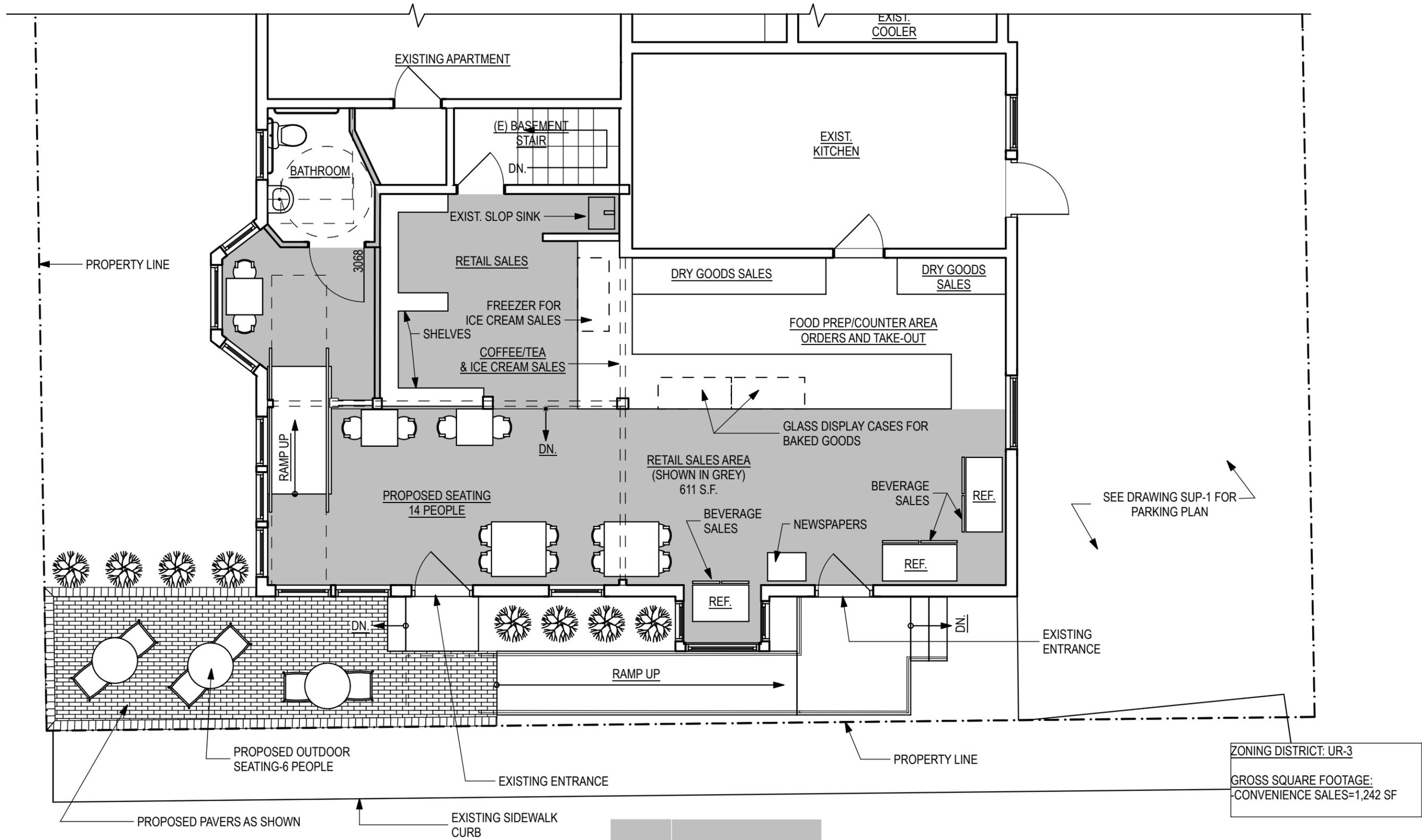
A handwritten signature in blue ink that reads "Michael Valentine".

Michael Valentine, Senior Planner
Authorized Agent for Saratoga County

DISCLAIMER: Recommendations made by the Saratoga County Planning Board on referrals and subdivisions are based upon the receipt and review of a "full statement of such proposed action" provided directly to SCPB by the municipal referring agency as stated under General Municipal Law section 239. A determination of action is rendered by the SCPB based upon the completeness and accuracy of information presented by its staff. The SCPB cannot be accountable for a decision rendered through incomplete or inaccurate information received as part of the complete statement.

50 WEST HIGH STREET
BALLSTON SPA, NY 12020

(518) 884-4705 PHONE
(518) 884-4780 FAX



SITEWORKS
ASSOCIATES, LLC
DRAFTING & DESIGN SERVICES
45 LEXINGTON AVE.
GLENS FALLS, NY 12801
PH: 518.307.3098

STEWART SUP
Owner: Rodney Stewart
223 Lake Ave.
Saratoga Springs, NY 12801

DRAWING TITLE:
FLOOR PLAN
SCALE: 3/16"=1'-0"
DRAWN BY: MS
CHK'D BY: MS

REVISIONS:		
MARK	DATE	DESCRIPTION
1	7/11/16	UPDATED INTERIOR WALL LAYOUT
0	3/17/16	ISSUED

DRAWING NO.
SUP-2



LETTER OF TRANSMITTAL

TO: Saratoga Springs Planning Office

DATE: 5/31/2016 JOB NO.: 2013127
ATTENTION: Kate Maynard

RE: Union Ave. Condos

WE ARE SENDING YOU Attached Under separate cover via overnight mail the following items

- Shop drawings Prints Plans Samples Specifications
 Copy of letter Change order _____

COPIES	DATE	NO.	DESCRIPTION
3			Full size Site Plan Application Plan sets
3			Complete streets checklist
1			Site Plan Application fee check for \$4,150
3			Site plan application form
3			Site plan application check lists
3			Cost Estimate for Letter of Credit
3			Stormwater Management report (within SWPPP)
3			Draft SWPPP
3			Engineer's Utility report
3			Water Service Agreement
1			Cd of PDF's for the submission

THESE ARE TRANSMITTED as checked below:

- For approval Approved as submitted Resubmit _____ copies for approval
 For your records Approved as noted Submit _____ copies for distribution
 As requested Return for corrections Return _____ corrected prints
 For review and comments _____
 FOR BIDS DUE _____ 20____ PRINTS RETURNED AFTER LOAN TO US

REMARKS: In an effort to stay on schedule please send the project out to the city designated engineer for review. Please inform the applicant and The LA Group of the escrow amount needed and the fee will be paid in a quick manner.

Cc. file

SIGNED: _____
Matthew Brobston



CITY OF SARATOGA SPRINGS

PLANNING BOARD

City Hall - 474 Broadway
Saratoga Springs, New York 12866-2296
Tel: 518-587-3550 fax: 518-580-9480
<http://www.saratoga-springs.org>

[FOR OFFICE USE]

(Application #)

(Date received)

APPLICATION FOR:
SITE PLAN REVIEW
(INCLUDING PUD)

(Rev. 12/2015)

***Application Check List - All submissions must include completed application check list and all required items.

Project Name: Union Ave. Condominiums

Property Address/Location: 46 Union Ave

Tax Parcel #: 165.76-1-33, 165.76-1-32, 165.76-1-40 Zoning District: UR-4
(for example: 165.52-4-37)

Proposed Use: 26 residential units (condominiums) within 5 buildings

Date special use permit granted (if any): _____ Date zoning variance granted (if any): 5/23/2016

Is property located within (check all that apply)?: Historic District Architectural Review District
 500' of a State Park, city boundary, or county/state highway

	<u>APPLICANT(S)*</u>	<u>OWNER(S) (If not applicant)</u>	<u>ATTORNEY/AGENT</u>
Name	<u>46 Union, LLC</u>	<u>Norstar Development USA,LP</u>	<u>The LA Group, PC</u>
Address	<u>18 Division Street, Sutie 401</u> <u>Saratoga Springs, NY 12866</u>	<u>733 Broadway</u> <u>Saratoga Springs, NY 12866</u>	<u>40 Long Alley</u> <u>Saratoga Springs, NY 12866</u>
Phone			
Email			

Identify primary contact person: Applicant Owner Agent

* An applicant must be the property owner, lessee, or one with an option to lease or purchase the property in question.

Application Fee: A check for the total amount below payable to: "Commissioner of Finance" MUST accompany this application.

<input type="checkbox"/>	<u>Sketch Plan</u> -	\$250	\$ _____
<input checked="" type="checkbox"/>	<u>Final Site Plan Approval</u>		\$ <u>4,150.00</u>
	Residential -	\$250 plus \$150/unit	\$ _____
	Non-Residential -	\$500 plus \$100/1,000 SQ. FT.	\$ _____
<input type="checkbox"/>	<u>Modification</u>		\$ _____
	Residential -	\$250	\$ _____
	Non-Residential -	\$500	\$ _____
Total \$			<u>4,150.00</u>

Submission Deadline – Check City’s website (www.saratoga-springs.org) for application deadlines and meeting dates.

Does any City officer, employee or family member thereof have a financial interest (as defined by General Municipal Law Section 809) in this application? YES NO . If YES, a statement disclosing the name, residence, nature and extent of this interest must be filed with this application.

I, the undersigned owner, leasee or purchaser under contract for the property, hereby request Site Plan Review by the Planning Board for the identified property above. I agree to meet all requirements under Section 240-7.2 of the Zoning Ordinance of the City of Saratoga Springs.

Furthermore, I hereby authorize members of the Planning Board and designated City staff to enter the property associated with this application for purposes of conducting any necessary site inspections relating to this application.

Applicant Signature: _____

Date: 5/25/16

If applicant is not current owner, owner must also sign.

Owner Signature: _____

Date: 5/25/16



CITY OF SARATOGA SPRINGS

PLANNING BOARD

City Hall - 474 Broadway
 Saratoga Springs, New York 12866-2296
 Tel: 518-587-3550 fax: 518-580-9480
<http://www.saratoga-springs.org>

[FOR OFFICE USE]

(Application #)

(Date received)

Rev.12/2015

SITE PLAN REVIEW SUBMITTAL CHECKLIST

Project Name: _____

Listed below are the minimum submittal requirements for site plan review as set forth in The City of Saratoga Springs' Zoning Ordinance Appendix B. The Planning Board reserves the right to request additional information, as necessary, to support an application. The Board also reserves the right to reject the application if these minimum requirements are not met. Please complete the checklist below and provide with your submission.

REQUIRED ITEMS: *3 hard copies and 1 digital copy of ALL materials are required.

CHECK EACH ITEM	
<input type="checkbox"/>	1. Completed Site Plan Application (3 hard copies - *1 w/original signature - and 1 digital) and Fee
<input type="checkbox"/>	2. SEQR Environmental Assessment Form- short or long form as required by action.
<input type="checkbox"/>	3. Set of plans including: (3) large scale plans (sheets must be 24" x 36", drawn to a scale of not more than 1"=50 feet). One digital version of all submittal items (pdf) shall be provided.
<input type="checkbox"/>	4. Basic or Full Storm Water Pollution Prevention Plan as required per City Code Chapter 242.
<input type="checkbox"/>	5. Copy of signed DPW water connection agreement for all projects involving new water connections to the City system
<input type="checkbox"/>	6. Engineering Report for Water and Sanitary
<input type="checkbox"/>	7. Complete Streets Checklist
<input type="checkbox"/>	8. Project Cost Estimate-Quantities of work items and estimate of costs

REQUIRED ITEMS ON SITE PLAN, AS APPLICABLE:

<input type="checkbox"/>	1. Property line survey prepared by a licensed land surveyor. Site plan must reference such survey with all corners set and marked on plan. A copy of the original property survey must also be included.
<input type="checkbox"/>	2. North arrow and map scale
<input type="checkbox"/>	3. Parcel tax map number
<input type="checkbox"/>	4. Site location map
<input type="checkbox"/>	5. Site vicinity map (all features within 300 feet of property)
<input type="checkbox"/>	6. Identification of zoning district with corresponding area requirements

<input type="checkbox"/>	7. Building setback lines, either listed or shown on plans.
<input type="checkbox"/>	8. Title block with project name; name and address of applicant; and name and address of property owner (if different)
<input type="checkbox"/>	9. Topography data tied to NGVD 1929 datum
<input type="checkbox"/>	10. Name of all adjacent property owners
<input type="checkbox"/>	11. Parcel street address (existing and any proposed postal addresses)
Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>	12. Identification of all existing or proposed easements, covenants or legal rights-of-way on this property
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	13. References to all prior variances or special use permits
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	14. Existing and proposed contours and spot grades (at 2 foot intervals)
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	15. Identification of all spoil or borrow areas
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	16. Identification of all watercourses, designated State wetlands, buffers, Federal wetlands, floodplains, rock outcroppings, etc.
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	17. Location of proposed storage
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	18. Identification of all existing or proposed sidewalks or pedestrian paths (show type, size and condition of existing sidewalks)
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	19. Location, design specifications and construction material for all proposed site improvements (drains, culverts, retaining walls, berms, fences, etc.)
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	20. Location and distance to fire hydrant
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	21. Location, size, and material of all existing and proposed utility services
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	22. Parking lot layout plan and identification of all loading areas (number all spaces)
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	23. Parking demand calculations
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	24. Identification of parking spaces and access points for physically impaired persons
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	25. Location and screening plan for dumpster or recycling bins
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	26. Location, design, type of construction and materials, proposed use and exterior dimensions of all buildings (existing and proposed) on site
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	27. Identification of storage of any potentially hazardous materials
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	28. Planting plan identifying quantity, species and size of all proposed new plant materials. Label existing plant material to be retained or removed.
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	29. Lighting plan showing type, location and intensity of all existing and proposed exterior lighting fixtures
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	30. Erosion and sediment control plan – including designated concrete truck washout area

Checklist prepared by: _____ Date: _____

City of Saratoga Springs Complete Streets Checklist

Saratoga Springs Complete Street Policy Vision (May 2012)

The City of Saratoga Springs Complete Streets Policy will encourage the development of a complete streets network throughout the City to create a more balanced transportation system. The Policy shall be consistent with and assist in achieving the goals and recommendations set forth in the City's Comprehensive Plan and other policy documents. The Policy shall ensure new and updated public and private projects are planned, designed, maintained and operated to enable safer, comfortable and convenient travel to the greatest extent possible for users of all abilities including pedestrians, bicyclists, motorists and transit riders.

This checklist is intended to assist the City in achieving its vision for complete streets.

Project Name: _____ **Date:** _____

Project Location / Limits: _____

Project Description: _____

Instructions: For each box checked, please provide a brief description for how the item is addressed, not addressed, or not applicable and include supporting documentation.

Street Classification (identify street or streets within the project area)							
Principal arterial	<input type="checkbox"/>	Minor arterial	<input type="checkbox"/>	Mixed use collector	<input type="checkbox"/>	Mixed use local	<input type="checkbox"/>
Residential collector	<input type="checkbox"/>	Residential local	<input type="checkbox"/>	Special use street	<input type="checkbox"/>		

EXISTING CONDITIONS				
Item to Be Addressed/ Checklist Consideration	YES	NO	N/A	Required Description
<i>Existing Bicycle & Pedestrian Operations</i>				
Do bicycle and pedestrian accommodations exist? (see page 2 for examples)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<i>Existing Transit Operations</i>				
Do transit facilities exist within the study area, including bus and train stops/stations?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is the project area on a transit route? (CDTA Service Routes)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are there bicycle racks, shelters, or parking for transit riders available?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<i>Existing Access and Mobility</i>				
Do connective opportunities exist with schools, hospitals, senior care or community centers or persons with disabilities within project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are there gaps inhibiting continuous access between schools, hospitals, senior care, or community centers or persons with disabilities within project area?"	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<i>Project Area Context</i>				
Are there prominent landmarks, recreation, shopping, employment center, cultural centers or other key destinations that offer opportunities to connect this site?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Please list and/or describe planning or policy documents addressing bicyclist, pedestrian, transit, or truck/ freight use for the project area. Examples can include: City of Saratoga Springs Comprehensive Plan , City of Saratoga Springs Open Space Plan , Capital District Transportation Committee Bicycle/ Pedestrian Priority Network , City Standard Details , etc.				

PROPOSED DESIGN

Item to Be Addressed/ Checklist Consideration	YES	NO	N/A	Required Description
Complete Streets Design				
Bicyclist accommodations?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Pedestrian accommodations?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Access and Mobility accommodations?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Transit accommodations?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Truck/ freight accommodations?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Streetscape elements?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Bike Facilities:	
Off-roadway bike accommodations	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA
Dedicated bike lane	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA
Shared-use lane	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA
Shoulder	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA
Acceptable actuated traffic signal bike detection, including turn lanes	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA
Do signals allow adequate minimum green time for bicyclist to safely cross intersection?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA
Signage and pavement markings specific to proposed bike facilities	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA
Bicycle safe inlet grates	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA
Bicycle parking, eg. bike racks, bike lockers	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA
Transit Facilities:	
Transit shelters	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA
Bus turnouts	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA
Standing pads	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA
Has CDTA been contacted?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA
Access and Mobility Facilities:	
Adequate sidewalk or paved path	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA
Acceptable consideration/provision for accessible pedestrian traffic signal features	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA
Curb ramps, including detectable warning surface	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA
Acceptable slope and cross-slope for driveway ramps, sidewalks, crossings)	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA
Have conflicts been reduced among pedestrian, bicyclists, and motor vehicles (access management)?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA

Pedestrian Facilities:	
Sidewalks on both sides of the street	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA
Striped crosswalks	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA
Geometric modifications to reduce crossing distances such as curb extensions (e.g. bulb-outs)	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA
Acceptable provision for pedestrian traffic signal features (e.g. ped. buttons)	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA
Pedestrian signage for crossing & wayfinding	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA
Safety islands/medians on roadways with two or more traffic lanes in each direction	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA
Enhanced supplemental pedestrian treatments at uncontrolled marked crossings	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA
Connectivity:	
Are there proposed connections to other bike paths, pedestrian facilities, or transit facilities?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA Existing Connection
Are there proposed connections to any key destinations listed on page 1?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA Existing Connection
Are there proposed connections to neighborhoods?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA Existing Connection
Streetscape Elements:	
Are streetscape elements proposed such as landscaping, street trees, planters, buffer strips, etc?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA
Pedestrian-level lighting	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA
Public seating or benches	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA

Design Standards and Guidelines				
Design meets guidelines such as described below for bicycle/pedestrian/bus/transit facilities?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA	Describe

*American Association of State Highway and Transportation Officials (AASHTO) - *A Policy on Geometric Design of Highway and Streets, Guide for the Development of Bicycle Facilities and AASHTO Guide for the Planning, Design, and Operation of Pedestrian Facilities*; [Public Right-of-Way Accessibility Guide \(PROWAG\)](#); [Manual on Uniform Traffic Control Devices \(MUTCD\)](#); [Americans with Disabilities Act Accessibility Guidelines \(ADAAG\)](#); National Association of City Transportation Officials (NACTO) - [Urban Bikeway Design Guide](#). New York State Department of Transportation – [Highway Design Manual](#)



City of Saratoga Springs

OFFICE OF PUBLIC WORKS

5 Lake Avenue
Saratoga Springs, New York 12866

Phone 518-587-3550 ** Fax 518-587-2417
www.saratoga-springs.org

ANTHONY J. SCIROCCO
COMMISSIONER

TIMOTHY J. COGAN
DEPUTY COMMISSIONER

NEW WATER SERVICE CONNECTION AGREEMENT & APPLICATION FORM

Property Owner's Name: _____

Project Name (if applicable): _____

Property Address: _____

Tax Map#: _____

Size of Tap (check one below):

3/4" 1"

Greater than 1"

A unit of water shall be defined as fourteen thousand (14,000) cubic feet of water per year.

Contact the Water Dept at ext. 2502 for assistance with water use estimation and meter specifications before signing below.

Number of Dwellings: _____

Estimated Cubic Feet of Water per Year: _____

To be completed in full without any contingencies or protest, on or before the Building Inspector approval of the rough plumbing, including the installation of the water meter, or at the time of the issuance of a tapping permit.

The undersigned represents to the City that they have full and complete authority to execute this document and bind and commit the developer to abide by the City Water Ordinance. This agreement shall be binding on all of the undersigned transferees.

The undersigned acknowledges that a copy of this document will be delivered to all appropriate and necessary governmental entities.

Authorized Signature: _____

Company Name: _____

Company Address: _____

Phone Number: _____ Fax Number: _____ Date: _____

Department of Public Works Approval: _____ Date: _____

**Engineering Report
Water and Sanitary Sewer**

For

UNION AVENUE CONDOS

**46 UNION AVENUE
SARATOGA SPRINGS, NEW YORK**

Planning Board #16.XXX

Prepared For

**46 Union Avenue, L.L.C.
18 Division Street, Suite 401
Saratoga Springs, NY 12866
Contact: Tony Bonacio**

Prepared By

**The LA Group, P.C.
40 Long Alley
Saratoga Springs, New York 12866**



May 26, 2016

I. Introduction

46 Union Avenue Condos consists of 26 condominiums in 5 buildings at the site of the former Skidmore College residence hall known as the Pink Palace. The existing building will be demolished to make way for the new project.

Municipal water and sewer exists along Union Avenue and White Street where the new buildings are proposed. North Lane bisects the project but has no municipal services, only natural gas and electric lines.

A 183 foot section of 4-inch diameter water main in Union Avenue will be replaced with 8-inch ductile iron pipe as part of the project. The applicant's Contractor will work closely with the City Engineer's office to coordinate this work and minimize disruption to area water distribution.

Water for buildings 1, 2 and 3 will be supplied for domestic and fire protection through a new 6-inch lateral at the northeast end of the property. Buildings 4 and 5 will take domestic service from the existing 4-inch water main in White Street through individual 1-inch service laterals.

For sanitary sewer collection, buildings 1, 2 and 3 will drain to an existing 8-inch sanitary sewer lateral that formerly served the residence hall. If an inspection of this lateral shows the pipe to be in serviceable condition, a new connection is proposed at the northwest corner of the property between the new building lateral and the existing sanitary pipe. Buildings 4 and 5 will be serviced by individual sewer laterals connected to the existing 8-inch sanitary sewer in White Street.

II. Project Description

The applicant proposes to construct 5 condominium buildings. Building 1 will be a mix of one, two and three bedroom units. Buildings 2, 3, 4 and 5 will include three bedroom units. The table below describes each building's use:

Building	Dwelling Units (DU's)			Total Number of DU's	Total Number of BR's
	1 BR	2 BR	3 BR		
1	4	10	4	18	36
2			2	2	6
3			2	2	6
4			1	1	3
5			3	3	9
Totals	4	10	12	26	60

III. Existing Water and Sanitary Sewer Utilities

Municipal water service is currently provided by the City of Saratoga Springs. An 8-inch diameter water main located in Union Avenue was extended by a previous developer up to the project’s westerly property line and connected to the existing 4-inch water main. An 8-inch gate valve was installed near the end of the 8-inch portion. The water main along the frontage of the property is a 4-inch pipe. The water main in White Street along the back portion of the property is a 4-inch pipe.

A hydrant flow test was conducted on April 27, 2016 indicating static pressures in the area of Union Avenue and Regent Street of 80 pounds per square inch (psi). During the flow test, the flow hydrant running at approximately 1,060 gallons per minute caused the residual pressure at the test hydrant to drop to 49 psi giving a theoretical available flow of approximately 1,514 gallons per minute at 20 pounds per square inch (psi). Refer to Attachment A for the Hydrant Flow Test Report provided by Northeast Fire Protection Systems, Inc.

Municipal sanitary sewer service is available from the City of Saratoga Springs at the 12-inch sanitary sewer main in Union Avenue and the 8-inch sanitary sewer main in White Street. The White Street main runs west to Regent Street then north to Union Avenue and then by gravity to the SCSD Lift Station No. 1 at the intersection of High Rock Avenue and Warren Street. Ultimately the wastewater flows for conveyance and treatment at SCSD’s wastewater treatment plant in Mechanicville.

IV. Projected Water and Wastewater Flows

The table below provides information on the anticipated wastewater flow rates for the project:

<u>Description</u>	<u>Use Rate</u>	<u>Total Use</u>
Tributary to Union Avenue: (48) bedrooms	110 gpd/bedroom ¹	5,280 gpd
Tributary to White Street: (12) bedrooms	110 gpd/bedroom ¹	1,320 gpd
Total		6,600 gpd

Average daily flow for wastewater to Union Avenue is estimated to be 3.7 gallons per minute (gpm) based on a 24 hour day. Estimated peak hourly flow is 15.4 gpm (4.2 x average).²

Average daily flow for wastewater to White Street is estimated to be 0.9 gallons per minute (gpm) based on a 24 hour day. Estimated peak hourly flow is 3.9 gpm (4.2 x average).²

Average daily demand for water to buildings 1, 2 and 3 is estimated to be approximately equal to the wastewater flow or 3.7 gpm. Instantaneous peak demand is estimated at 95 gpm.³ Average daily demand for water to buildings 4 and 5 is estimated to be approximately equal to the wastewater flow or 0.9 gpm. Instantaneous peak demand is estimated at 32 gpm.⁴

For the purposes of input into the City of Saratoga Springs water model, we offer the following estimated water demands for the project:

For buildings 1, 2 and 3:

- Average Day Demand is 3.7 gallons per minute (GPM) over the 24 hour period.
- Max Day Demand is 7.4 GPM based on twice the average.
- Peak Hourly Flow is 15.4 GPM based on 4.2 times the average.
- Fire Flow Demand will be estimated by the fire sprinkler designer.

For buildings 4 and 5:

- Average Day Demand is 3.7 gallons per minute (GPM) over the 24 hour period.
- Max Day Demand is 7.4 GPM based on twice the average.
- Peak Hourly Flow is 15.4 GPM based on 4.2 times the average.

V. Proposed Water and Wastewater Utilities

Proposed Water Utilities

To service the project, the existing 4-inch main in Union Avenue along the frontage of the property (approximately 150 linear feet) will be replaced with an 8-inch ductile iron pipe to provide combined fire protection and domestic service to buildings 1, and domestic service to buildings 2 and 3. A 6-inch DIP combined fire protection and domestic waterline will be brought to the building 1 mechanical room where a domestic line will tee off and be metered. A fire department connection will be provided at building 1. Individual domestic service lines will be brought to buildings 2 and 3 from the building 1 domestic system. Building 4 and 5 will be serviced from the White Street water main via 1-inch service laterals. Each condominium unit will be metered separately.

The estimated fire sprinkler demand at the base of the riser for building 1 will be determined by the fire sprinkler designer per NFPA standards.

Needed Fire Flow (NFF) calculations using the ISO Guide for Determination of Needed Fire Flow are presented in Attachment B. Building 1 includes an automatic fire sprinkler system. The minimum NFF for a residential occupancy with an automatic fire sprinkler system is 1,000 gpm at 20 psi for a duration of 2 hours according to ISO. The calculation for the non-sprinklered buildings shows a NFF of 1,000 gallons per minute. The hydrant flow test data indicates approximately 1,500 gpm at 20 psi. Based on this information, there is adequate fire protection water supply available at the site.

Connections and appurtenances, including mechanical joints, tees, isolation valves, thrust blocks, trenching, bedding, service connections, as well as testing and disinfection will all be specified in accordance with City of Saratoga Springs standards.

Proposed Wastewater Utilities

Building 1, 2 and 3 sanitary sewer service will be connected to an existing 8-inch ACP lateral that was installed for the original Skidmore residence hall. The lateral pipe is located toward the northwest side of the building. The building sanitary waste line will connect to this existing lateral with a Romac transition coupling. Invert elevation and pipe dimensions will need to be verified in the field prior to ordering the transition fitting. The condition of the existing lateral pipe will also need to be determined prior to construction.

Building 4 and 5 sanitary sewer services will be connected to an existing 8-inch main in White Street. Each condominium unit will be serviced by a separate 6-inch PVC lateral that will connect to the 8-inch main with a saddle wye. The measured depth of the main in the street will allow for these laterals to pass beneath the gas and water mains.

The new 6-inch laterals will be installed at a minimum slope of 2.0% to provide adequate cleansing velocity in the pipe.

Pipe, trenching, bedding, service connections, and testing will be specified in accordance with City of Saratoga Springs minimum standards.

Notes

1. From Table 1, Appendix 75-A Wastewater Treatment Standards - Residential Onsite Systems (110 gallons per day per bedroom)
2. From Figure 1, GLUMRB Recommended Standards for Wastewater Facilities
 $Q = (18 + P^{1/2}) \div (4 + P^{1/2})$ where P = population in thousands
3. From Tables XIV Community Water Systems Source Book, Ameen (4.3 gpm/residence)
4. From Tables XIV Community Water Systems Source Book, Ameen (8.0 gpm/residence)

Attachments

Attachment A	Hydrant Flow Test Data
Attachment B	Needed Fire Flow (NFF) Calculations

ATTACHMENT A
HYDRANT FLOW TEST DATA



North East Fire Protection Systems Inc.

P.O. BOX 508 BURNT HILLS, N.Y. 12027 (518) 885-1115 FAX (518) 885-0526

HYDRANT FLOW TEST REPORT

LOCATION: REGENT STREET & UNION AVE

SARATOGA SPRINGS, NY

TEST BY: NORTH EAST FIRE & B&B PLUMBING

DATE: 4/27/16 TIME: 9:45 AM

TARGET HYD. LOCATION (B) SEE SKETCH

TEST RESULTS : STATIC PRESSURE (B) 80 PSI

RESIDUAL PRESSURE (B) 49 PSI WITH 1060 (A) GPM FLOWING

RESIDUAL PRESSURE (B) _____ PSI WITH _____ (A) GPM FLOWING

FLOW HYD. LOCATION (A) _____

1) PORT FLOWED (A) 1 DIAMETER 2 1/2"

2) PORT FLOWED (A) _____ DIAMETER _____

3) PORT FLOWED (A) _____ DIAMETER _____

1) PITOT or FLOW METER READING (A) 40 PSI AT 1060 GPM

2) PITOT or FLOW METER READING (A) _____ PSI AT _____ GPM

3) PITOT or FLOW METER READING (A) _____ PSI AT _____ GPM

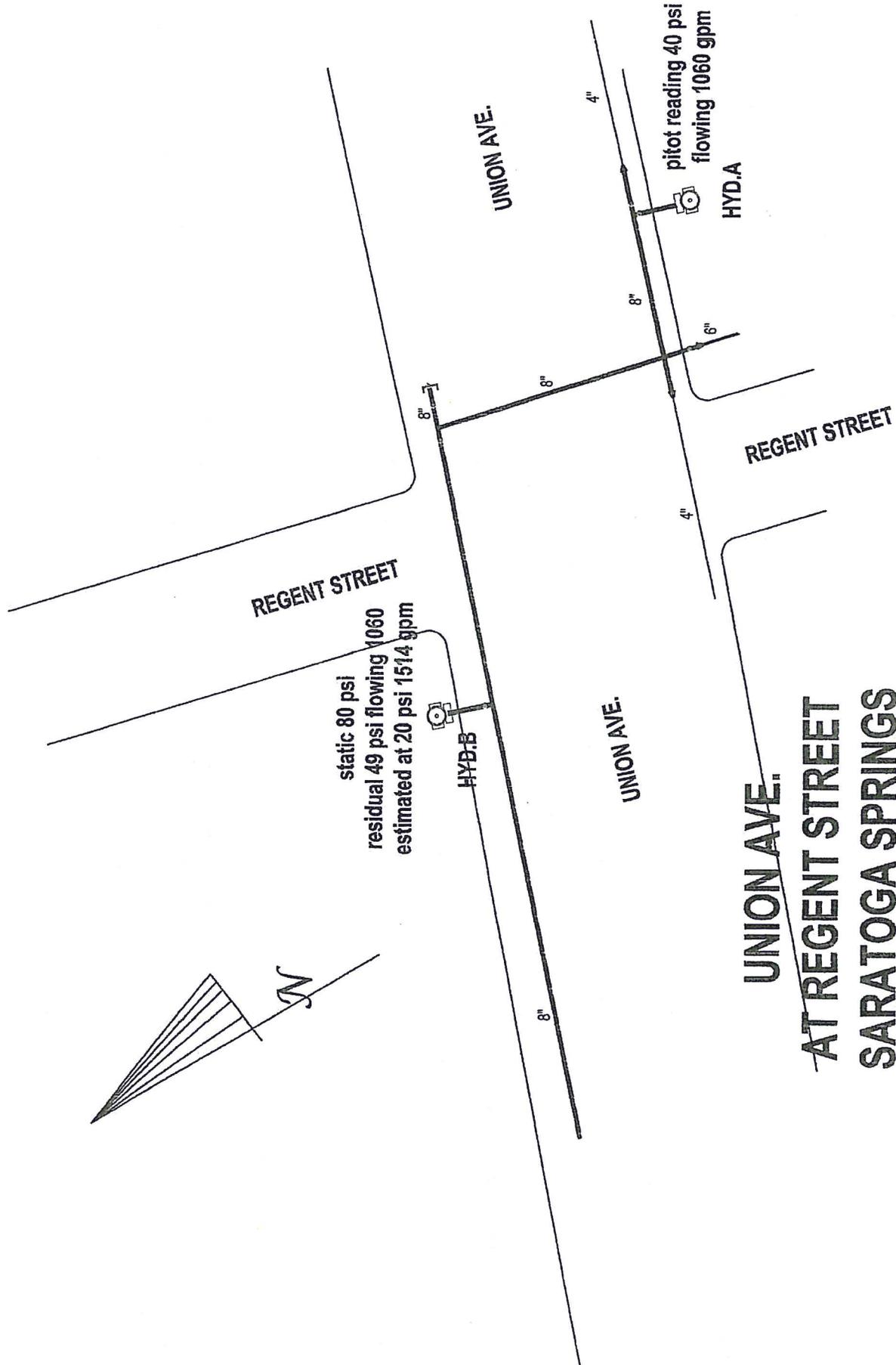
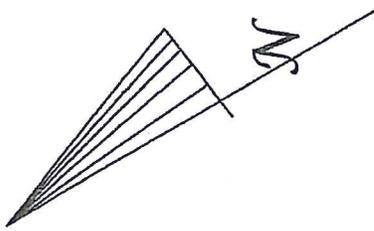
OUTLET COEFFICIENT USED 0.90

(smooth 0.90) (square & sharp 0.88) (projecting into barrel 0.77)

$$Q_{20} = Q \left(\frac{S - R_{20}}{S - R} \right)^{0.54} = 1060 \left(\frac{80 - 20}{80 - 49} \right)^{0.54} = 1060 (1.935)^{0.54} = 1514$$

ESTIMATED FLOW AT 20 PSI 1514 GPM

LOCATION SKETCH ATTACHED ? YES X NO _____



REGENT STREET

UNION AVE.

REGENT STREET

UNION AVE.

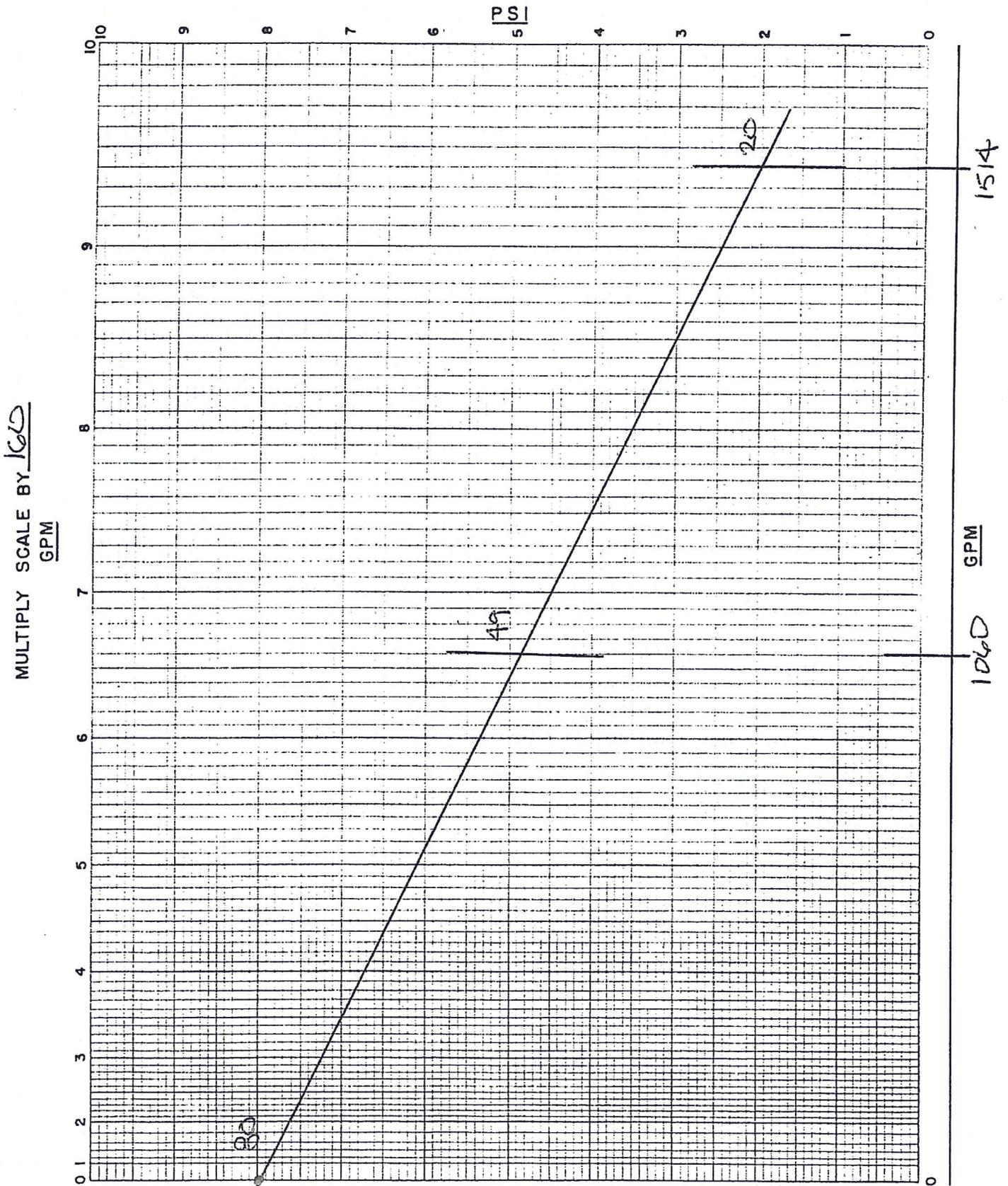
**UNION AVE.
AT REGENT STREET
SARATOGA SPRINGS**

4/27/16

CONTRACT NO. _____
NAME: REGENT STR. & UNION AVE
ADDRESS: SARATOGA SPRINGS

SHEET NO. _____ OF _____
SYSTEM NO. _____
DATE: 4/27/10

MULTIPLY SCALE BY 10



MULTIPLY SCALE BY 100
GPM

ATTACHMENT B
NEEDED FIRE FLOW (NFF) CALCULATIONS

Assumptions: Building is 2 stories with basement.
 Wood frame construction.
 Residential condominiums.
 Largest condominium unit is 1,275 SF.
 Nonsprinklered building.

References: 1. Insurance Services Office (ISO) Guide for Determination of Needed Fire Flow
 Edition 06-2014

Needed Fire Flow Formula:

$$NFF_i = (C_i)(O_i)[1.0 + (X + P)]$$

where:

- NFF = the needed fire flow in gallons per minute
- C_i = a factor related to the type of construction and effective area
- O_i = a factor related to the type of occupancy
- X = a factor related to the exposure hazard of adjacent buildings
- P = a factor related to the communication hazard with adjacent buildings

CONSTRUCTION TYPE

Construction Class 1 (wood frame construction)
 Construction type coefficient (F) = 1.5 (Chapter 2, Reference 1)
 Effective area (A) = 1,913 SF (1275 + 1275/2) (50% of each additional floor)

$$C = 18F \times A^{1/2}$$

C = 1,180.77 gpm
 C = 1,250 gpm (rounded to nearest 250 gpm)

OCCUPANCY TYPE

Residential (condominiums)
 Occupancy combustibility class C-2 (Limited Combustibility)
 Occupancy Factor (O) = 0.85 (Chapter 3, Reference 1)

EXPOSURES AND COMMUNICATION

Exposure Factor (X) = none (Chapter 4, Reference 1, exception for habitational and sprinklered)
 Exposure and Communication Factor (X + P) = 0.00

CALCULATION

$$NFF = (C)(O)(1+(X+P))$$

NFF = 1,062.50 gpm
 NFF = 1,000 gpm (rounded to nearest 250 gpm)

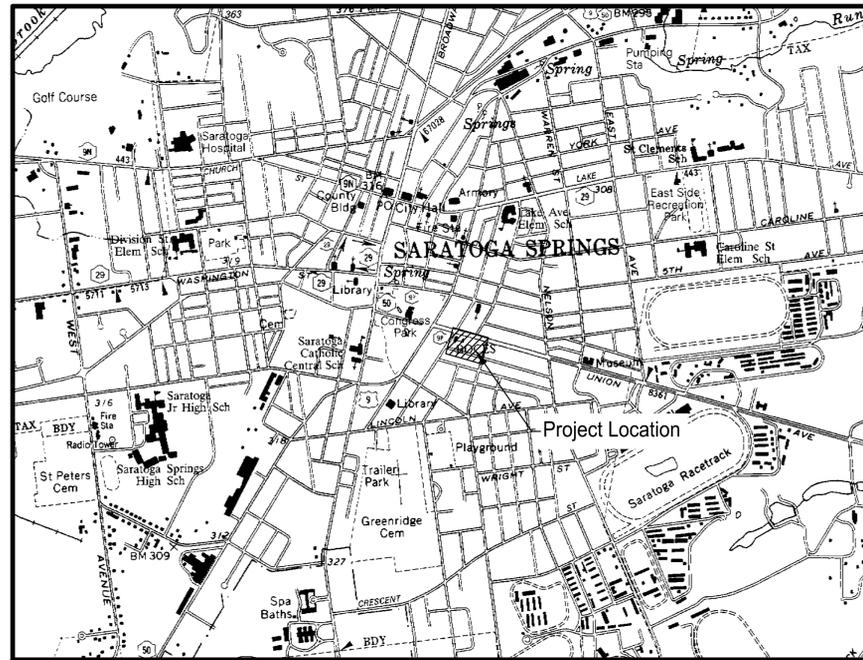
Cost Estimate for Letter of Credit				PB # XX.XXX
Project No:	201575			
Project:	Union Ave. Condos			
Location:	46 Union Ave.			
	Saratoga Springs, New York			
Date:	5/26/2016			
ON-SITE WORK				
Item	Quantity	Unit	Unit Cost	Subtotal
<u>Site Preparation and Grading</u>				
Erosion Control (including silt fence & access)	1	LS	\$3,000.00	\$3,000.00
Site Preparation	1	LS	\$3,000.00	\$3,000.00
<u>Hardscape</u>				
Concrete Walk	4,750	SF	\$5.25	\$24,937.50
Cast in Place Concrete Curb	358	LF	\$18.00	\$6,444.00
Concrete Pavers	3,710	SF	\$4.50	\$16,695.00
Porous Asphalt	2,994	SF	\$4.50	\$13,473.00
River Stone	1,211	SF	\$2.00	\$2,422.00
Asphalt Pavement	1,400	SF	\$2.40	\$3,360.00
<u>Site Amenities</u>				
Traffic signs	1	EA	\$350.00	\$350.00
Striping	1	LS	\$500.00	\$500.00
Retainaing Wall	253	LF	\$125.00	\$31,625.00
Trees	23	EA	\$600.00	\$13,800.00
Shrubs	243	EA	\$200.00	\$48,600.00
Sod	1770	SF	\$1.50	\$2,655.00
Perennials	235	EA	\$10.00	\$2,350.00
Site Bollard Lights	17	EA	\$350.00	\$5,950.00
6' Decorative fence	128	LF	\$35.00	\$4,480.00
<u>Site Utilities</u>				
Catch Basins/ Drain Inlets	7	EA	\$1,200.00	\$8,400.00
Hydrodynamic seperator	1	EA	\$20,000.00	\$20,000.00
Infiltrators	50	LF	\$400.00	\$20,000.00
12" HDPE Storm Line	408	LF	\$20.00	\$8,160.00
6" HDPE Storm line	387	LF	\$15.00	\$5,805.00
4" Perforated PVC	173	LF	\$10.00	\$1,730.00
Nyloplast Yard drain	7	EA	\$600.00	\$4,200.00
Manholes	1	EA	\$2,300.00	\$2,300.00
Outket control strucutre	1	EA	\$2,500.00	\$2,500.00
Drywells	2	EA	\$1,500.00	\$3,000.00
Trench drain	50	LF	\$100.00	\$5,000.00
6" Water service	36	LF	\$28.00	\$1,008.00
1" Copper service	232	LF	\$11.00	\$2,552.00
6" Sanitary line	254	LF	\$20.00	\$5,080.00
<i>On-Site Total</i>				\$273,376.50
<i>On-Site Total X .25</i>				\$68,344.13

<u>OFF-SITE WORK</u>				
Asphalt pavement	3,513	SF	\$3.00	\$10,539.00
Concrete Walk	1,553	SF	\$5.25	\$8,153.25
Cast in Place Concrete Curb	190	LF	\$18.00	\$3,420.00
Decorative Benches	4	EA	\$800.00	\$3,200.00
Decorative Street Light	1	EA	\$3,000.00	\$3,000.00
8"x6" Tee	1	EA	\$1,000.00	\$1,000.00
8" DIP Waterline	185	LF	\$32.00	\$5,920.00
1" Water service cconnection	4	EA	\$500.00	\$2,000.00
6" Water Gate Valve	1	EA	\$400.00	\$400.00
8" Water Gate Valve	1	EA	\$650.00	\$650.00
Connection to SAN	1	LS	\$5,500.00	\$5,500.00
12" HDPE Storm Line	44	LF	\$20.00	\$880.00
Storm Manhole	2	EA	\$2,000.00	\$4,000.00
Trees	5	EA	\$600.00	\$3,000.00
Striping for Crosswalk and road	1	LS	\$1,000.00	\$1,000.00
As Built Drawings	1	LS	\$3,500.00	\$3,500.00
<i>Off-Site Total</i>				\$56,162.25
<i>Total Site Work</i>				<u>\$329,538.75</u>
Letter of Credit Amounts				
Total off-site work				\$56,162.25
Total on-site work x .25				\$68,344.13
<i>Total</i>				\$124,506.38
L.O.C. amount				\$125,000.00

Union Avenue Condominiums Redevelopment

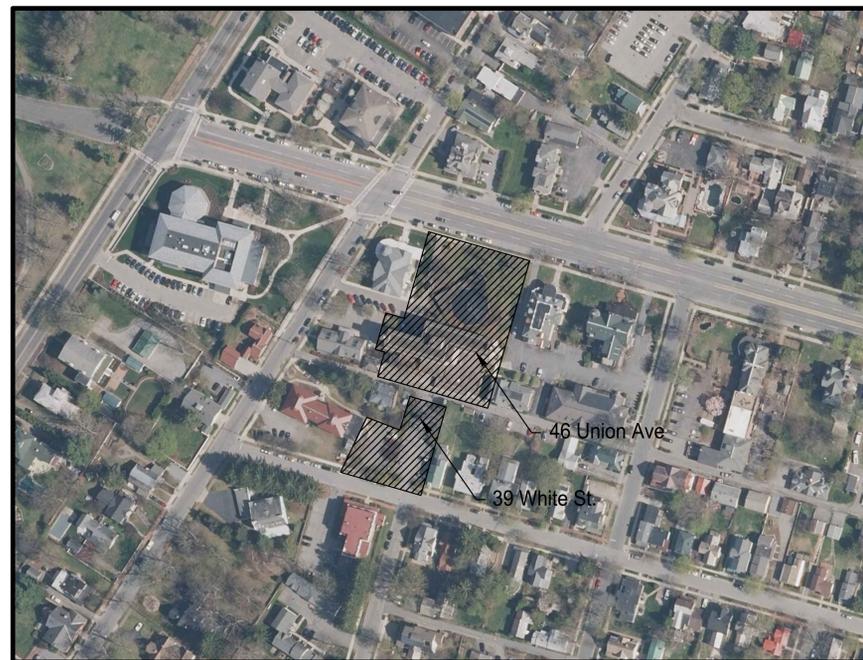
Site Plan Application

May 31, 2016



Project Location Map:

NOT TO SCALE



Aerial Map:

NOT TO SCALE



Site Statistics:

TAX MAP PARCELS 165.76-1-32, 165.76-1-33, 165.76-1-34.13, 165.76-1-40
 EXISTING ZONING - UR-4
 PARCEL SIZE - 1.29 ACRES

Building Variances

UNION AVENUE			
BUILDING 1			
SIDE YARD SETBACK	REQUIRED - 20' MINIMUM, PROVIDED - 10' EAST, 10' WEST	45' TOTAL 20' TOTAL	
	VARIANCE REQUESTED 10' (50%) 10' (50%)	25' (55%)	
BUILDING 2			
REAR YARD SETBACK	REQUIRED - 25' PROVIDED - 16' NORTH LANE		
	VARIANCE REQUESTED 9'(36%)		
SIDE YARD SETBACK	REQUIRED - 20' MINIMUM PROVIDED - 11'		
	VARIANCE REQUESTED 9' (45%)		
MAXIMUM BUILDING COVERAGE			
PRINCIPAL BUILDING	REQUIRED - 25% PROPOSED - 52.39%		
	VARIANCE REQUESTED 27.39%		
COMBINED PROJECT			
DENSITY PER UNIT	REQUIRED - 3,000 SF PER UNIT PROPOSED - 2,161 SF PER UNIT		
	VARIANCE REQUESTED - 839 SF PER UNIT (28%)		
WHITE STREET			
BUILDING 4			
SIDE YARD SETBACK	REQUIRED - 20' MINIMUM, PROVIDED - 10' EAST, 14' WEST	45' TOTAL 24' TOTAL	
	VARIANCE REQUESTED 10' (50%), 6' (30%)	21' (47%)	
REAR YARD SETBACK	REQUIRED - 25' PROVIDED - 10' NORTH LANE		
	VARIANCE REQUESTED 15' (60%)		
MAXIMUM BUILDING COVERAGE			
PRINCIPAL BUILDING	REQUIRED - 25% PROPOSED - 39%		
	VARIANCE REQUESTED 14% (56%)		

Sheet Index:

- COVER SHEET
- PROJECT SURVEY
- L-1 SITE PREPARATION AND DEMOLITION PLAN
- L-2 SITE LAYOUT PLAN
- L-3 SITE GRADING AND DRAINAGE PLAN
- L-3.1 SITE GRADING AND DRAINAGE PLAN
- L-4 SITE UTILITY AND LIGHTING PLAN
- L-5 SITE LANDSCAPE PLAN
- L-6 SITE DETAILS
- L-7 SITE DETAILS
- L-8 STORMWATER DETAILS
- L-9 STORMWATER DETAILS
- L-10 STORMWATER DETAILS
- L-11 SITE DETAILS

CITY OF SARATOGA SPRINGS STANDARD NOTES

1. All work must conform to all Federal, State and City Codes, specifications, ordinances, rules and regulations.
2. The elevation base for the contours and benchmarks are based on the National Geodetic Vertical Datum, 1929.
3. All refuse, debris and miscellaneous items to be removed shall be legally disposed of off-site by the Contractor to a location approved by the City Engineer.
4. The Contractor must set up a pre-construction meeting with the City Engineer prior to any construction. Construction inspections by the Design Professional or a designated representative are required. The cost of the construction inspections is the responsibility of the Applicant/Developer. An escrow account to cover the cost of the proposed sitework must be established with the city prior to any construction.
5. The contractor must obtain a blasting permit from the Building Inspector if any blasting is required for the project.
6. The contractor must obtain a street opening permit issued by the Department of Public Works for any work in the street or right-of-way of any city street, road or alley.
7. All points of construction ingress or egress shall be maintained to prevent tracking or flowing of sediment or debris onto a public road.
8. No Certificate of Occupancy will be issued until all site work has been completed in accordance with the approved plans; and an as-built drawing has been prepared in accordance with the requirements of the City Engineer.
9. The applicant must verify that the proposed project can accommodate the turning movements of any fire truck that the fire department so designates.

Applicant/Owner:

46 Union Ave, LLC
 18 Division Street, Suite 401
 Saratoga Springs, NY 12866

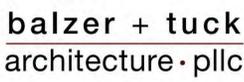
Prepared By:



The LA GROUP
Landscape Architecture & Engineering P.C.
People. Purpose. Place.

40 Long Alley
Saratoga Springs
NY 12866

f: 518-587-8100
f: 518-587-0180
www.thelagroup.com



balzer + tuck
architecture + pllc

466 Broadway
Saratoga Springs
New York 12866
518/580-8818
Telefax 518/580-8824

Planning Board #xx.xxx

Approval

Approved under authority of a resolution adopted _____
 by the Planning Board of the City of Saratoga Springs.
 _____ Chairperson

Date Signed _____

- MAP REFERENCES:
1. MAP OF LOTS OWNED BY A.S. MARVELL, SARATOGA COUNTY, NEW YORK, DATED 1822 AND AS AMENDED BY THE SARATOGA COUNTY CLERK'S OFFICE IN 1922.
 2. MAP OF PROPERTY OF ANN JANE REED ON UNION AVENUE, SARATOGA SPRINGS, NY, 1884, PREPARED BY CHARLES A. ELLIOTT, COUNTY CLERK'S OFFICE ON SEPT. 4, 1884 AS MAP NO. 57-23.
 3. STATE UNIVERSITY OF NEW YORK EMPIRE STATE COLLEGE, COUNTY NEW YORK, MAP 3, 1945, PREPARED BY THE COUNTY CLERK'S OFFICE ON SEPT. 13, 2004, LAST UPDATED BY THE SARATOGA COUNTY CLERK'S OFFICE AS MAP NO. E-150.
 4. SURVEY MAP OF LANDS OWNED BY SARATOGA COLLEGE, UNION AVENUE, CITY OF SARATOGA SPRINGS, SARATOGA COUNTY, NEW YORK, DATED NOV. 8, 2008, LAST UPDATED 3/27/08.
 5. "SURVEY MAP OF LANDS TO BE CONVEYED TO SARATOGA SPRINGS STATE COLLEGE, COUNTY NEW YORK, PREPARED BY LAND SURVEYORS & ASSOCIATES, DATED SEPT. 13, 2004, LAST UPDATED BY LAND SURVEYORS & ASSOCIATES, DATED SEPT. 13, 2004, LAST MONIOTED ON JUNE 7, 1997.

BEARING BASE NOTE:

THE BEARING BASE FOR NO. 28 UNION AVENUE AND NO. 35 WHITE STREET SHOWN HEREON ARE REFERENCED TO THE DEED BEARING SYSTEM OF EACH RESPECTIVE PROPERTY WHICH HAVE DIFFERENT NORTH REFERENCES.



L.S. L. SIPPERY & ASSOCIATES
ENGINEERS • SURVEYORS • LAND PLANNERS
 608 TROY-SUNNYSIDE ROAD, LATHAM, NY 12110
 PHONE: (518) 782-1800 FAX: (518) 782-1232

UNAUTHORIZED ALTERATION OR ADDITION TO A SURVEY MAP BEARING A LICENSED LAND SURVEYOR'S SEAL IS A VIOLATION OF SECTION 7209, SUB-DIVISION 2 OF THE SURVEYING AND MAPPING LAW OF THE STATE OF NEW YORK. THE LAND SURVEYOR'S ADDRESS SHALL BE CONSIDERED VALID THESE COPIES.

DESIGNED BY: C.L.S.
 CHECKED BY: L.T.S.
 APPROVED BY: L.T.S.
 SCALE: 1" = 20'
 DATE: JANUARY 26, 2016

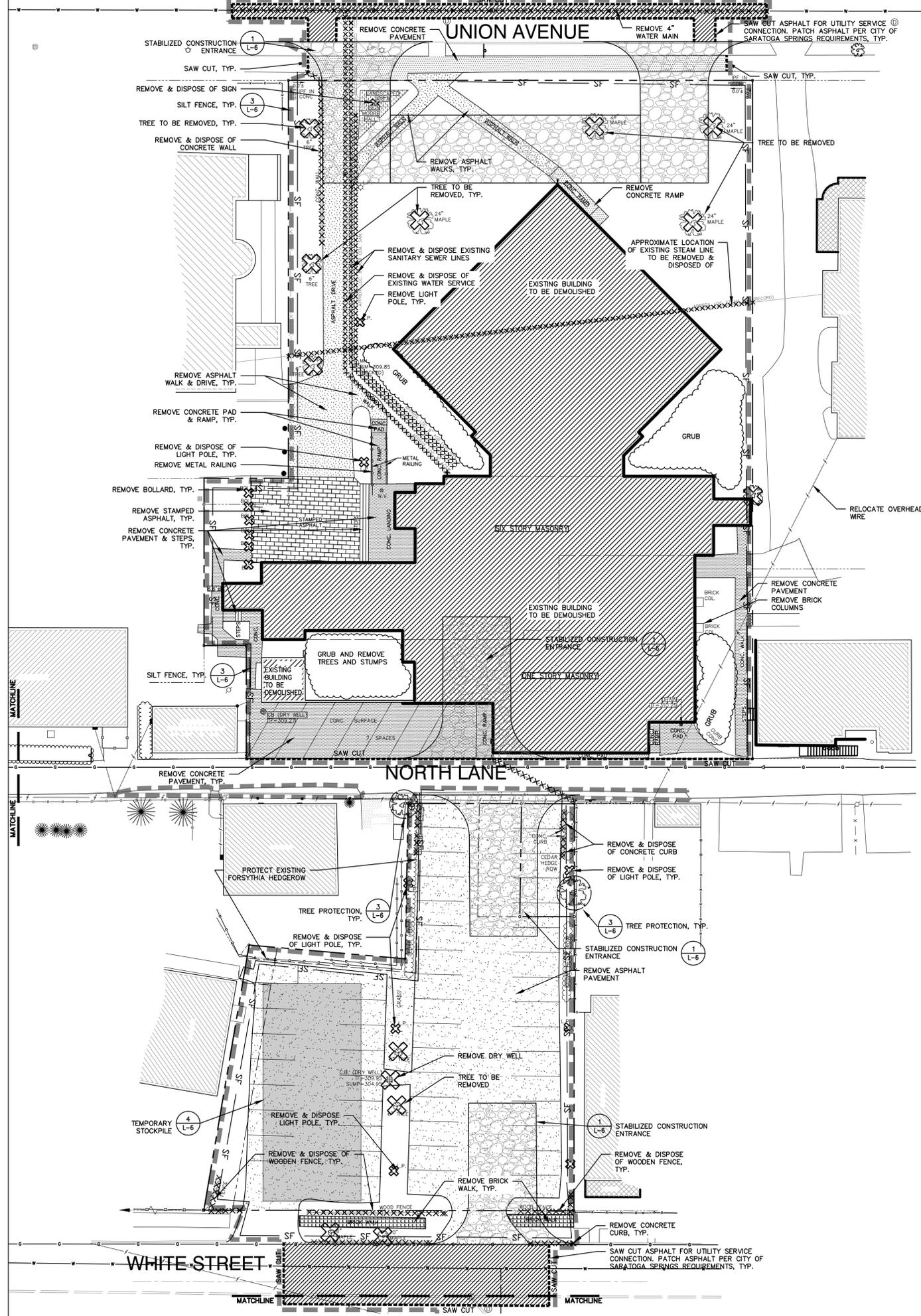
ST. NO. 46 UNION AVE. & ST. NO. 35 WHITE ST.
 OF LANDS KNOWN AS
 UNION AVENUE & WHITE STREET
 COUNTY OF SARATOGA

ALTA/BPM RANESNOT FOR CONSTRUCTION
 RECORD SURVEY

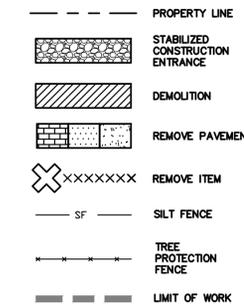
CITY OF SARATOGA SPRINGS	STATE OF NEW YORK
REV. NO. A	DWG. NO. D-16018
SHEET NUMBER	1 OF 1

NOTES:

1. BOUNDARY EVIDENCE AND PLANNING INFORMATION SHOWN HEREON WAS COMPILED FROM ACTUAL FIELD SURVEYS CONDUCTED ON OCT. 31, 2008, NOV. 20, 2016 AND REFLECTS VISIBLE CONDITIONS EXISTING AT THOSE OCCASIONS.
2. TAX MAP DESIGNATION: 65-78-1-32, 33, 34, 1, 40
3. THE ERRORS OR OMISSIONS SHOWN HEREON FROM PROPERTY LINES TO INTERFERE WITH THE RIGHTS OF THE PROPERTY OWNERS OR TO OBLIGATE THE EJECTOR OF FEENCES, ADDITIONAL STRUCTURES, OR ANY OTHER RESTRICTIONS.
4. SUBJECT TO ALL RIGHTS, EASEMENTS, COVENANTS AND RESTRICTIONS OF RECORD.
5. (O) DIMENSIONS FIELD BEARING AND/OR DISTANCE.
6. SUBJECT TO AND TOGETHER WITH THE RIGHTS AND EASEMENTS, IF ANY, SHOWN ON THIS SURVEY, THE SURVEYOR'S OBLIGATION IS LIMITED TO THE SURVEYOR'S DUTY TO PROVIDE A SOUND OPINION AND RECOMMENDATIONS AVAILABLE TO QUALIFY THE SURVEYOR'S OBLIGATION TO CONSTITUTE OR REPRESENT ALL UTILITIES THAT MAY EXIST AND TO PROVIDE A SOUND OPINION AND RECOMMENDATIONS AVAILABLE TO QUALIFY THE SURVEYOR'S OBLIGATION TO CONSTITUTE OR REPRESENT ALL UTILITIES THAT MAY EXIST.
7. UNDERGROUND UTILITIES SHOWN HEREON ARE BASED ON UTILITY EVIDENCE AVAILABLE TO THE SURVEYOR AND ARE NOT GUARANTEED TO BE ACCURATE OR COMPLETE. THE SURVEYOR'S OBLIGATION IS LIMITED TO THE SURVEYOR'S DUTY TO PROVIDE A SOUND OPINION AND RECOMMENDATIONS AVAILABLE TO QUALIFY THE SURVEYOR'S OBLIGATION TO CONSTITUTE OR REPRESENT ALL UTILITIES THAT MAY EXIST.
8. SUBJECT TO EASEMENTS FOR ACCESS, EGRESS AND PLANNING RESERVED BY THE SURVEYOR AND TO ANY STATE OF FACT AS UP TO DATE ABSTRACT OF TITLE WOULD REVEAL.
9. SUBJECT TO ANY STATE OF FACT AS UP TO DATE ABSTRACT OF TITLE WOULD REVEAL.



LEGEND



EROSION & SEDIMENT CONTROL NOTES

1. ALL APPLICABLE EROSION AND SEDIMENT CONTROL PRACTICES SHALL BE IN PLACE PRIOR TO ANY GRADING OPERATION AND/OR INSTALLATION OF PROPOSED STRUCTURES OR UTILITIES.
2. SOIL EROSION AND SEDIMENT CONTROL PRACTICES ON THIS PLAN SHALL BE CONSTRUCTED IN ACCORDANCE WITH NYS DEC AND THE CITY OF SARATOGA SPRINGS REQUIREMENTS.
3. APPLICABLE EROSION AND SEDIMENT CONTROL PRACTICES SHALL BE LEFT IN PLACE UNTIL THE AREA SERVED IS STABILIZED.
4. THE CONTRACTOR SHALL PERFORM ALL WORK, FURNISH ALL MATERIALS AND INSTALL ALL MEASURES REQUIRED TO REASONABLY CONTROL SOIL EROSION RESULTING FROM CONSTRUCTION OPERATIONS AND PREVENT EXCESSIVE FLOW OF SEDIMENT FROM THE CONSTRUCTION SITE.
5. THE SITE SHALL AT ALL TIMES BE GRADED AND MAINTAINED SUCH THAT ALL STORMWATER RUNOFF IS DIVERTED TO SOIL EROSION AND SEDIMENT CONTROL FACILITIES.
6. ALL SEDIMENTATION STRUCTURES WILL BE INSPECTED AND MAINTAINED ON A REGULAR BASIS AND AFTER EVERY STORM EVENT.
7. A CRUSHED STONE, TIRE CLEANING PAD WILL BE INSTALLED WHEREVER A CONSTRUCTION ACCESS EXISTS. THE STABILIZED PAD WILL BE INSTALLED ACCORDING TO THE STANDARD FOR STABILIZED CONSTRUCTION ACCESS.
8. PAVED AREAS MUST BE KEPT CLEAN AT ALL TIMES.
9. ALL STORM DRAINAGE OUTLETS SHALL BE STABILIZED, AS REQUIRED, BEFORE THE DISCHARGE POINTS BECOME OPERATIONAL.
10. MULCHING IS REQUIRED ON ALL SEEDED AREAS TO PREVENT EROSION BEFORE GRASS IS ESTABLISHED TO PROMOTE EARLIER VEGETATION COVER.
11. ANY OFFSITE SEDIMENT DISTURBANCE MAY REQUIRE ADDITIONAL CONTROL MEASURES TO BE DETERMINED BY THE EROSION CONTROL INSPECTOR.
12. A COPY OF THE STORMWATER POLLUTION PREVENTION PLAN MUST BE MAINTAINED ON THE PROJECT SITE DURING CONSTRUCTION.
13. MAXIMUM SIDE SLOPES OF ALL EXPOSED SURFACES SHALL NOT BE CONSTRUCTED STEEPER THAN 3:1. SLOPES THAT ARE 3:1 OR STEEPER SHOULD RECEIVE A ROLLED EROSION CONTROL PRODUCT (RECP), SODDING OR HYDROSEEDING A HOMOGENOUS MIXTURE OF WOOD FIBER MULCH WITH TACKIFYING AGENT.
14. DUST SHALL BE CONTROLLED BY AN APPROVED METHOD ACCORDING TO NYS DEC AND MAY INCLUDE WATERING WITH A SOLUTION OF CALCIUM CHLORIDE AND WATER.
15. ADJOINING PROPERTIES SHALL BE PROTECTED FROM EXCAVATION AND FILLING OPERATIONS ON THE PROPOSED SITE.
16. USE STAGED CONSTRUCTION METHODS TO MINIMIZE EXPOSED SURFACES, WHERE APPLICABLE.
17. ALL VEGETATIVE MATERIAL SHALL BE SELECTED IN ACCORDANCE WITH AMERICAN STANDARDS FOR NURSERY STOCK OF THE AMERICAN ASSOCIATION OF THE NURSERYMAN AND IN ACCORDANCE WITH NYS DEC STANDARDS.
18. ROADWAY SHOULD BE SWEEPED ONCE A DAY (MIN.) TO KEEP IT CLEAR OF TRACKING AND DEBRIS.
19. DE-COMPACTION OF SITE SOILS TO HSG 'A' SHOULD BE DONE IN ACCORDANCE WITH THE NYSDEC DEEP RIPPING AND DE-COMPACTION (2008), PROVIDED IN APPENDIX I OF THE SWPPP.

MAINTENANCE

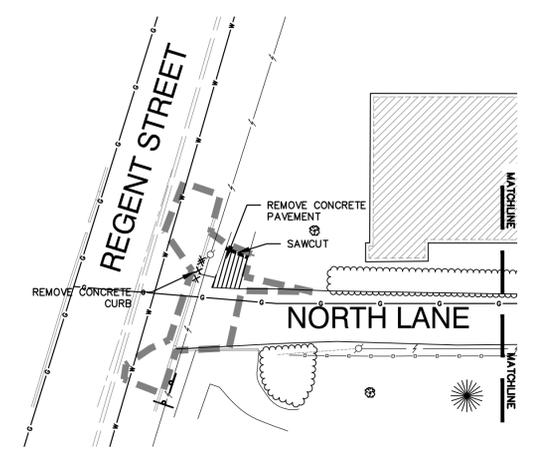
1. THE CONTRACTOR SHALL INITIATE STABILIZATION MEASURES AS SOON AS PRACTICABLE IN PORTIONS OF THE SITE WHERE ACTIVITIES HAVE TEMPORARILY OR PERMANENTLY CEASED, BUT IN NO CASE MORE THAN 14 DAYS.
2. SEDIMENT SHALL BE REMOVED FROM SEDIMENT CONTROL DEVICES WHENEVER THEIR CAPACITY HAS BEEN REDUCED BY 50%.
3. ALL EROSION AND SEDIMENT CONTROL DEVICES SHALL BE INSPECTED WITHIN 24 HOURS OF A STORM EVENT AND REPAIRED AND/OR MODIFIED AS REQUIRED TO BE IN GOOD WORKABLE CONDITION.
4. THE CONTRACTOR SHALL CONDUCT AN INSPECTION OF THE SITE ON A DAILY BASIS TO COLLECT LITTER AND CONSTRUCTION DEBRIS AND DISPOSE OF LEGALLY.
5. ANY STOCKPILES OF FILL, TOPSOIL, EXCAVATED MATERIAL SHALL BE COVERED OR CONTAINED BY SILT FENCE TO PREVENT EROSION.

CONSTRUCTION SEQUENCING

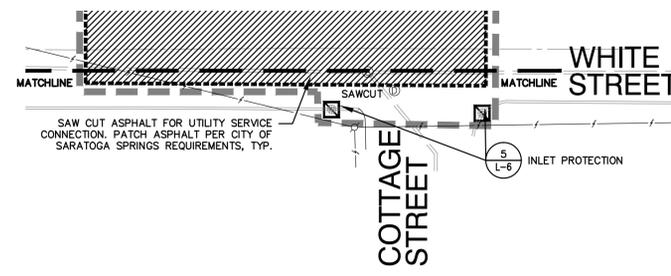
1. STAKE THE GRADING LIMITS OF THE PROJECT SITE AND INSTALL SILT FENCE IN AREAS INDICATED AND AS REQUIRED TO CONTAIN RUNOFF.
2. INSTALL THE STABILIZED CONSTRUCTION ENTRANCE AS DETAILED.
3. STRIP TOPSOIL FROM AREAS TO BE GRADED AND STOCKPILE IN AN AREA AWAY FROM DRAINAGE SWALES AND DRAINAGE TRAPS. INSTALL SILT FENCE AROUND STOCKPILES.
4. INSTALL UNDERGROUND UTILITIES MAINTAINING GENERAL DRAINAGE PATTERNS FOR STREET RIGHT-OF-WAYS AND UTILITY EASEMENTS. PLACE SILT FENCE AROUND SOIL STOCKPILES THAT ARE TO REMAIN IN PLACE FOR MORE THAN 14 DAYS.
5. CONSTRUCT PARKING AREA SUBGRADE AND BASE COURSE MAINTAINING GENERAL DRAINAGE PATTERNS AND DIRECTING ALL RUNOFF TOWARD SEDIMENT CONTROL DEVICES.
6. KEEP ALL STORMWATER DIRECTED TO SEDIMENT CONTROL DEVICES UNTIL ALL PAVING IS COMPLETE AND ALL DISTURBED AREAS ARE STABILIZED.
7. WHEN PAVING IS COMPLETE AND NON-PAVED AREAS ARE STABILIZED, AND PROPOSED PERMANENT STORMWATER FACILITIES HAVE BEEN INSTALLED, REMOVE ALL SEDIMENT AND COLLECTED DEBRIS, REMOVE THE SILT FENCE, AND DISPOSE OF IN A LEGAL MANNER. OVERSEED AREAS WHERE LAWN IS NOT ESTABLISHED AND MULCH.

SITE PREPARATION & DEMOLITION NOTES

1. ALL REFUSE, DEBRIS AND MISCELLANEOUS ITEMS TO BE REMOVED, THAT ARE NOT TO BE STOCKPILED FOR LATER USE ON THE PROJECT OR DELIVERED TO THE OWNER, SHALL BE LEGALLY DISPOSED OF OFF-SITE BY THE CONTRACTOR.
2. CONTRACTOR SHALL STRIP AND STOCKPILE EXISTING TOPSOIL TO FULL DEPTH WITHIN LIMIT OF GRADING BEFORE COMMENCING EXCAVATION AND GRADING OPERATIONS. TOPSOIL SHALL NOT BE REMOVED FROM THE SITE, UNLESS APPROVED BY THE OWNER'S REPRESENTATIVE.
3. THE CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGE TO EXISTING CONDITIONS THAT ARE DUE TO CONTRACTOR OPERATIONS AND WHICH ARE OUTSIDE THE LIMIT OF WORK.
4. THE CONTRACTOR SHALL COORDINATE ALL ADJUSTMENT OR ABANDONMENT OF UTILITIES WITH THE RESPECTIVE UTILITY COMPANY AND PAY ALL ASSOCIATED COSTS.
5. ALL POINTS OF CONSTRUCTION INGRESS AND EGRESS SHALL BE PROTECTED TO PREVENT TRACKING OF MUD ONTO PUBLIC WAYS. ANY MUD ON PUBLIC WAYS ORIGINATING FROM THE JOB SITE SHALL BE CLEANED BY THE CONTRACTOR DAILY.
6. CONTRACTOR SHALL SECURE ALL PERMITS THAT MAY BE REQUIRED FROM ALL JURISDICTIONS AFFECTED BY THIS WORK.
7. CONTRACTOR SHALL PROTECT ALL EXISTING UTILITIES NOT TO BE REMOVED.
8. REMOVE ALL STUMPS SHOWN OR NOT SHOWN AND AS DIRECTED BY THE LA GROUP.



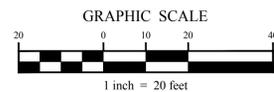
1 REGENT & NORTH LANE INTERSECTION SCALE: 1" = 20'



2 WHITE & COTTAGE STREET INTERSECTION SCALE: 1" = 20'

Planning Board #

Approval _____
 Approved under authority of a resolution adopted _____
 by the Planning Board of the City of Saratoga Springs.
 Date Signed _____ Chairperson



Unauthorized alteration or addition to this document is a violation of Section 7209 of the New York State Education Law.

© The LA Group 2014
 Prepared for:
46 Union Ave, LLC
 18 Division Street, Suite 401
 Saratoga Springs, NY 12866

Project Title:
**Union Avenue
 Condos**
 46 Union Avenue
 Saratoga Springs, NY 12866

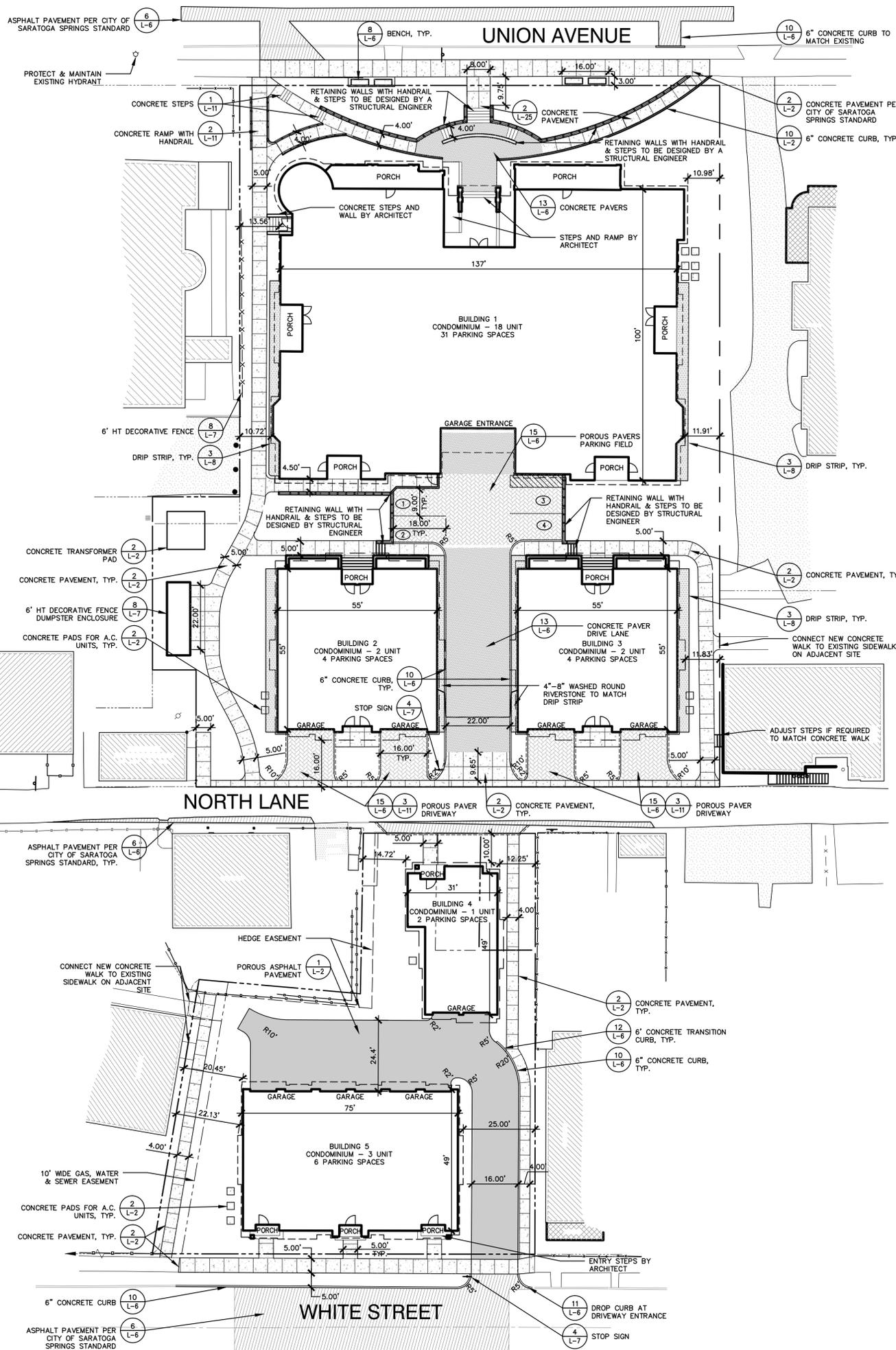
Project No:	201496
Design:	CMI
Drawn:	AML Chkd: MCB
Date:	5/31/2016 Scale: 1"=20'

Rev.	Description	Date

Drawing Title
**Site Preparation
 And Demo Plan**

Drawing No.
L-1

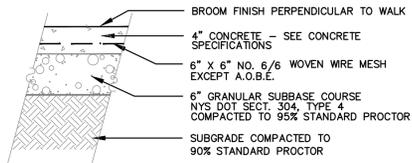
Created By: BRUCE BENTON, AIA
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 Plot Date: 5/31/2016 10:00 AM
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1 POROUS ASPHALT PAVEMENT

NOTES: EXPANSION JOINT SPACING - 20'-25' O.C. CONTROL JOINT SPACING - 5' O.C. NOMINAL CROSS SLOPE - 1/8" TO 1/4" PER FOOT (MAX. SLOPE 1:50 TYP.) TOWARDS STREET OR A.O.B.E. MAX. SLOPE ALONG THE LENGTH OF THE WALK SHOULD NOT EXCEED 1:12 CONSTRUCTION JOINT DETAILS TO BE SUBMITTED AND APPROVED BY CITY ENGINEER SIDEWALK WIDTH TO BE 5' MIN. OR AS ORDERED BY CITY ENGINEER

- GENERAL DESIGN CRITERIA FOR CONSTRUCTING SIDEWALKS WITHIN SARATOGA SPRINGS RIGHT OF WAYS: 1.) SIDEWALKS MUST BE PLACED IN THE PUBLIC RIGHT OF WAY AT THE PROPERTY LINE. 2.) SIDEWALKS MUST NOT DROP DOWN WHEN CROSSING A DRIVEWAY. 3.) SIDEWALKS MUST NOT EXTEND ACROSS PUBLIC STREETS OR ALLEYS.



- GENERAL DESIGN CRITERIA FOR CONSTRUCTING SIDEWALKS WITHIN SARATOGA COUNTY RIGHT OF WAYS WITHIN SARATOGA SPRINGS: 1.) ALL SIDEWALK INSTALLATIONS MUST BE DESIGNED BY A PROFESSIONAL ENGINEER. PLANS MUST BE APPROVED BY THE COUNTY COMM. OF PUBLIC WORKS. 2.) SIDEWALKS MUST BE PLACED ON THE BACK SIDE OF DITCHES OR 8'(MIN.) FROM THE EDGE OF SHOULDER. 3.) SIDEWALKS MUST BE CONSTRUCTED SO AS NOT TO INTERFERE WITH DRAINAGE.

2 CONCRETE PAVEMENT DETAIL

CITY OF SARATOGA SPRINGS CONCRETE SPECIFICATIONS OF THE PLANNING BOARD

THESE GENERAL CONCRETE SPECIFICATIONS SHALL APPLY TO ALL CONCRETE WORK WITHIN THE CITY OF SARATOGA SPRINGS INSTALLED WITHIN A CITY RIGHT-OF-WAY AND/OR WITHIN THE APPROVAL AUTHORITY MINIMUM SPECIFICATIONS.

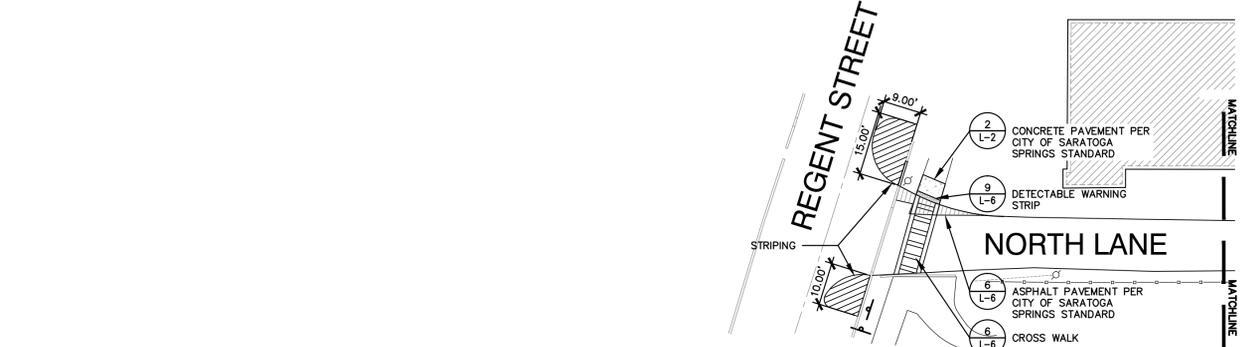
ALL CONCRETE THAT MAY COME IN CONTACT WITH DEICING CHEMICALS SHALL MEET OR EXCEED THESE

CONCRETE SHALL BE ONLY PORTLAND CEMENT CONCRETE AIR-ENTRAINED OF DURABLE MATERIALS AND SHALL HAVE (1) A LOW WATER-CEMENT RATIO (MAXIMUM 0.46), (2) A SLUMP OF 4 INCHES OR LESS, (3) A CEMENT CONTENT OF 606 LB PER CUBIC YARD OR MORE, (4) PROPER FINISHING AFTER BLEED WATER HAS EVAPORATED FROM THE SURFACE, (5) ADEQUATE DRAINAGE WITH A SLOPE OF 1/8 INCH PER LINEAR FOOT OR MORE, (6) A MINIMUM OF 7 DAYS MOIST CURING AT OR ABOVE 50 DEGREES F, (7) A MINIMUM COMPRESSIVE STRENGTH 4000 PSI AT 28 DAYS, AND (8) A MINIMUM 30-DAY DRYING PERIOD AFTER MOST CURING IF CONCRETE IS PLACED IN THE FALL AND WILL BE EXPOSED TO FREEZE-THAW CYCLES AND DEICERS WHEN SATURATED. THE EXACT LENGTH OF TIME FOR SUFFICIENT DRYING TO TAKE PLACE MAY VARY WITH CLIMATE AND WEATHER CONDITIONS.

TECHNICAL SPECIFICATIONS FOR CONCRETE AS HEREIN DEFINED SHALL COMPLY WITH THE APPLICABLE SPECIFICATIONS OF THE "NEW YORK STATE DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS CONSTRUCTION AND MATERIALS", 1985.

ANY CLARIFICATION, REVISIONS, MODIFICATIONS THERETO SHALL ONLY BE MADE SUBJECT TO APPROVAL OF THE CITY OF SARATOGA SPRINGS PLANNING BOARD.

*A SUPER PLASTICIZER MAY BE USED TO INCREASE SLUMP AND WORKABILITY WITHOUT INCREASING THE WATER-CEMENT RATIO.



3 REGENT & NORTH LANE INTERSECTION

LAYOUT NOTES

- 1. ALL LINES AND DIMENSIONS ARE PARALLEL OR PERPENDICULAR TO THE LINES FROM WHICH THEY ARE MEASURED UNLESS OTHERWISE INDICATED. 2. ALL LINE AND GRADE DRAWINGS AND SPECIFICATIONS SHALL BE LAID OUT BY A NEW YORK STATE REGISTERED CIVIL ENGINEER OR SURVEYOR ENGAGED BY THE CONTRACTOR. ALL STAKED LAYOUTS OR PAVEMENTS AND SITE IMPROVEMENTS SHALL BE APPROVED BY THE OWNER'S REPRESENTATIVE PRIOR TO CONSTRUCTION. 3. CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS IN THE FIELD PRIOR TO CONSTRUCTION AND REPORT ANY DISCREPANCIES IN THE SITE SURVEY TO THE OWNER'S REPRESENTATIVE PRIOR TO STARTING WORK. 4. AT ALL LOCATIONS WHERE ASPHALT ROADWAY ABUT NEW CONSTRUCTION, THE EDGE OF THE EXISTING PAVEMENT SHALL BE SAW CUT TO A CLEAN, SMOOTH EDGE. PROVIDE PAVEMENT KEY AS DETAILED. TACK COAT EXPOSED EDGES OF EXISTING BITUMINOUS CONCRETE PRIOR TO PLACEMENT OF NEW BITUMINOUS CONCRETE PAVEMENT. 5. FIELD ADJUSTMENTS MUST BE APPROVED BY THE OWNER'S REPRESENTATIVE AND THE APPROPRIATE MUNICIPAL OFFICIAL PRIOR TO CONSTRUCTION. 6. ALL EXISTING UTILITIES SHOWN IN THEIR RELATIVE POSITION. CONTRACTOR IS RESPONSIBLE FOR VERIFYING THE VERTICAL AND HORIZONTAL POSITION OF EXISTING UTILITIES PRIOR TO CONSTRUCTION. 7. LOCATION OF ALL PAVEMENT MARKINGS AND STRIPING SHALL BE ROUGHLY MARKED IN FIELD AND APPROVED BY OWNER'S REP. PRIOR TO FINAL PAINTING.

LEGEND

Table with 2 columns: Material Name and Symbol/Callout. Includes Property Line, Concrete Walk, Concrete Pavers, Porous Pavers, Asphalt Pavement, and Porous Asphalt.

Planning Board

Approval form with fields for Date Signed and Chairperson.

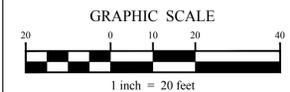


Table with 3 columns: Project No., Design, Drawn, Date. Values include 201496, CML, AML, 5/31/2016, 1"=20'.

Table with 3 columns: Rev., Description, Date. Multiple empty rows for revisions.

Unauthorized alteration or addition to this document is a violation of Section 7209 of the New York State Education Law.

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 Prepared for:
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 18 Division Street, Suite 401
 Saratoga Springs, NY 12866

GRADING NOTES

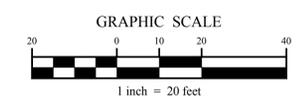
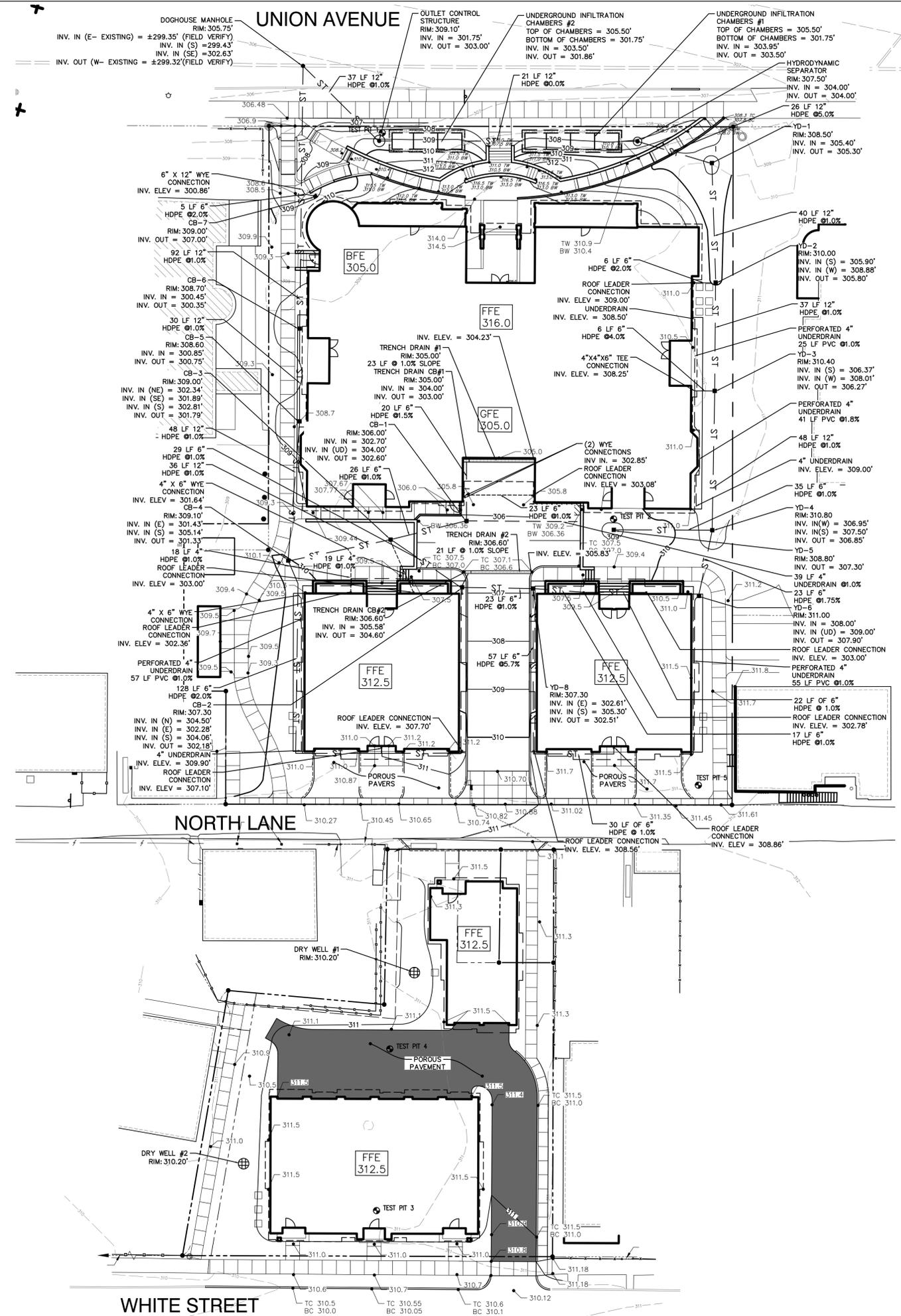
- EXISTING BASE INFORMATION DERIVED FROM FIELD SURVEY DATED 1/26/2016 PERFORMED BY L. SIPPERLY & ASSOCIATES
- ALL PROPOSED GRADES SHALL BE SET IN THE FIELD BY A NEW YORK STATE LICENSED LAND SURVEYOR.
- PITCH EVENLY BETWEEN SPOT GRADES. ALL PAVED AREAS MUST PITCH TO DRAIN AT A MINIMUM SLOPE OF ONE-EIGHTH INCH (1/8") PER FOOT. MAXIMUM CROSSPITCH OF ALL SIDEWALKS IS 2%. ANY DISCREPANCIES NOT ALLOWING THIS TO OCCUR SHALL BE REPORTED TO THE OWNER'S REPRESENTATIVE PRIOR TO CONTINUING WORK.
- WALKS SHALL NOT EXCEED 1 IN 20 SLOPE LONGITUDINALLY. RAMPS SHALL NOT EXCEED 1 IN 12 OR 30' IN LENGTH. ANY DISCREPANCIES NOT ALLOWING THIS TO OCCUR SHALL BE REPORTED TO THE OWNER'S REPRESENTATIVE PRIOR TO CONTINUING WORK. MAXIMUM CROSSPITCH OF ALL SIDEWALKS IS 2%.
- ALL PROPOSED TOP OF VERTICAL CURB ELEVATIONS ARE SIX INCHES (6") ABOVE BOTTOM OF CURB UNLESS SHOWN OTHERWISE.
- WHERE NEW PAVING MEETS EXISTING PAVING, NEW PAVING SHALL MEET THE LINE AND GRADE OF THE EXISTING PAVING WITH NEW.
- EXCAVATION REQUIRED WITHIN 3 FEET OF EXISTING UTILITY LINE SHALL BE DONE BY HAND. CONTRACTOR SHALL REPAIR ANY DAMAGE TO EXISTING UTILITY LINES OR STRUCTURES INCURRED DURING CONSTRUCTION OPERATIONS AT NO ADDITIONAL COST TO OWNER.
- ALL AREAS REQUIRING FILL SHALL BE BROUGHT TO GRADE REQUIRED IN 6" MAXIMUM COMPACTED LIFTS. GENERAL FILL SHALL BE FREE OF DELETERIOUS MATERIAL, CONTAIN NO GRAVEL LARGER THAN 2", AND SHALL BE COMPACTED IN AN APPROVED MANNER.
- GRADE AREAS ADJACENT TO BUILDING LINES TO DRAIN AWAY FROM STRUCTURE AND PREVENT PONDING. FINISH SURFACES SHALL BE FREE FROM IRREGULAR SURFACE CHANGES.
- EXCAVATION REQUIRED WITHIN DRIP LINE OF TREES DESIGNATED TO REMAIN SHALL BE DONE BY HAND. PLANT MATERIALS DAMAGED BY CONTRACTOR SHALL BE REPLACED IN KIND.
- SLOPE SIDES OF EXCAVATIONS TO COMPLY WITH LOCAL CODES AND ORDINANCES HAVING JURISDICTION AND OSHA REGULATIONS. MAINTAIN SIDE SLOPES OF EXCAVATIONS IN A SAFE CONDITION UNTIL COMPLETION OF BACKFILLING.
- THE GENERAL CONTRACTOR SHALL MAINTAIN OR ADJUST TO NEW FINISH GRADE AS NECESSARY ALL UTILITY AND SITE STRUCTURES SUCH AS LIGHT POLES, SIGN POLES, MANHOLES, CATCH BASINS, HAND HOLES, WATER AND GAS GATES, HYDRANTS, ETC., FROM MAINTAINED UTILITY AND SITE SYSTEMS UNLESS OTHERWISE NOTED ON THE UTILITY DRAWINGS OR AS DIRECTED BY THE OWNER'S REPRESENTATIVE.
- CONTRACTOR SHALL BLEND NEW EARTHWORK SMOOTHLY INTO EXISTING, PROVIDING VERTICAL CURVES OR ROUNDINGS AT ALL TOP AND BOTTOM OF SLOPES.
- CONTRACTOR SHALL MAINTAIN THE INTEGRITY OF THE EXISTING DRAINAGE SYSTEM AT ALL TIMES. DURING EARTHWORK OPERATIONS, DRAINAGE OF THE SITE AND ADJACENT AREAS SHALL BE MAINTAINED CONTINUOUSLY TO PREVENT EROSION OR DAMAGE RESULTING FROM CONCENTRATED RUN-OFF. WHEN IT IS NECESSARY TO INTERRUPT THE EXISTING DRAINAGE PATTERNS AND/OR UTILITIES, PROVIDE TEMPORARY FACILITIES UNTIL WORK IS PERMANENTLY STABILIZED AND APPROVED BY OWNER'S REPRESENTATIVE.
- CONTRACTOR SHALL ESTABLISH PERMANENT SECONDARY BENCHMARKS PRIOR TO THE START OF CONSTRUCTION. ALL SECONDARY BENCHMARKS SHALL BE SO LOCATED THAT THEY WILL NOT BE DISTURBED BY CONSTRUCTION.

LEGEND

- 309.5 PROPOSED SPOT ELEVATION
- 320 PROPOSED CONTOUR LINE
- 320 EXISTING CONTOUR LINE
- EXISTING STORM SEWER LINE
- TEST PIT
- ST ST STORM DRAIN
- UD UD UNDER DRAIN LINE
- STORM SEWER CATCH BASIN
- STORM SEWER MANHOLE
- PROPERTY LINE

TEST PIT LOCATIONS

- TEST PITS COMPLETED BY DENTE ENGINEERING ON APRIL 11, 2016.
- TEST PIT 1-1**
 0 - 36" DARK BROWN TO BROWN F-M SAND, TRACE SILT AND BRICK
 36" - 72" BROWN F-M SAND, TRACE SILT,
 NO SIGN OF SEASONAL HIGH GROUND WATER
 FALLING HEAD PERMEABILITY TEST AT 72": 31.1 IN/HR
- TEST PIT 1-2**
 0 - 48" BROWN F-M SAND, LITTLE GRAVEL, TRACE BRICK AND GLASS
 NO SIGN OF SEASONAL HIGH GROUND WATER
 FALLING HEAD PERMEABILITY TEST AT 72": 51.1 IN/HR
- TEST PIT 1-3**
 0 - 17" BROWN F-C SAND AND GRAVEL, LITTLE PLASTIC, TRACE SILT
 NO SIGN OF SEASONAL HIGH GROUND WATER
 FALLING HEAD PERMEABILITY TEST AT 17": 36.9 IN/HR
- TEST PIT 1-4**
 0 - 12" DARK BROWN F-M SAND, SOME SILT, TRACE PLASTIC
 12" - 17" BROWN FINE SAND, TRACE SILT
 NO SIGN OF SEASONAL HIGH GROUND WATER
 FALLING HEAD PERMEABILITY TEST AT 17": 7.2 IN/HR



Planning Board #XX.XXX

Approval _____
 Approved under authority of a resolution adopted
 by the Planning Board of the City of Saratoga Springs.
 Date Signed _____ Chairperson

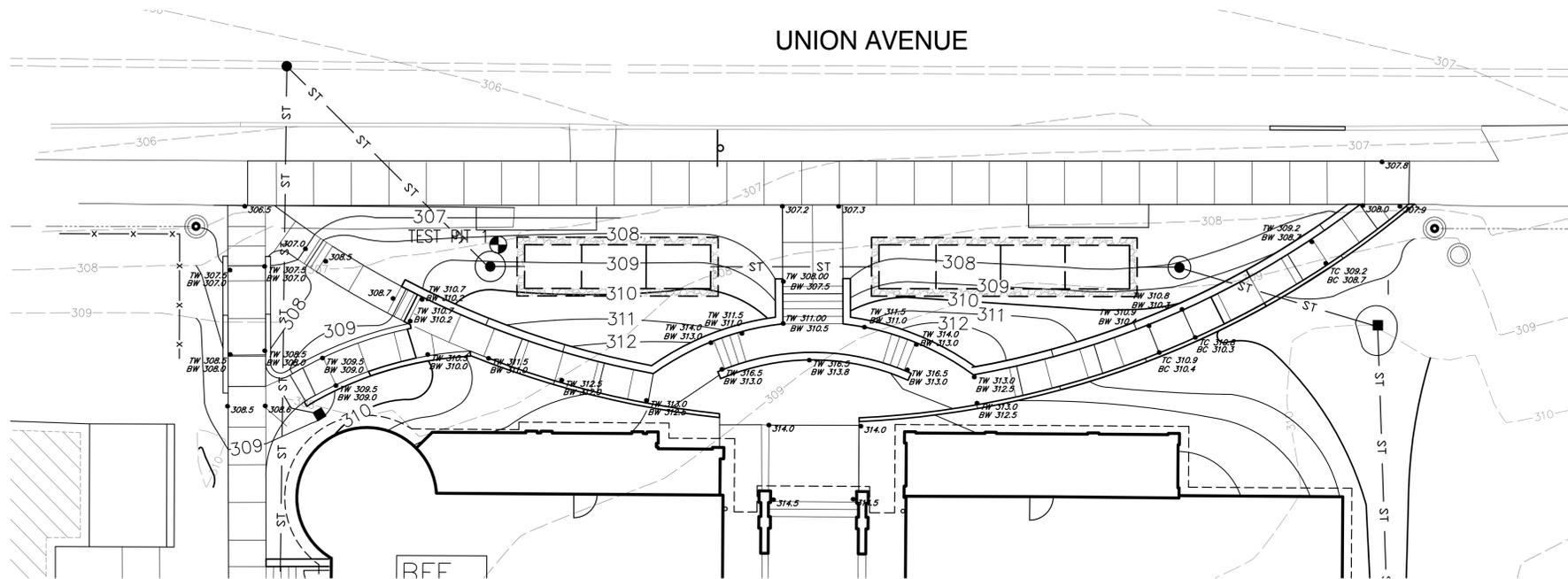
Project Title:
**Union Avenue
 Condos**
 46 Union Avenue
 Saratoga Springs, NY 12866

Project No.:	201496
Design:	BCS
Drawn:	BCS Ch'k'd: DBH
Date:	05/31/2016 Scale: 1"=20'

Rev.	Description	Date:

Drawing Title
**Site Grading &
 Drainage Plan**

Drawing No.
L-3

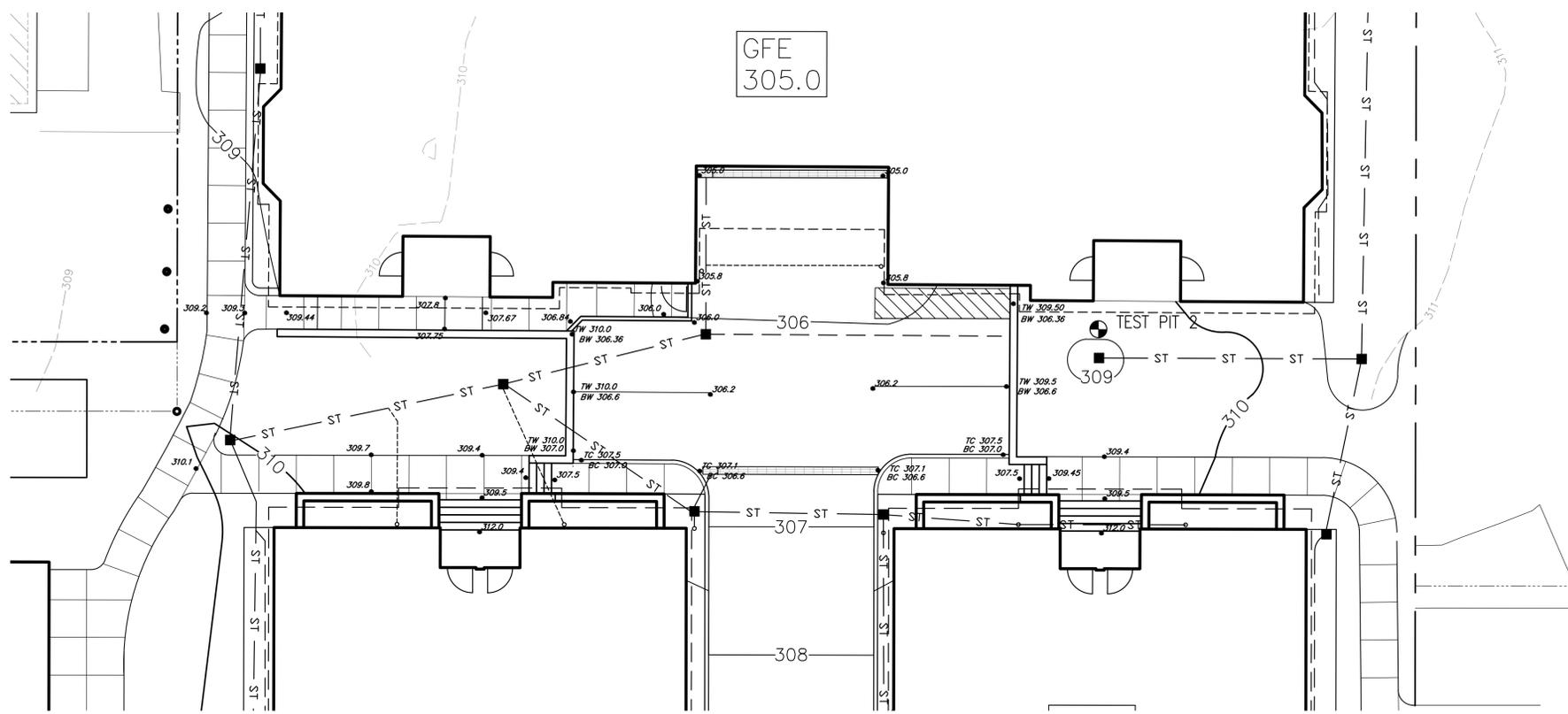


1 GRADING DETAIL AT ENTRANCE

SCALE: 1" = 10'

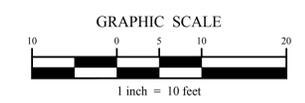
LEGEND

- 309.5 PROPOSED SPOT ELEVATION
- 320 PROPOSED CONTOUR LINE
- 320 EXISTING CONTOUR LINE
- EXISTING STORM SEWER LINE
- TEST PIT
- ST ST STORM DRAIN
- UD UD UNDER DRAIN LINE
- STORM SEWER CATCH BASIN
- STORM SEWER MANHOLE
- PROPERTY LINE



1 GRADING DETAIL AT ENTRANCE FOR BUILDING 2 AND 3

SCALE: 1" = 10'



Planning Board #XX.XXX

Approval
 Approved under authority of a resolution adopted _____
 by the Planning Board of the City of Saratoga Springs.
 Date Signed _____ Chairperson

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 18 Division Street, Suite 401
 Saratoga Springs, NY 12866

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Project No.:	201496
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Date:	05/31/2016 Scale: 1"=10'

Rev.	Description	Date

Drawing Title
**Site Grading &
 Drainage Plan**

Drawing No.
L-3.1

Prepared By: BRETT STROM
 Reviewed By: [Signature]
 Date: 05/31/2016
 File Path: C:\Projects\2014\46 Union Ave Condos\Grading & Drainage.dwg



The LA GROUP

Landscape Architecture & Engineering P.C.

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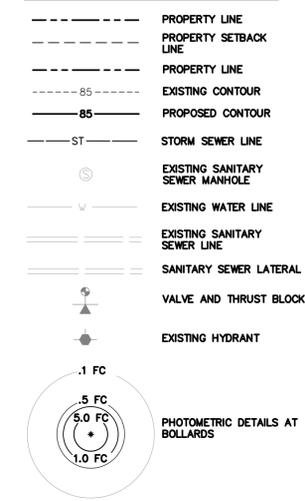
46 Union Ave, LLC
18 Division Street, Suite 401
Saratoga Springs, NY 12866

UNION AVENUE

WATER SYSTEM NOTES

LEGEND

- WATER MAINS AND SERVICES SHALL BE INSTALLED AT A MINIMUM DEPTH OF COVER BELOW FINISHED GRADE OF 5'-0".
- ALL CAST IRON AND DUCTILE IRON FITTINGS SHALL BE MECHANICAL JOINT, DOUBLE CEMENT LINED, PAINT SEAL COATED, 350 P.S.I. PRESSURE RATING.
- CHLORINATION, PRESSURE AND LEAKAGE TESTS OF WATER MAINS SHALL BE IN CONFORMANCE WITH THE CITY OF SARATOGA SPRINGS AND A.W.W.A. STANDARDS AND SHALL BE PERFORMED UNDER THE SUPERVISION OF THE CITY ENGINEER. BACTERIA EXAMINATION AFTER DISINFECTION AT A N.Y.S.D.O.H APPROVED LABORATORY WILL TAKE PLACE PRIOR TO TURNING WATER MAIN OVER TO THE CITY TO VERIFY SANITARY QUALITY.
- THERE SHALL BE A MINIMUM HORIZONTAL SEPARATION OF TEN FEET BETWEEN ANY WATER MAIN AND ANY SANITARY OR STORM SEWER MEASURED EDGE TO EDGE. THERE SHALL ALSO BE A MINIMUM VERTICAL SEPARATION OF EIGHTEEN INCHES BETWEEN ANY WATER MAIN AND ANY SANITARY OR STORM SEWER.
- THRUST BLOCKING SHALL COMPLY WITH DETAILS ON THESE DRAWINGS AND CITY STANDARDS.
- DURING ALL EXCAVATION IN WHICH THE EXISTING WATER MAIN IS OR CAN EASILY BE EXPOSED, THE CONTRACTOR SHALL LOCATE THE WATER LINE, BOTH HORIZONTALLY AND VERTICALLY. THIS INFORMATION SHALL BE PROVIDED TO THE CITY OF SARATOGA SPRINGS AND INCORPORATED IN THE AS-BUILT DRAWINGS.
- THE CONTRACTOR SHALL PROVIDE TWO (2) BRONZE WEDGES AT EACH BELL JOINT OF PUSH-ON PIPE.
- THE CONTRACTOR SHALL PROVIDE ID TAPE ABOVE WATER LINES AS SHOWN ON THE TRENCHING DETAIL.
- VALVE BOXES
 - CAST IRON TWO PIECE VALVE BOX AS MANUFACTURED BY CLOW (MODEL F2494), OR APPROVED EQUAL.
 - COVER SHALL BE STAY-PUT TYPE (CLOW MODEL F2490), OR APPROVED EQUAL, AND BE CLEARLY MARKED "WATER".
- VALVES
 - ALL VALVES UNDER 12 INCHES IN DIAMETER SHALL BE MECHANICAL JOINT RESILIENT WEDGE (R/W).
 - R/W VALVES, 3-INCHES AND LARGER, SHALL BE IRON BODY, NON-RISING STEM CONFORMING TO A.W.W.A. CS08. GLAND BOLTS SHALL BE ZINC COATED STEEL.
 - ALL VALVES SHALL HAVE A MAXIMUM WORKING PRESSURE RATING OF 200 P.S.I.G.
 - ALL VALVES SHALL HAVE MECHANICAL JOINT ENDS CONFORMING TO ANSI A51.10/AS1.11.
 - VALVES SHALL OPEN RIGHT (CLOCKWISE) WITH A STANDARD 2-INCH SQUARE OPERATING NUT WITH ARROW CAST INTO IT INDICATING THE DIRECTION OF OPENING.
 - EACH VALVE SHALL BE FURNISHED COMPLETE WITH NECESSARY NUTS, BOLTS, STUDS, AND GASKETS.
 - MUELLER A-2360 MJ RESILIENT, OR APPROVED EQUAL.
- THE LOCATION OF UNDERGROUND UTILITIES INDICATED ON THE PLAN ARE FOR INFORMATION ONLY, AND ALL UTILITIES MAY NOT BE SHOWN. THE CONTRACTOR SHALL CONTACT DIG SAFELY NY (U.F.P.O.) (1-800-962-7962) AND THE PROPER LOCAL AUTHORITIES OR RESPECTIVE UTILITY COMPANY HAVING JURISDICTION TO FIELD VERIFY THE LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. ANY COSTS INCURRED BY THE CONTRACTOR DUE TO FAILURE TO CONTACT THE PROPER AUTHORITIES SHALL BECOME THE RESPONSIBILITY OF THE CONTRACTOR.
- WATER VALVE BOXES, EXISTING STRUCTURE RIMS, NEW STRUCTURE RIMS, ETC., SHALL BE ADJUSTED TO CONFORM TO NEW FINISHED PAVEMENT GRADES UNLESS OTHERWISE NOTED AND/OR DIRECTED BY THE OWNER'S REPRESENTATIVE.



SANITARY SEWER NOTES

- PVC SANITARY SEWERS, FITTINGS AND SERVICE LATERALS TO PROPERTY LINES SHALL CONFORM TO AND BE INSTALLED AND TESTED IN ACCORDANCE WITH THE CITY OF SARATOGA SPRINGS STANDARDS.
- ALL SEWER PIPING AND FITTINGS SHALL CONFORM TO THE STANDARD SPECIFICATIONS FOR PVC PIPE, ASTM DESIGNATION D-3034-78 OR LATEST REVISION AND TO THE DIMENSIONS AND TOLERANCES OF CLASSIFICATION SDR-26 WITH SINGLE GASKET PUSH-ON JOINTS.
- INFORMATION AND SHOP DRAWINGS FOR MATERIALS USED SHALL BE SUBMITTED TO AND APPROVED BY THE ENGINEER PRIOR TO THE PLACEMENT OF ANY ORDERS OF SAID MATERIALS.
- LEAKAGE OUTWARD OR INWARD SHALL NOT EXCEED 100 GALLONS PER INCH OF PIPE DIAMETER PER MILE PER DAY FOR ANY SECTION OF THE SYSTEM. LEAKAGE TEST SHALL BE PERFORMED WITH A MINIMUM POSITIVE HEAD OF 2 FEET AND SHALL BE IN ACCORDANCE WITH CITY OF SARATOGA SPRINGS STANDARDS.
- FIELD ADJUSTMENTS SHALL BE APPROVED BY THE LA GROUP AND THE CITY OF SARATOGA SPRINGS CITY ENGINEER, PRIOR TO INSTALLATIONS.
- LOW PRESSURE AIR TESTING IS PERMITTED. TEST IS TO CONFORM TO UNIBELL PVC PIPE ASSOCIATION, UNI-B-6-98.

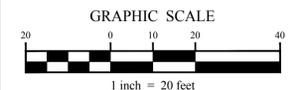
GENERAL NOTES

- LOCATION OF UTILITY CONNECTIONS AT BUILDING TO BE FIELD VERIFIED AND RECORDED ON AS-BUILT PLANS TO BE PROVIDED TO THE OWNER.
- ALL UTILITY INSTALLATIONS SHALL BE IN ACCORDANCE WITH ALL LOCAL MUNICIPAL CODES AND LOCAL BUILDING CODES.
- CONTRACTOR SHALL COORDINATE ALL REQUIRED UTILITY INSPECTIONS BY MUNICIPAL DEPARTMENTS IN ACCORDANCE WITH THEIR RESPECTIVE REQUIREMENTS.

Luminaire Schedule				LUMENS	LLF	LUM. WATTS
SYMBOL	QTY	TYPE	DESCRIPTION			
*	17	BOLLARD	BARRON - TLED-B-24	1012	0.900	27.46

Planning Board

Approval
Approved under authority of a resolution adopted _____
by the Planning Board of the City of Saratoga Springs.
Date Signed _____ Chairperson



Project Title:

Union Avenue
Condos
46 Union Avenue
Saratoga Springs, NY 12866

Project No: 201496
Design: BCS
Drawn: BCS Chkd: DBH
Date: 5/31/2016 Scale: 1"=20'

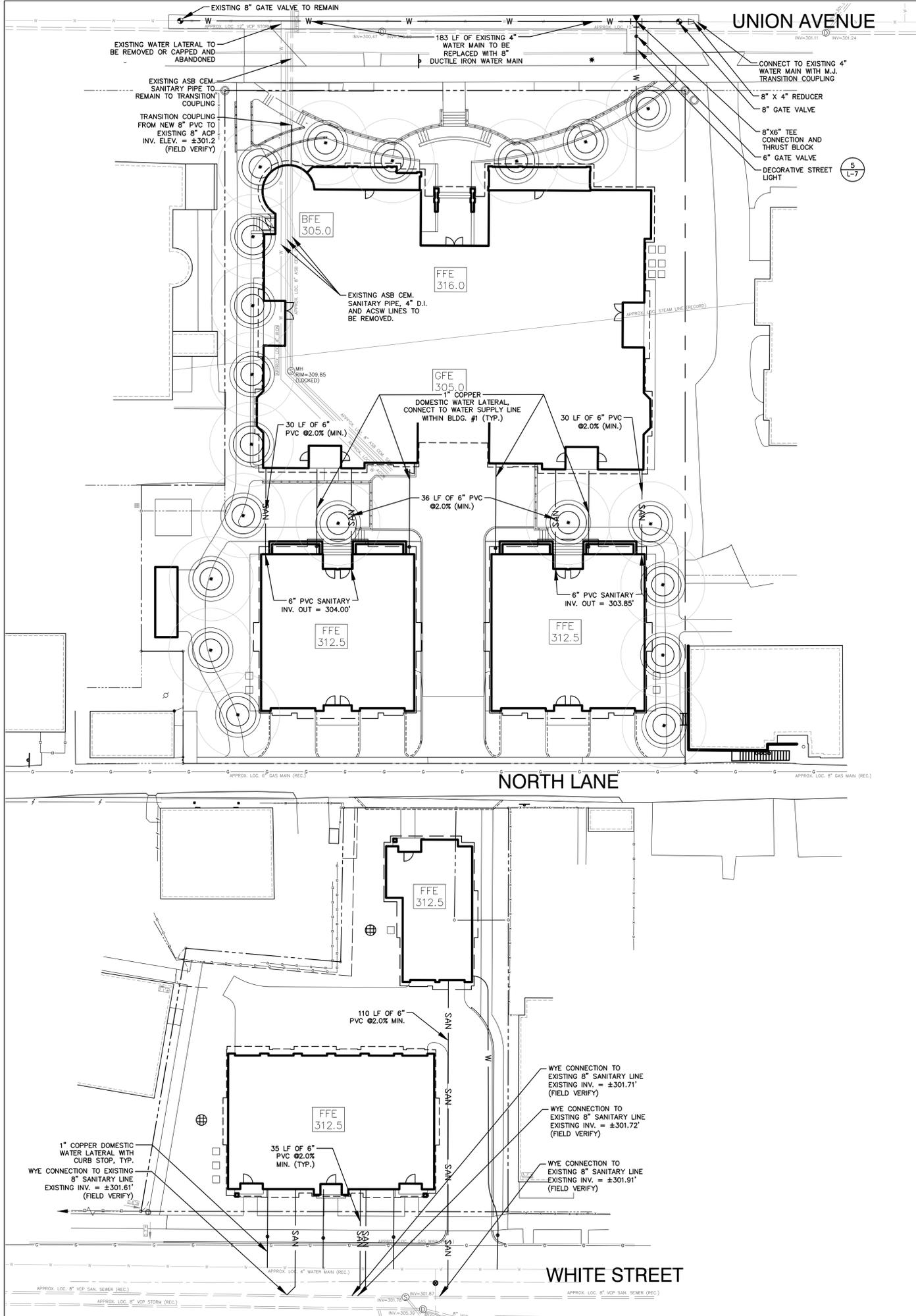
Rev.	Description	Date

Drawing Title

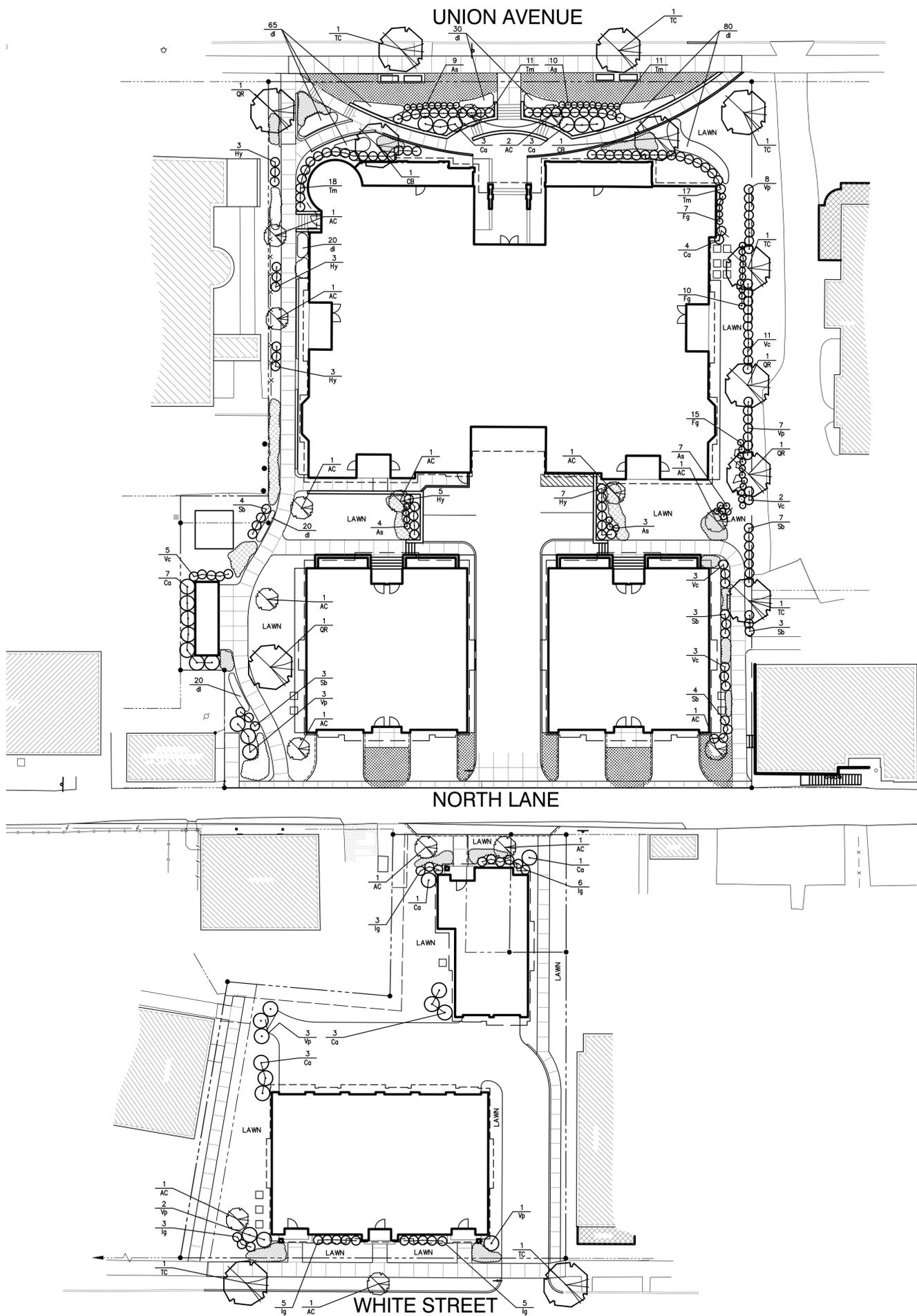
Site Utility and Lighting Plan

Drawing No.

L-4



Created By: BCS/DBH/STW
 Date: 5/31/2016
 File Name: C:\Projects\2014\1404\1404_SiteUtilityandLightingPlan.dwg

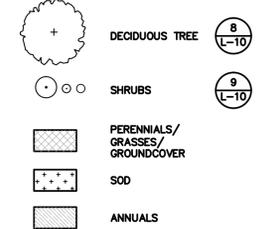


LANDSCAPE NOTES

- ALL NEW PLANT MATERIAL SHALL CONFORM TO THE MINIMUM GUIDELINES ESTABLISHED BY THE AMERICAN STANDARD FOR NURSERY STOCK PUBLISHED BY THE AMERICAN ASSOCIATION OF NURSERYMEN, INC.
- ALL NEW PLANTS TO BE BALLED AND BURLAPPED OR CONTAINER GROWN UNLESS OTHERWISE NOTED ON PLANT SCHEDULE.
- ANY PROPOSED SUBSTITUTIONS OF PLANT SPECIES SHALL BE MADE WITH PLANTS OF EQUIVALENT OVERALL FORM, HEIGHT, BRANCHING HABIT, FLOWER, LEAF, COLOR, FRUIT AND CULTURE, AND ONLY AS APPROVED BY THE OWNER'S REPRESENTATIVE.
- ALL NEW PLANT MATERIAL SHALL BE OF SPECIMEN QUALITY UNLESS APPROVED OTHERWISE BY THE OWNER'S REPRESENTATIVE.
- WHERE PLANT SIZE IS INDICATED AS A RANGE, THE PLANTS PROVIDED SHALL BE A FAIR REPRESENTATION OF THAT RANGE.
- THE CONTRACTOR SHALL SUPPLY ALL NEW PLANT MATERIAL IN QUANTITIES SUFFICIENT TO COMPLETE THE PLANTING SHOWN ON THE DRAWINGS.
- THE CONTRACTOR SHALL OBTAIN PLANT APPROVAL FROM THE OWNER'S REPRESENTATIVE AFTER DELIVERY AND PRIOR TO INSTALLATION.
- LAWN MIX SHALL CONSIST OF THE FOLLOWING RATIOS:

% BY WEIGHT	SPECIES	GERMINATION
30%	TALL FESCUE	90%
20%	HYBRID KENTUCKY BLUE	87%
50%	TURF-TYPE PERENNIAL RYE	90%
- THE CONTRACTOR SHALL LOCATE AND VERIFY ALL EXISTING UTILITIES PRIOR TO PLANTING AND SHALL REPORT ANY CONFLICTS TO THE OWNER'S REPRESENTATIVE.
- THE CONTRACTOR SHALL STAKE THE LOCATIONS OF ALL PROPOSED PLANTING FOR APPROVAL BY THE OWNER'S REPRESENTATIVE PRIOR TO THE COMMENCEMENT OF PLANTING.
- NEW PLANT MATERIAL SHALL BARE THE SAME RELATIONSHIP TO FINISH GRADE AS IT DID IN THE NURSERY.
- ALL PLANT BEDS TO RECEIVE THREE INCHES (3") MIN. OF SHREDDED BARK MULCH ON WEED BARRIER FABRIC.
- PREPARE ALL PLANTING BEDS TO MIN. OVERALL DEPTHS SHOWN ON PLANTING DETAILS.
- AMENDED TOPSOIL BACKFILL SHALL CONSIST OF ONE (1) PART MANURE TO EIGHT (8) PARTS TOPSOIL AND BONEMEAL @ 20 LBS. TO 4 CY TOPSOIL.
- ALL DISTURBED AREAS NOT SCHEDULED FOR OTHER WORK SHALL RECEIVE SIX INCHES (6") OF SUITABLE ON-SITE OR IMPORTED PLANTING SOIL PRIOR TO SEEDING OR SODDING.
- CONTRACTOR SHALL GUARANTEE ALL PLANT MATERIAL FOR A MIN. OF ONE (1) YEAR.
- THE CONTRACTOR SHALL MAINTAIN ALL WORK INCLUDING WATERING, MOWING, AND PROTECTION FROM TRAFFIC UNTIL FINAL ACCEPTANCE OF THE PROJECT.
- THE CONTRACTOR SHALL BE RESPONSIBLE TO REPAIR OR REPLACE ALL ITEMS DAMAGED OUTSIDE THE CONSTRUCTION LIMITS, AND ITEMS WITHIN THE SITE THAT ARE NOT PART OF THE IDENTIFIED WORK OF THIS CONTRACT.
- THE CONTRACTOR SHALL PROVIDE AND MAINTAIN EROSION CONTROL MEASURES AS SHOWN ON THE PLANS.
- ALL AREAS DISTURBED BY CONSTRUCTION, LANDSCAPED AREAS, LAWN AND VEGETATIVE EROSION CONTROL AREAS SHALL RECEIVE LIME AND TOPSOIL AMENDMENTS.

LEGEND



PLANT SCHEDULE

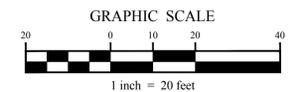
TREES						
KEY	QTY.	BOTANICAL NAME	COMMON NAME	PLANTING SIZE	ROOT	SPACING
AC	15	Amelanchier x 'Autumn Brilliance'	AUTUMN BRILLIANCE SERVICEBERRY	8'-10" TALL	B&B	SEE PLAN
TC	7	Tilia Cordata	OCTOBER GLORY RED MAPLE	3" CAL.	B&B	SEE PLAN
QR	4	Quercus Rubra	NORTHERN RED OAK	3" CAL.	B&B	SEE PLAN
CB	2	Carpinus betulus 'Fastigiata'	COMMON HORNBEAM	3" CAL.	B&B	SEE PLAN

SHRUBS						
KEY	QTY.	BOTANICAL NAME	COMMON NAME	PLANTING SIZE	ROOT	SPACING
Ca	25	Cornus alba 'Siberica'	RED-TWIG DOGWOOD	30"-36" HT.	CONT.	SEE PLAN
Hy	21	Hydrangea Arborescens 'bella anna'	BELLA ANNA HYDRANGEA	#3 CONT.	B&B	SEE PLAN
As	43	Astilbe x Arendal 'Snowdrift'	ASTILBE 'SNOWDRIFT'	#2 CONT.	CONT.	SEE PLAN
Fg	38	Fothergilla gardenii	DWARF FOTHERGILLA	#3 CONT.	B&B	SEE PLAN
Vc	24	Viburnum Trilobum 'Compactum'	COMPACT AMERICAN VIBURNUM	#3 CONT.	B&B	SEE PLAN
Ig	22	Ilex glabra 'compacta'	COMPACT INKBERRY	#7 CONT.	CONT.	SEE PLAN
Vp	24	Viburnum plicatum v. tomentosum	MARIESI DOUBLEFILE VIBURNUM	5'-6" HT.	B&B	SEE PLAN
Sb	24	Spiraea Bumalda 'Anthony Waterer'	ANTHONY WATERER SPIREA	#5 CONT.	CONT.	SEE PLAN
TM	57	Toxus x media 'Greenwave'	GREENWAVE YEW	#7 CONT.	CONT.	SEE PLAN

PERENNIALS/GRASSES						
KEY	QTY.	BOTANICAL NAME	COMMON NAME	PLANTING SIZE	ROOT	SPACING
DL	235	Hemerocallis 'Happy Returns'	'HAPPY RETURNS' DAYLILY	#1 CONT.	CONT.	12" O.C.

Planning Board #

Approval
 Approved under authority of a resolution adopted _____
 by the Planning Board of the City of Saratoga Springs.
 _____ Chairperson
 Date Signed _____



Project Title:
**Union Avenue
 Condos**
 46 Union Avenue
 Saratoga Springs, NY 12866

Project No: 201496
 Design: CML
 Drawn: AML Chkd: MCB
 Date: 5/31/2016 Scale: 1"=20'

Rev.	Description	Date

Drawing Title:
**Site Landscape
 Plan**

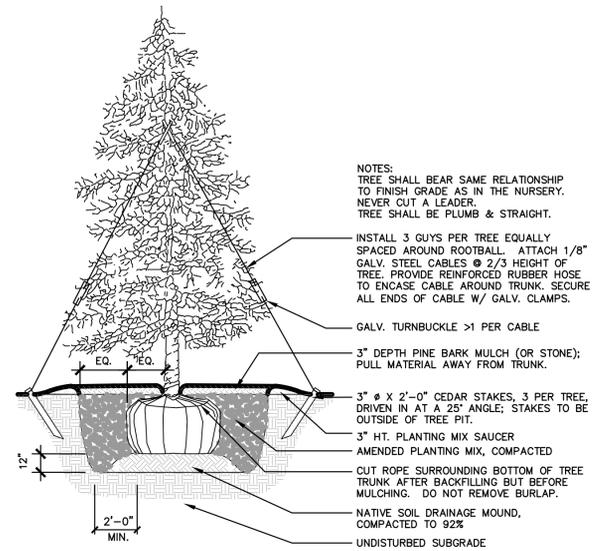
Drawing No.

L-5

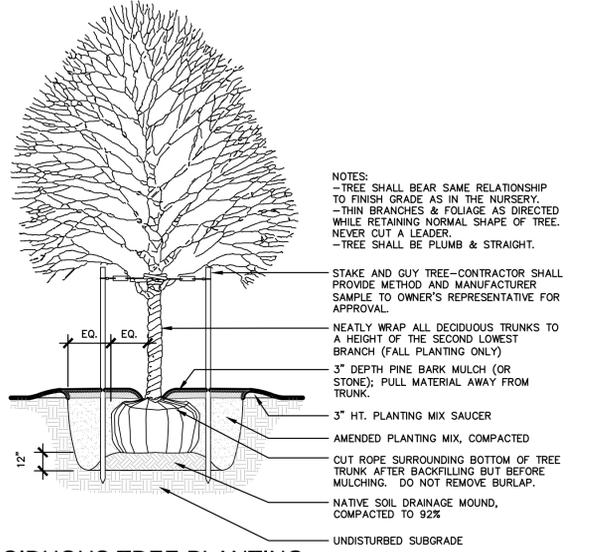
Unauthorized alteration or addition to this document is a violation of Section 7209 of the New York State Education Law.

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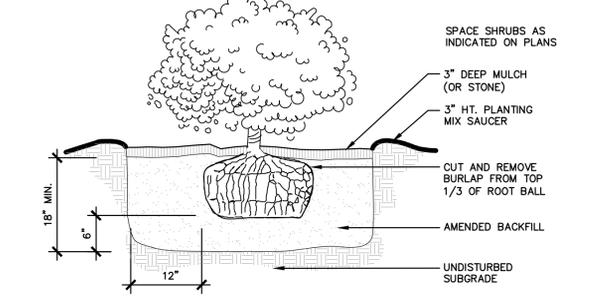
Prepared for:
46 Union Ave, LLC
 18 Division Street, Suite 401
 Saratoga Springs, NY 12866



1 EVERGREEN TREE PLANTING SCALE: NTS



2 DECIDUOUS TREE PLANTING SCALE: NTS



3 SHRUB PLANTING SCALE: NTS

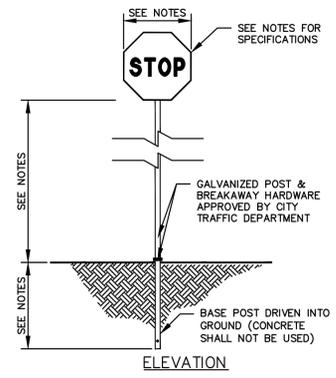
TEXT	LETTER	SIZE	TYPE	APPROX. SIZE OF SIGN	M.U.T.C.D. NO.
STOP	A	SEE M.U.T.C.D.	RI-1C	30"x30" 6.25 S.F.	RI-1C

NOTE: OWNER TO APPROVE LOCATIONS PRIOR TO INSTALLATION.

SCHEDULE

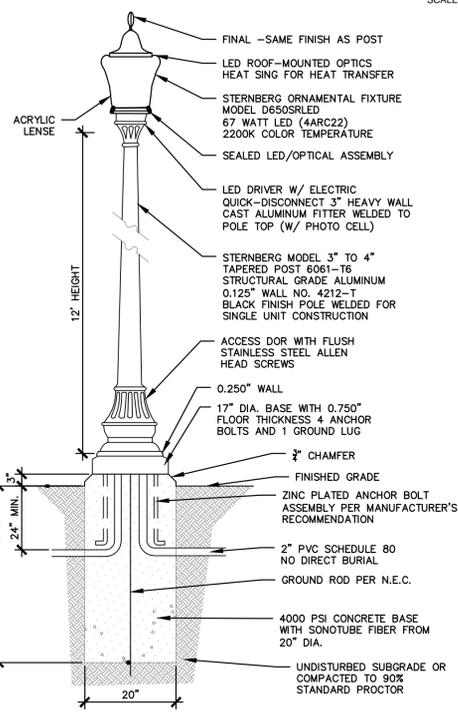
- NOTES:**
- ALL TRAFFIC CONTROL DEVICES ARE GOVERNED BY THE MOST CURRENT VERSION OF THE NYS MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES AND THE NYS DOT STANDARD SHEETS AND ARE SUBJECT TO REVIEW BY THE TRAFFIC DEPARTMENT PRIOR TO FINAL PLANNING BOARD APPROVAL. PHYSICAL LIMITATIONS AND/OR VISIBILITY CONSIDERATIONS MAY REQUIRE SPECIAL CONSTRUCTION METHODS AS DETERMINED IN THE FIELD.
 - POST TYPE, SIZE AND NUMBER ARE BASED ON SIGN AREA AND MOUNTING HEIGHT.
 - ALL STOP SIGN AND WARNING SIGN FACING SHALL BE AS MANUFACTURED BY 3M OR APPROVED EQUAL AND SHALL MEET THE LATEST RETROREFLECTIVITY REQUIREMENTS.
 - SIGNS TO BE INSTALLED WITHIN THE SARATOGA COUNTY RIGHT OF WAY SHALL BE REVIEWED AND APPROVED BY THE SARATOGA COUNTY COMMISSIONER OF PUBLIC WORKS.

4 SIGN DETAIL / SIGN SCHEDULE SCALE: NTS

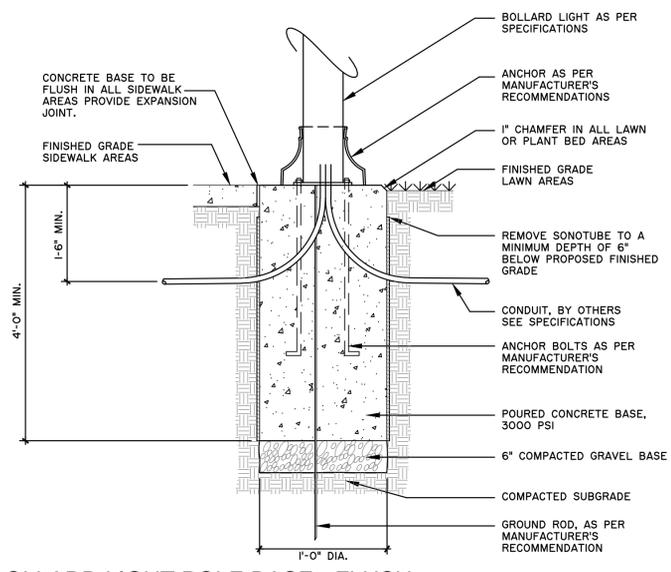
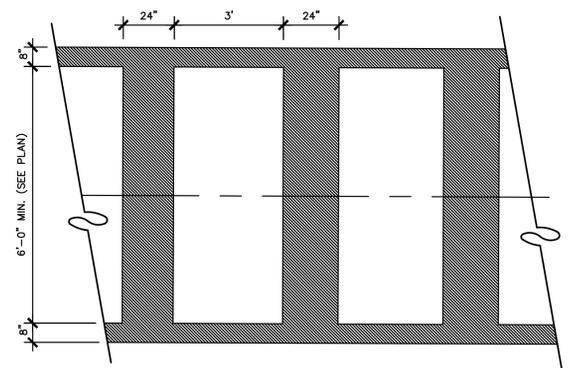


- NOTES:**
- INSTALLATION OF DECORATIVE LIGHTS SHALL BE COORDINATED WITH THE CITY ELECTRICIAN AND DEPARTMENT OF PUBLIC WORKS. *WATTAGE SHALL BE AS DIRECTED BY CITY ELECTRICIAN.
 - THE OWNER/DEVELOPER IS RESPONSIBLE FOR ELECTRIFYING THE SYSTEM AND PAYING THE ELECTRIC BILLS UNTIL ACCEPTED AND TAKEN OVER BY THE CITY OF SARATOGA SPRINGS.
 - ELECTRIC SERVICE: SWEEPS AT CONCRETE BASES AND BETWEEN BASES USE 2" SCH. 80 PVC NON-METALLIC CONDUIT FOR WIRE: URD 3-CONDUCTOR NO. 2, 120 VOLT, 100 AMP CABLE. IF CONNECTING TO NATIONAL GRID FROM A POLE, PROVIDE A SEPARATE HANDHOLE TO BE OWNED BY THE CITY FOR THE DISCONNECT AT THE BASE OF ELECTRIC POLE AT THE BEGINNING OF ELECTRIC SERVICE. WIRE AND CONDUIT FROM HANDHOLE TO POLE PER NATIONAL GRID STANDARDS. USE POLARIS CONNECTORS. CATALOG NUMBER IT-1/0. FOR CONNECTIONS IN HANDHOLE AND IN BASE OF LIGHTS, EACH LIGHT TO BE FUSED IN BASE OF LAMP POLE WITH 10 AMP FUSE WITH BUSSMANN HEB-AA IN-LINE FUSE HOLDER. IF CONNECTING MORE THAN THREE LIGHTS FROM THE SAME SOURCE OF POWER, PROVIDE 30 AMP IN-LINE FUSE WITH WATERTIGHT FUSE HOLDER OF PROPER SIZE FOR WIRE. SEPARATE HANDHOLE IS NOT REQUIRED IF CONNECTING TO A NATIONAL GRID HANDHOLE.

5 DECORATIVE STREET LIGHT DETAIL SCALE: NTS

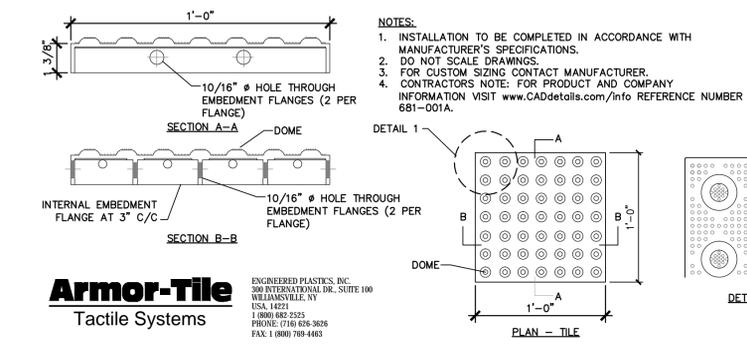
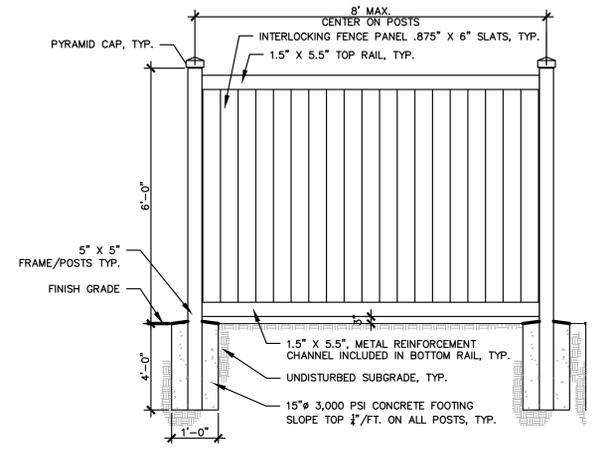


6 PEDESTRIAN CROSSWALK SCALE: NTS



7 BOLLARD LIGHT POLE BASE - FLUSH SCALE: NTS

8 STOCKADE FENCE (PVC) SCALE: NTS



9 DETECTABLE WARNING STRIP SCALE: NTS

Project Title:
**Union Avenue
 Condos**
 46 Union Avenue
 Saratoga Springs, NY 12866

Project No.:	201496
Design:	DRC
Drawn:	KMK Ch'cd: DRC
Date:	05/31/2016 Scale: NTS

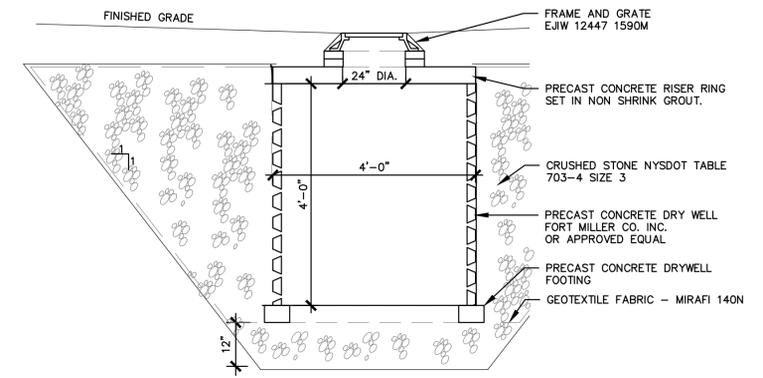
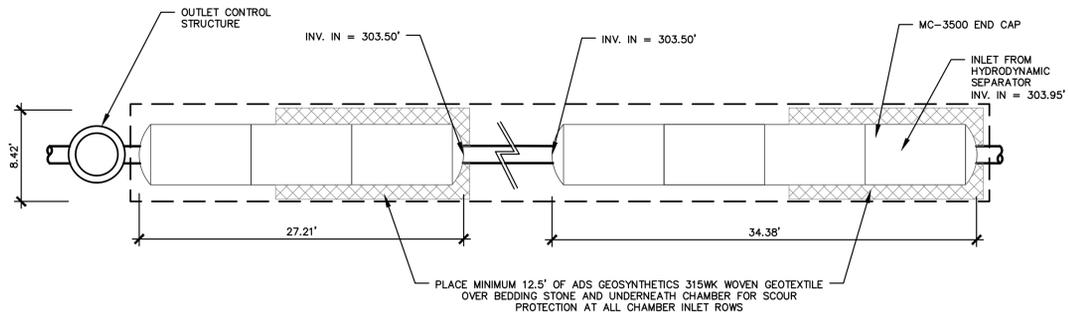
Rev.	Description:	Date:

Drawing Title
**SITE
 DETAILS**

Drawing No.
L-7

Planning Board #XX.XXX

Approval
 Approved under authority of a resolution adopted _____
 by the Planning Board of the City of Saratoga Springs.
 Date Signed _____ Chairperson

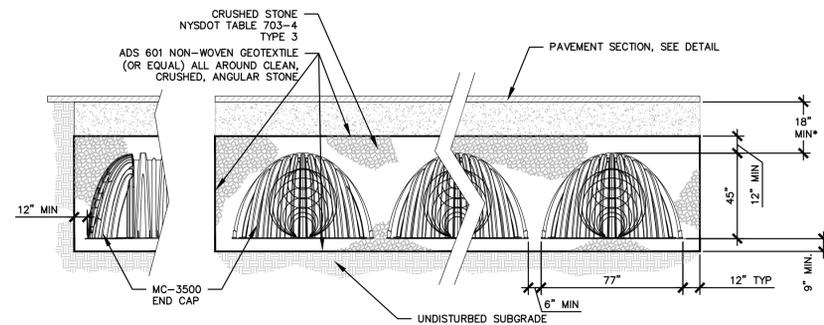


CONCEPTUAL LAYOUT PROPOSED ELEVATIONS

(6) STORMTECH MC-3500 CHAMBERS	TOP OF STONE:	306.50
(4) STORMTECH MC-3500 END CAPS	TOP OF CHAMBER:	305.50
INSTALLED WITH 12" COVER STONE, 9" BASE	12" TOP FEEDING MANIFOLD INVERT:	303.95
STONE, 40% STONE VOID	BOTTOM OF CHAMBER:	301.75
	BOTTOM OF STONE:	301.00

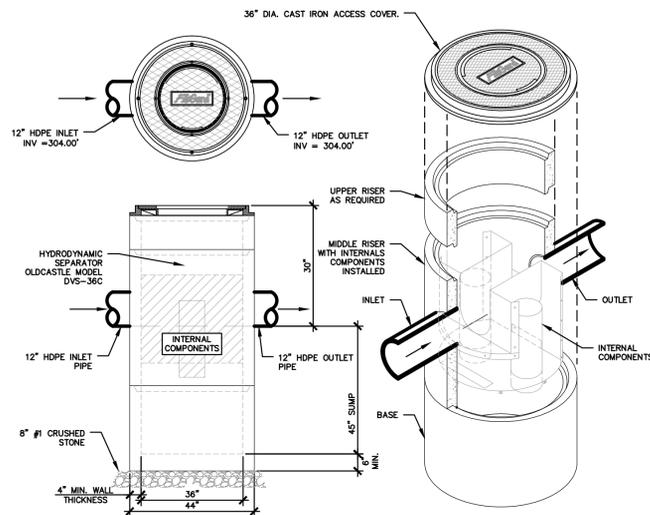
1 CHAMBER LAYOUT

SCALE: NTS



2 UNDERGROUND INFILTRATION CHAMBERS

SCALE: NTS



- NOTES:
1. BOLTED & GASKETED MANHOLE ACCESS COVER ELEVATION MAY BE ADJUSTED TO GRADE.
2. CONCRETE COMPONENTS SHALL BE MANUFACTURED IN ACCORDANCE WITH ASTM DESIGNATION C478.

3 HYDRODYNAMIC SEPARATOR

SCALE: NTS

4 DRYWELL

SCALE: NTS

Project Title:

Union Avenue
Condos
46 Union Avenue
Saratoga Springs, NY 12866

Project No.:	201496
Design:	BCS
Drawn:	BCS Ch'kd: DBH
Date:	05/31/2016 Scale: NTS

Rev.	Description:	Date:

Drawing Title

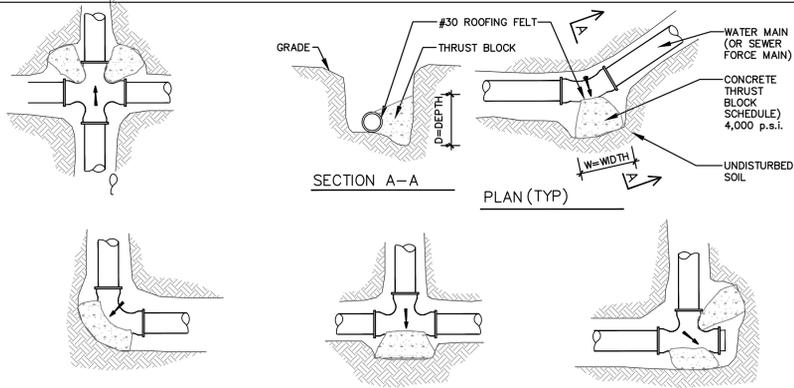
STORMWATER DETAILS

Drawing No.

L-9

Planning Board #XX.XXX

Approval
Approved under authority of a resolution adopted _____
by the Planning Board of the City of Saratoga Springs.
Date Signed _____ Chairperson



NOTES:

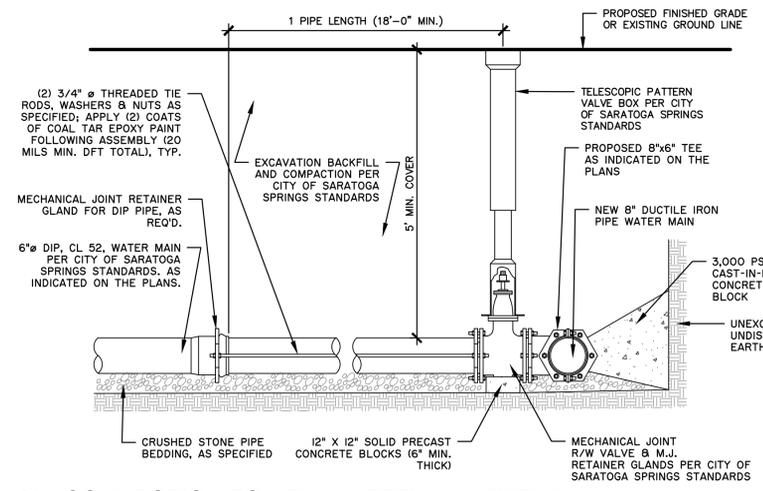
- FOR REQUIRED BEARING AREA AND DIMENSIONS L AND D, SEE SCHEDULE BELOW. VALUES OF L AND D OTHER THAN THOSE SHOWN IN THE TABLE MAY BE USED PROVIDED THEY YIELD A BEARING AREA EQUAL TO OR LARGER THAN THAT REQUIRED.
- CONCRETE NOT TO OVERLAP ANY JOINT.
- CONCRETE TO BE PLACED SO AS NOT TO INTERFERE WITH REMOVING OR INSTALLING ANY OF THE JOINTING HARDWARE.
- BEARING AREAS FOR THRUST BLOCKS FOR WATER MAINS LARGER THAN 12" DIA. TO BE APPROVED BY CITY ENGINEER.
- APPROXIMATE VOLUME OF CONCRETE THRUST BLOCK:
 $V \pm = LD (W \pm LD) - LD$
 WHERE:
 V = VOLUME IN CUBIC YARDS
 L = LENGTH OF BLOCK IN FEET
 D = DEPTH OF BLOCK IN FEET
 W = WIDTH OF BLOCK IN FEET
 LD = INSIDE DIAMETER OF PIPE IN FEET
- REQUIRED BEARING AREAS ARE BASED ON ALLOWABLE SOIL BEARING CAPACITY OF 2000 p.s.i. WITH A SAFETY FACTOR OF 1.7. PRESSURE OF FLUID FLOW IS BASED ON A 300' HEAD.
- IN MUCK, PEAT OR RECENTLY PLACED FILL ALL THRUST SHALL BE RESISTED BY PILES OR THE RODS TO SOLID FOUNDATIONS OR BY REMOVAL OF SUCH UNSTABLE MATERIAL AND REPLACEMENT WITH BALLAST OF SUFFICIENT STABILITY TO RESIST THRUSTS, ALL AS REQUIRED BY THE ENGINEER.

REQUIRED BEARING AREAS & DIMENSIONS FOR CONCRETE THRUST BLOCKS

PIPE SIZE INCHES	TEE AREA SQ. FT.	90° (1/4) BEND		45° (1/8) BEND		22-1/2° (1/16) BEND		11-1/4° (1/32) BEND		
		DIMENSIONS D x L	AREA SQ. FT.	DIMENSIONS D x L	AREA SQ. FT.	DIMENSIONS D x L	AREA SQ. FT.	DIMENSIONS D x L	AREA SQ. FT.	
4	1.4	1.0 x 1.5	2.0	1.0 x 2.0	1.1	1.0 x 1.5	.6	.5 x 1.5	0.3	0.5 x 1.0
6	3.2	1.5 x 2.5	4.5	2.0 x 2.5	2.4	1.5 x 2.0	1.2	1.0 x 1.5	0.6	0.5 x 1.5
8	5.7	2.0 x 3.0	8.0	2.0 x 4.0	4.3	2.0 x 2.5	2.2	1.5 x 1.5	1.1	1.0 x 1.5
10	8.8	2.5 x 3.5	12.5	3.0 x 4.5	6.8	2.0 x 3.0	3.4	1.5 x 2.5	1.7	1.0 x 2.0

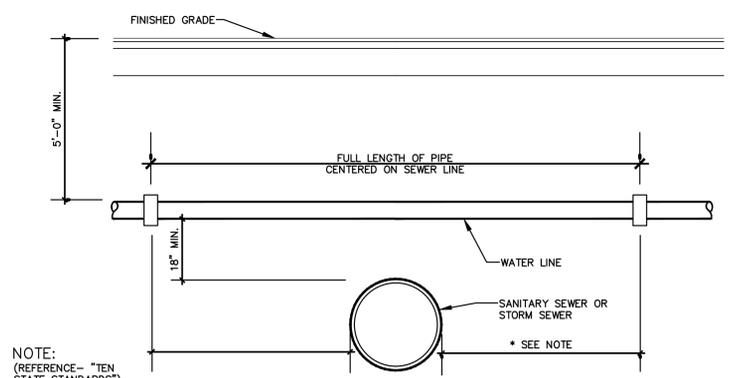
1 THRUST BLOCK DETAIL

SCALE: NTS



2 CONNECTION TO NEW WATER MAIN DETAIL

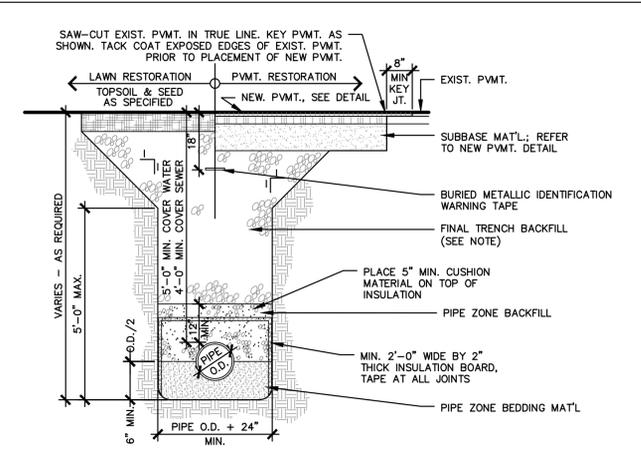
SCALE: NTS



NOTE: (REFERENCE - "TEN STATE STANDARDS")
 WHEN INSTALLED PARALLEL, ALL WATER AND SEWER LINES SHALL HAVE A MINIMUM SEPARATION OF 10' EDGE TO EDGE. IF MINIMUM CANNOT BE MAINTAINED, WATER MAIN SHALL BE IN SEPARATE TRENCH OR ON AN UNDISTURBED EARTH SHELVE TO ONE SIDE OF SEWER, WITH BOTTOM OF WATER MAIN 18" MINIMUM ABOVE TOP OF SEWER PIPE. WHEN CROSSING, MAINS SHALL BE INSTALLED TO INSURE 18" MINIMUM VERTICAL SEPARATION BETWEEN PIPES, OUTSIDE TO OUTSIDE. WHERE WATER MAIN IS UNDERNEATH SEWER, ADEQUATE STRUCTURAL SUPPORT SHALL BE PROVIDED FOR THE SEWER TO PREVENT DAMAGE TO WATER MAIN. WHEN IT IS IMPOSSIBLE TO PROVIDE THE ABOVE MINIMUMS, THE SEWER SHALL BE DESIGNED AND CONSTRUCTED EQUAL TO WATER PIPE, AND SHALL BE PRESSURE TESTED TO ASSURE WATERTIGHTNESS PRIOR TO BACKFILLING.

3 UTILITY CROSSING DETAIL

SCALE: NTS



ITEM	DEPTH	MATERIAL	NYS DOT TYPE	METHOD OF PLACEMENT
PIPE ZONE BEDDING	6" MIN.	ANGULAR CRUSHED STONE	1&2	MECHANICAL COMPACTION
PIPE ZONE BACKFILL	12" MIN. COVER	CLEAN SAND OR GRAVEL	1A OR 1	MECHANICAL COMPACTION
FINAL TRENCH BACKFILL	VARIES	SEE NOTE	SEE NOTE	MECHANICAL COMPACTION

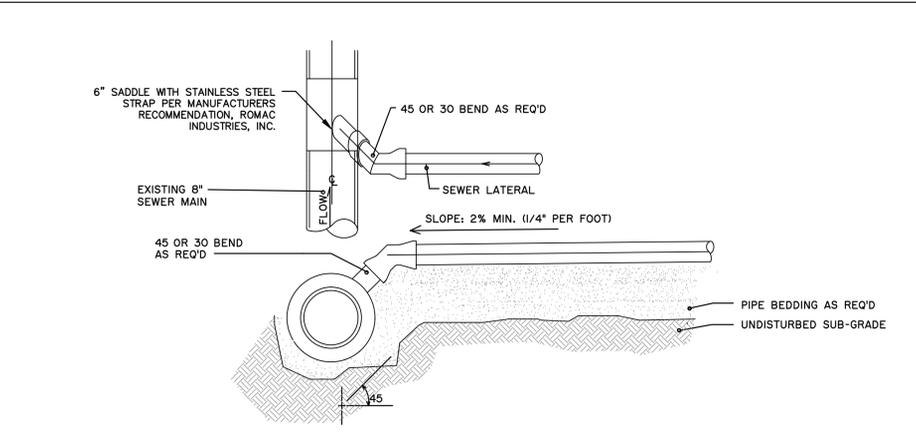
- NOTES:**
- FINAL TRENCH BACKFILL
 - IN NON-PAVED AREAS, FINAL TRENCH BACKFILL SHALL BE EXCAVATED MATERIAL WHEN DETERMINED SUITABLE BY THE ENGINEER OF RECORD; OTHERWISE IT SHALL BE NYS DOT TYPE 1 (ITEM NO. 304.02). MIN. MOD. PROCTOR DENSITY SHALL BE 85 PERCENT.
 - IN PAVED AREAS, FINAL TRENCH BACKFILL SHALL BE NYS DOT TYPE 1 (ITEM NO. 304.02). MIN. MODIFIED PROCTOR DENSITY SHALL BE 95 PERCENT.
 - ALL PIPE ZONE BEDDING, PIPE ZONE BACKFILL, AND FINAL TRENCH BACKFILL SHALL BE PLACED IN 6 INCH MAX. COMPACTED LIFTS. ALL BEDDING AND BACKFILL MATERIALS SHALL BE MECHANICALLY COMPACTED TO THE SATISFACTION OF THE ENGINEER.
 - EXCAVATION SHALL BE KEPT DRY AND DEWATERED AT ALL TIMES.

4 SEWER PIPE TRENCH

SCALE: NTS

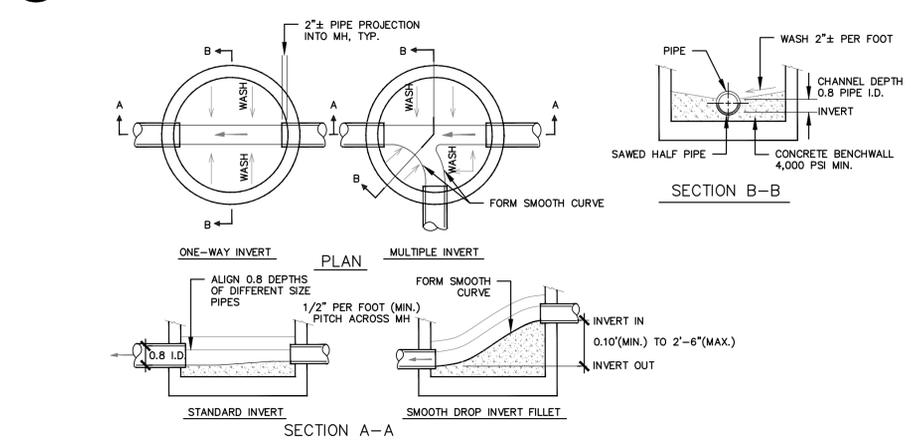
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SCALE: NTS



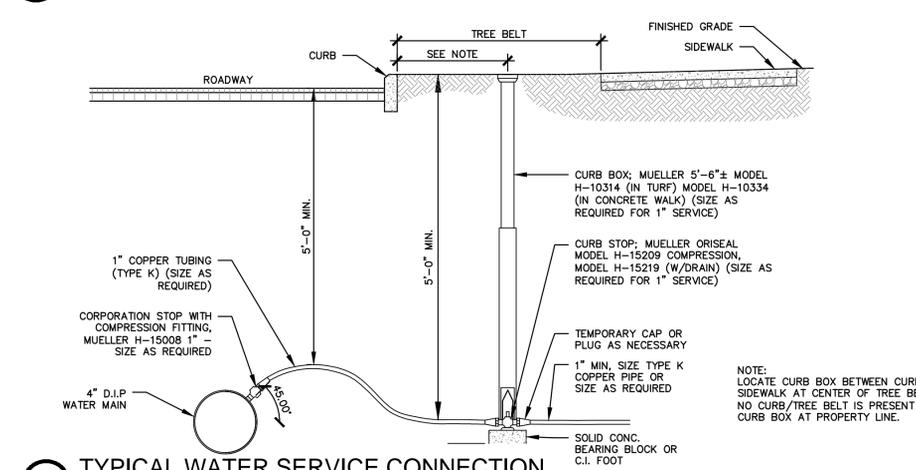
6 CONNECTION TO EXISTING SEWER MAIN

SCALE: NTS



7 MANHOLE BENCHWALL

SCALE: NTS



8 TYPICAL WATER SERVICE CONNECTION

SCALE: NTS

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 Prepared for:
46 Union Ave, LLC
 18 Division Street, Suite 401
 Saratoga Springs, NY 12866

Project Title:
**Union Avenue
 Condos**
 46 Union Avenue
 Saratoga Springs, NY 12866

Project No.:	201496
Design:	DRC
Drawn:	KMK Ch'kd: DRC
Date:	05/31/2016 Scale: NTS

Rev.	Description:	Date:

Drawing Title
**UTILITIES
 DETAILS**

Drawing No.
L-10

Planning Board #XX.XXX

Approval
 Approved under authority of a resolution adopted _____
 by the Planning Board of the City of Saratoga Springs.
 Date Signed _____ Chairperson

Project No.: 201496
 Date: 05/31/2016
 Scale: NTS
 Drawing Title: UTILITIES DETAILS
 Drawing No.: L-10
 Project Name: 46 Union Ave, LLC
 File Name: C:\p19\2016\46 Union Ave\05-31-16\05-31-16-01.dwg
 User: jhughes
 Plot Date: 05/31/2016 10:34:24 AM
 Plot Name: C:\p19\2016\46 Union Ave\05-31-16\05-31-16-01.dwg



The LA GROUP

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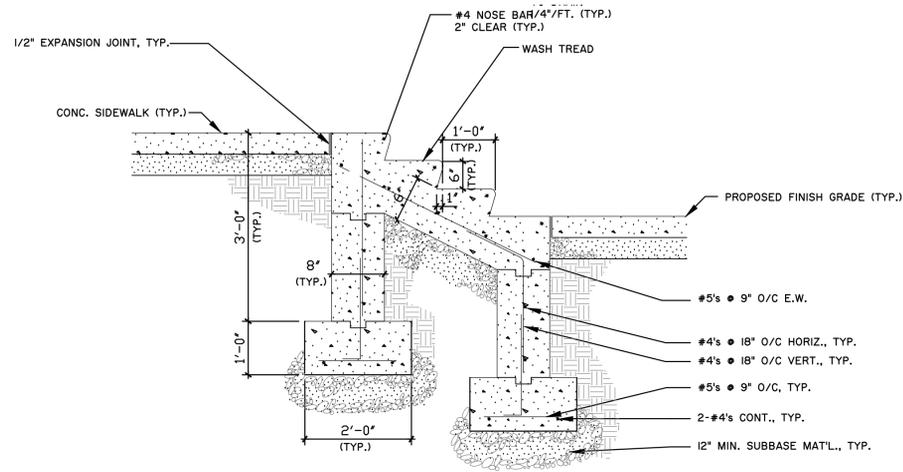
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LONGITUDINAL SECTION

NOTES:

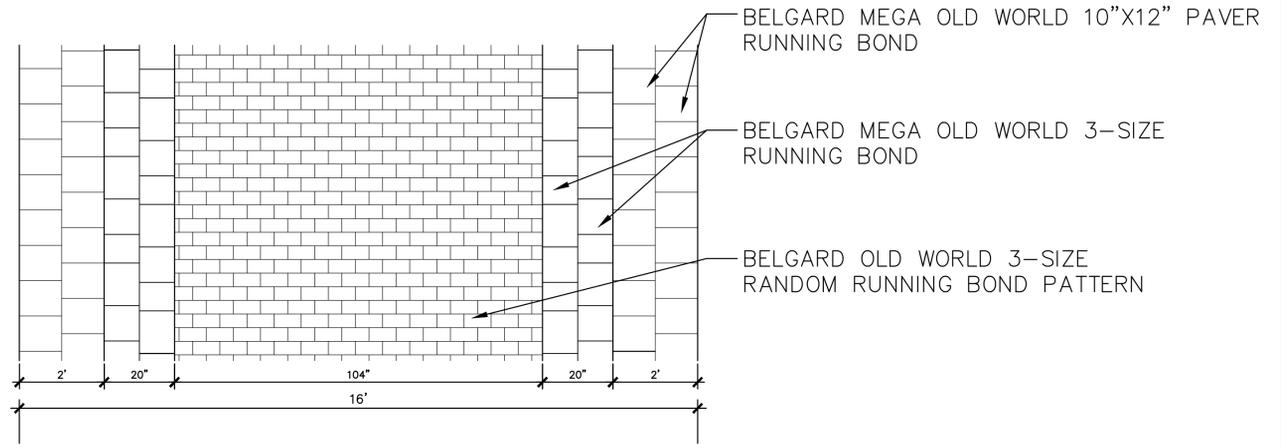
STAIR TREADS SHALL RECEIVE ROUGH BROOM FINISH.

PROVIDE 3" MINIMUM CONCRETE COVER OVER STEEL REINFORCING BARS IN BOTTOM OF STAIR SLAB & FOOTINGS WHERE CONCRETE IS PLACED AGAINST SOIL MATERIALS.

PROVIDE 2" MINIMUM CONCRETE COVER OVER STEEL REINFORCING BARS IN EXPOSED CONCRETE ELEMENTS.

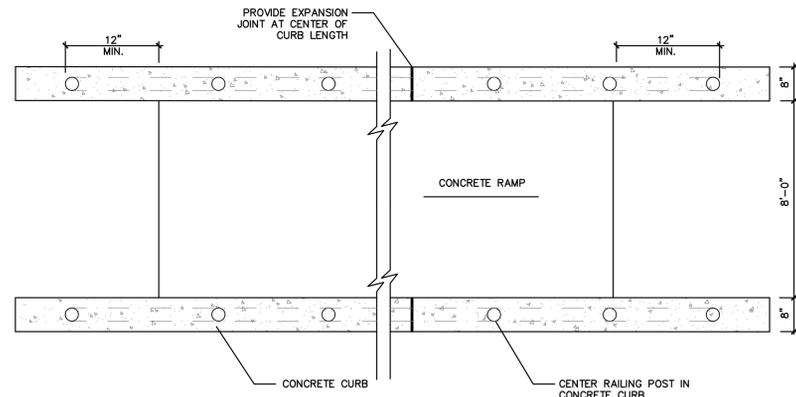
1 CONCRETE C.I.P. STAIR DETAIL

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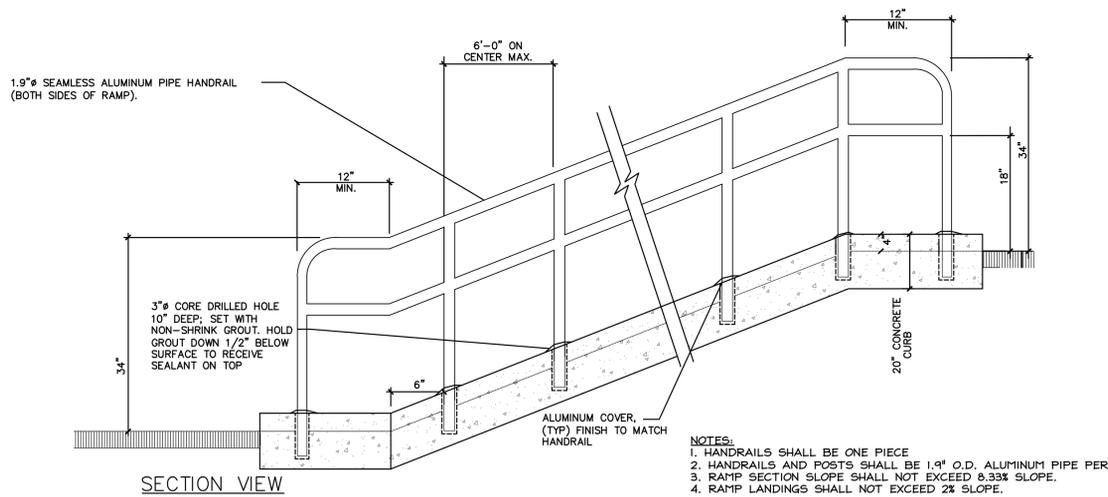


3 POROUS CONCRETE PAVER LAYOUT - DRIVEWAY

SCALE: NTS



PLAN VIEW



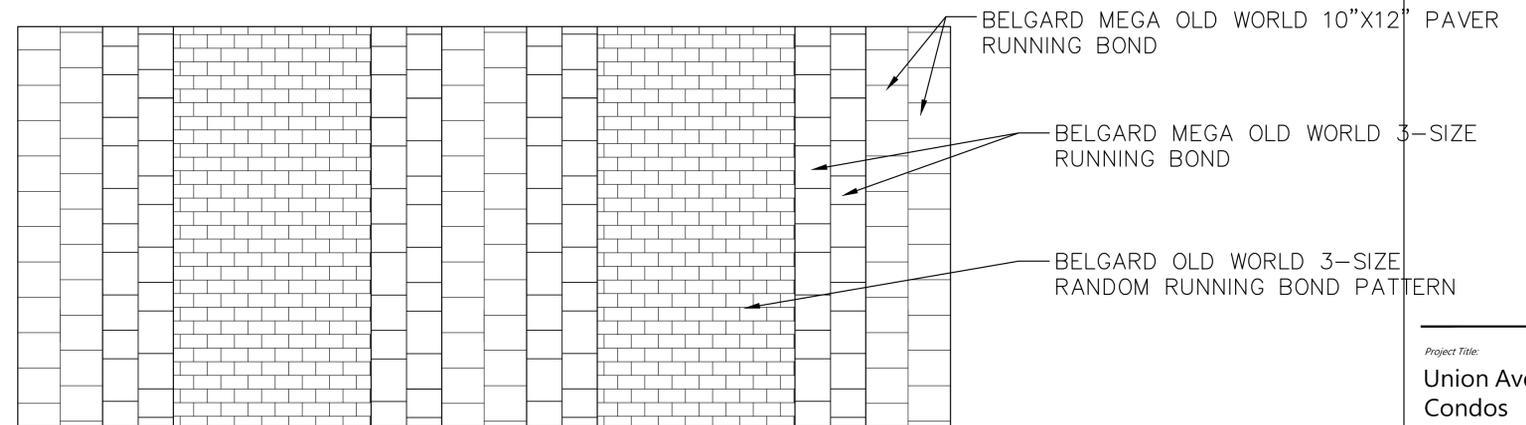
SECTION VIEW

NOTES:

- 1. HANDRAILS SHALL BE ONE PIECE
- 2. HANDRAILS AND POSTS SHALL BE 1.9" O.D. ALUMINUM PIPE PER
- 3. RAMP SECTION SLOPE SHALL NOT EXCEED 8.33% SLOPE.
- 4. RAMP LANDINGS SHALL NOT EXCEED 2% SLOPE.

2 RAMP HANDRAIL DETAIL

SCALE: NTS



4 CONCRETE PAVER LAYOUT - DRIVE LANE

SCALE: NTS

Project Title:

Union Avenue
Condos
46 Union Avenue
Saratoga Springs, NY 12866

Project No.: 201496
Design: MCB
Drawn: BCS Ch'cd: DBH
Date: 05/31/2016 Scale: NTS

Rev.	Description:	Date:

Drawing Title

SITE
DETAILS

Drawing No.

L-11

Planning Board #XX.XXX

Approval

Approved under authority of a resolution adopted _____
by the Planning Board of the City of Saratoga Springs.

Date Signed _____ Chairperson

Stormwater Pollution Prevention Plan

Prepared in accordance with NYS DEC General Permit GP-0-15-002

for:

Union Avenue Condominiums

Owner/Operator(s):

46 Union Ave, LLC
18 Division Street, Suite 401
Saratoga Springs, NY 12866

SWPPP Contact(s):

The LA Group, PC
40 Long Alley
Saratoga Springs, NY 12866
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1-518-587-0180

SWPPP Preparation Date:

May 26, 2016

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Appendices

- A Notice of Intent (NOI) and MS4 Acceptance Form**
- B Stormwater Management Report and Hydro CAD**
- C Map Set – Location Map and Construction Drawing**
- D SWPPP Inspection Forms –SWPPP Inspection Report**
- E Other SWPPP Forms – Construction Sequence, SWPPP Plan Changes, Spill Response Form, Stormwater Management Practice Maintenance Log**
- F SPDES General Permit GP-0-15-002**
- G Historic Preservation/Endangered Species Documentation**
- H Deep Ripping and De-compaction (DEC, 2008)**
- I Restrictive Covenant for Maintenance of Post-Construction Stormwater Management Practices**

1.0 PERMIT OVERVIEW AND REQUIREMENTS

1.1 Permit Overview

This Stormwater Pollution Prevention Plan (SWPPP) is prepared to inform the landowner and construction personnel of the measures to be implemented for controlling runoff and pollutants from the site during and after construction activities. The objective of this plan is to comply with the New York Department of Environmental Conservation (NYSDEC) State Pollutant Discharge Elimination System (SPDES) General Permit for Stormwater Discharges from Construction Activities, Permit No. GP-0-15-002 requirements. Any material conflicts between this plan and the site plans, specification or instructions, must be brought to the attention of the design professional. The project may have other permits and it is the responsibility of the owner and contractor to know and understand all permits.

The operator will be issued a bill from New York State for a one hundred and ten dollar (\$110.00) annual fee for the open GP-0-15-002 permit. The operator will also be billed by New York State for a one time one hundred and ten dollar (\$110.00) per acre fee for the proposed disturbed soil area listed in the NOI, and finally a one time six hundred and seventy five dollar (\$675.00) per acre fee for the proposed increased impervious area listed in the NOI.

The operator is responsible to maintain onsite in a secure location that is accessible during normal working hours to an individual performing a compliance inspection, the following information:

- ✓ the Notice of Intent (NOI),
- ✓ the NYS Department of Environmental Conservation NOI Acknowledgement Letter,
- ✓ the SWPPP,
- ✓ a copy of the General Permit (included in the SWPPP),
- ✓ MS4 SWPPP Acceptance Form (where applicable), and
- ✓ All inspection reports.

Technical standards are detailed in the “New York State Standards and Specifications for Sediment and Erosion and Sediment Control (August 2010)”, as well as illustrated on the Construction Drawings included in **Appendix C**. The design of post-construction stormwater control practices follow the guidance provided by “New York State Stormwater Management Design Manual.”

2.0 SWPPP REVIEW, UPDATE

2.1 SWPPP Review

Applicable Federal, State, and local regulatory agencies that have jurisdiction may elect to review this SWPPP and notify the permittee in writing that the SWPPP does

not meet the requirements of their regulations. If the SWPPP needs to be revised, the permittee and the site contractor will make the required modifications within seven days of such notification and submit written certification to the notifying agency that the changes have been implemented. A copy of the SWPPP will be kept available on site for review by regulatory agencies, engineers, and subcontractors.

This Project is in the City of Saratoga Springs which is a Regulated MS4 community, so a copy of this SWPPP was sent to the City for review. A copy of the signed MS4 Acceptance form is provided in Appendix A of this SWPPP.

2.2 SWPPP Update

The permittee identified in this SWPPP shall amend the SWPPP under the following conditions:

- ✓ Whenever the current provisions prove to be ineffective in minimizing pollutants in stormwater discharge from the site
- ✓ Whenever there is a change in design, construction or operation that could have an effect on the discharge of pollutants
- ✓ To address issues or deficiencies identified during an inspection by the qualified inspector, the Department or other regulatory authority
- ✓ To identify a new subcontractor that will implement any part of the SWPPP.

If modifications are required to the post-stormwater management practices and the Project is within a regulated, traditional land use control MS4, the owner or operator of the Project must notify the MS4 in writing of any planned amendments or modifications to the post-construction stormwater management practice component of the SWPPP. Unless otherwise notified by the MS4, the owner or operator shall have the SWPPP amendments or modifications reviewed and accepted by the MS4 prior to commencing construction of the post-construction stormwater management practice. The SWPPP PLAN CHANGES, AUTHORIZATION, AND CHANGE CERTIFICATION form (Appendix E) must be filled out and a copy retained onsite during construction.

If modifications are required to the post-stormwater management practices and the Project is not within a Regulated, Traditional Land Use Control MS4, the changes shall be documented in the SWPPP kept onsite.

3.0 SITE ASSESSMENT, EVALUATION AND PLANNING

3.1 Project Location

The Project is located at 46 Union Avenue, situated between Union Avenue to the north and White Street to the south in the City of Saratoga Springs, Saratoga County, NY 12866. The Project site is accessible from Union Avenue, North Lane and White Street.

See **Appendix C** for a general site location map.

3.2 Pre-Development Conditions

Currently the site consists of a six (6) story building previously used for student housing for Skidmore College and an attached one story dining hall. Additionally, the site consists of a paved parking lot between North Lane and White Street.

3.3 Project Type

This project is a combination of new development and redevelopment and has been designed in accordance with Chapter 4 and Chapter 9 of the NYSDEC Stormwater Management Design Manual and NYSDEC's General Permit (GP-0-15-002) for construction activities.

3.4 Project Scope

This project is for the construction of five (5) buildings that will house a total of eighteen (18) condominiums. The remainder of the proposed improvements includes construction of parking lots, site lighting, landscaping, stormwater controls, and connections to the municipal water and sewer. The Project Site represents the area that will be disturbed as a result of the Project.

3.5 Historic Preservation Determination/Endangered Species

The project area is within an area that is shown on the OPRHP website that might possibly contain archeologically sensitive resources as well as rare or endangered plants or animals. A SEQRA was completed for the project and it has been determined by both the NYSOPRHP and NYSDEC that the project will have no impact on any listed, proposed to be listed, threatened or endangered species, or a critical habitat or archeological deposits. The demolition and new development was determined to have no adverse impact upon the Union Avenue Historic District.

The determination letters mentioned above can be found in Appendix G.

3.6 Receiving Waters

The site discharges to the City of Saratoga Springs municipal storm sewer network.

3.7 Soils

According to the Natural Resources Conservation Service (NRCS) Web Soil Survey, the area including and surrounding the Project Site is comprised of Windsor loamy sand. The hydrological soil group classification for Windsor loamy sand is A. Soil report is provided in Attachment A of the Stormwater Management Report (Appendix B). Soil testing was completed throughout the site by Dente Engineering on April 11, 2016. Tests indicated deep sands with no groundwater encountered within 17 feet. Soil testing results can be found in Appendix B.

4.0 EROSION AND SEDIMENT CONTROL

4.1 Erosion and Sediment Control Practices

Temporary Structural Practices

- ✓ Silt Fence
- ✓ Dust Control
- ✓ Stabilized Construction Entrance
- ✓ Inlet Protection

Permanent Structural Controls

- ✓ Grading

Temporary Stabilization Practices (including vegetative practices)

- ✓ Seed and mulch bare soil areas within 14 days of disturbance unless construction will resume in that area within 21 days.

Permanent Stabilization Practices (including vegetative practices)

- ✓ Seed and mulch all disturbed areas. Slopes that are 3:1 or steeper should receive a Rolled Erosion Control Product (RECP), sodding, and or hydro-seeding a homogenous mixture of wood fiber mulch with tackifying agent.

Refer to Construction Drawings attached in **Appendix C** for detailed information on each practice.

4.2 Erosion and Sediment Control Drawings

Erosion and Sediment Control practices are shown on Construction Drawings included in **Appendix C**.

4.3 Construction Phasing Plan and Sequence of Operations

The project will disturb less than five acres at a single time.

- ✓ Temporary structural erosion controls will be installed prior to earthwork as per the attached plans.
- ✓ Areas to be undisturbed for more than 14 days will be temporarily stabilized by seeding.
- ✓ Disturbed areas will be reseeded and mulched immediately after final contours are re-established and no more than 14 days after the completion of construction at that site.
- ✓ Temporary erosion control devices will not be removed until the area served is stabilized by the growth of vegetation and the area is certified as being stabilized by the Erosion Control Superintendent.

Construction Activities	Start → Stop
Sequence must include major items such as, but not limited to, clearing and grubbing, excavation and grading, utility and infrastructure installation and any other activity resulting in soil disturbance. Include installation of erosion and sediment control practices and timing of installation.	
Install silt fence, construction entrance, and sediment trap	Week 1
Clear site, demo site amenities and building, and rough grade	Weeks 2-10
Begin utility installation	Weeks 10-16
Begin building construction	Commence Week 16
Construct parking lot, walks, hardscapes	Weeks 16-thru completion
Complete building construction	-
Fine grade, landscape, seed and mulch	As portions of project are completed
Achieve final stabilization	At completion
Remove silt fence	At 80% germination

4.4 Erosion and Sediment Control Practice Maintenance

- ✓ Silt fence – maintenance shall be performed as needed and material removed when “bulges” develop in the silt fence.
- ✓ Check dams – should be inspected after each rain event. Correct all damage immediately. If significant erosion has occurred between structures, a liner of stone or other suitable material should be installed. Remove sediment accumulated behind the dam as needed to allow channel to drain through the check dam and prevent large flows over the dam.
- ✓ Storm drain inlet protection (not including silt sacks) – inspect after each storm event. Remove sediment when 50 percent of the storage volume is achieved.
- ✓ Stabilized construction entrance – entrance shall be maintained in a condition which shall prevent tracking. This may require periodic top dressing with additional aggregate. All sediment tracked onto or spilled on public rights of way shall be removed immediately. When necessary, wheels must be cleaned to remove sediment prior to entrance on public rights of way. When washing is required, it shall be done in an area stabilized with aggregate and wash water shall be directed away from streams or wetlands preferably to a broad grassed area or a stormwater pond.
- ✓ Replace top-soil, mulch and seed where seeding has been disturbed.

4.5 Erosion and Sediment Control Inspection

- It is recommended that a rain gage be installed at the site.
- A qualified inspector shall conduct an assessment of the site prior to the commencement of construction and certify in an inspection report that the appropriate erosion and sediment controls described in the SWPPP and required by GP-0-15-002 have been adequately installed to ensure overall preparedness of the site for commencement of construction.
- This qualified inspector must be a Licensed Professional Engineer, Certified Professional in Erosion and Sediment Control (CPESC), Registered Landscape Architect, or someone working under the direct supervision of, and at the same company as, the licensed Professional Engineer or Registered Landscape Architect, provided they have received 4 hours of Department endorsed training in proper erosion and sediment control principles from a Soil and Water Conservation District, or other Department endorsed entity. After receiving the initial training, the qualified inspector shall receive 4 hours of training every 3 years.
- The day-to-day erosion control activities on the site will be monitored by the construction manager. The qualified inspector (as defined by the NYS DEC SPDES regulations) and his crews will make **at least**

one inspection every seven (7) days of erosion control devices, and non-stabilized areas during construction. A maintenance inspection report will be completed by the qualified inspector after each inspection. The report form to be completed by the inspector is attached in **Appendix D**. Reports should be compiled and maintained on-site in the SWPPP 3-ring binder.

- All measures will be maintained in good working order; if repair is necessary, it will be initiated within 24 hours of report. The qualified inspector shall take photographs of any needed repairs and also photograph when the repairs are completed. These photographs will be time and date stamped and attached to the weekly inspection report.
- Seeded and planted areas will be inspected for bare spots, washouts, and healthy growth. If necessary, spot reseeding or sodding will be implemented.
- A trained contractor will be an employee from the contracting company responsible for the implementation of the SWPPP. This person will be onsite when any soil disturbing activities are being conducted. The trained contractor must have received 4 hours of Department endorsed training in proper erosion and sediment control principles from a Soil and Water Conservation District, or other Department endorsed entity. After receiving the initial training, the qualified inspector shall receive 4 hours of training every 3 years. This trained contractor cannot conduct the regular SWPPP compliance inspections unless they meet the qualified inspector qualifications.

4.6 Contractor Sequence Form

The operator shall prepare a summary of construction status using the Construction Sequence Form (included in **Appendix E**) once every month. Significant deviations to the sequence and reasons for those deviations (i.e. weather, subcontractor availability, etc.), shall be noted by the contractor. The schedule shall be used to record the dates for initiation of construction, implementation of erosion control measures, stabilization, etc. A copy of this table will be maintained at the construction site and updated.

5.0 POST CONSTRUCTION STORMWATER MANAGEMENT PRACTICES

5.1 Stormwater Management Controls

The proposed Post Construction Stormwater Management controls on this project are listed below:

- ✓ Underground Infiltration Chambers

5.2 Green Infrastructure Practices/Runoff Reduction Techniques

The proposed Green Infrastructure practices or Standard Management practices with Runoff Reduction capabilities on this project are listed below:

- ✓ Porous Pavement/Pavers
- ✓ Tree Planting

The provided runoff reduction volume is 0.033 ac-ft, which is greater than the minimum runoff reduction volume, 0.001 ac-ft.

Soil Restoration

Excessively compacted areas and areas of cut and fill on the Project Site will have soil restoration applied as needed and as specified in the table below. Attached in Appendix H is "Deep Ripping and De-compaction, (DEC 2008)." This methodology should be followed for soil restoration as specified in the table below:

Type of Soil Disturbance	Soil Restoration Requirement		Comments/Examples
Minimal Soil Disturbance	Restoration not permitted		Preservation of Natural Features
Areas where topsoil is stripped only-no change in grade	Restoration not required		Clearing and Grubbing
Areas of cut and fill	HSG A & B	HSG C & D	
	apply 6 inches of topsoil	Aerate* and apply 6 inches of topsoil	
Heavy traffic areas onsite (especially in a zone 5-25 feet around buildings, but not within a 5 foot perimeter around foundation walls)	HSG A & B	HSG C & D	
	Aerate and apply 6 inches of topsoil	Apply full Soil Restoration**	
Areas where Runoff Reduction and/or infiltration practices are applied	Restoration not required, but may be applied to enhance the reduction specified for appropriate practices		Keep construction equipment from crossing these areas. To protect newly installed practice from any ongoing construction activities construct a single phase operation fence area.
*Aeration includes the use of machines such as tractor-drawn implements with coulters making a narrow slit in the soil, a roller with many spikes making indentations in the soil, or prongs which function like a mini-subsoiler			
**Per "Deep Ripping and Decompaction, DEC 2008"			

- If compost amendment is required, 2 to 4 inches of screened compost will be incorporated into the soil.
- Prior to application of the deep-ripping and de-compaction, the depth to bedrock or naturally occurring hardpan should be known so that the depth of tillage be adjusted according to those restrictive depths.
- Soils with a slope that exceeds 10% will not have full soil restoration with deep-ripping and de-compaction due to potential for erosion from tilled soil.

- Any soil tillage (deep or shallow) will not be done on soils that are excessively wet, as this will damage the soil.
- Any tillage will not be done within approximately 10' of the drip-line of any existing established trees.
- Any large stones that are unearthed during tillage should be removed from the surface prior to final surface preparation and vegetation establishment.

5.3 Post Construction Stormwater Management Drawings

Post construction stormwater management controls are shown on Construction Drawings included in **Appendix C**.

5.4 Hydraulic and Hydrologic Analysis

The program utilized for quantifying stormwater runoff rates and volumes was **HydroCAD** software, produced by Applied Microcomputer Systems of Chocorua, NH. The SCS 24-hour Type II design storms for 1, 10, and 100-year frequency rainfall were analyzed.

- ✓ Hydrologic/hydraulic analysis for all structural components of the stormwater control system for the applicable design storms (see **Appendix B**).
- ✓ Comparison of post-development stormwater runoff conditions with pre-development conditions (see **Appendix B**).
- ✓ Dimensions, material specifications and installation details for each post-construction stormwater control practice (see **Appendix B and C**).

5.5 Comparison of Pre and Post Construction Stormwater Runoff

Stormwater Quantity. These calculations are based on the HydroCAD analysis.

	Pre Development	Post Development
10 year, 24 hour storm (Qp)	4.39 CFS	2.26 CFS
100 year, 24 hour storm (Qf)	7.47 CFS	4.27 CFS

Water Quality Volume Calculations

The following was utilized to determine water quality volume:

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

Where:

WQ_v = Water Quality Volume (acre/feet)

P = 90% Rainfall Event

R_v = 0.05 + 0.009(I) where I is impervious cover in percent

A = Subcatchment area in acres

	Required	Provided
Water Quality Volume (WQv)	0.022 AC FT	0.041 AC FT

6.0 POST CONSTRUCTION STORMWATER MAINTENANCE

6.1 Maintenance to be Performed

46 Union Avenue, LLC will be responsible for the continuous upkeep and maintenance of all post construction stormwater management facilities.

Post-construction maintenance for this project will consist of regular inspections of permanent stormwater management facilities and steep slopes. These maintenance procedures are essential to assure continual performance of the stormwater management practices on your site. During the inspection and any maintenance activity to the stormwater management practices, the responsible party should fill out an inspection and maintenance log (**Appendix E**) to record that it was done.

Underground Infiltration Chambers

- The systems should be inspected quarterly for the first year and if there are no problems, the system can be inspected annually after the first year.
- If sediment is accumulating on the bottom of the system, pump in water via a flushing port or observation well and then pump the sediment laden water out via the flushing port or the inlet. This can be done with a vacuum truck. The system may have to be flushed multiple times until it is clean of sediment.
- Also, the manifold feeding the pipe storage should be flushed by pumping water in the manhole access and out the flushing port. This should be done during the routine inspection.

Catch Basins/Yard Drains

- Sediment removal with a vacuum truck should be done at least once a year, preferably after spring runoff and then in early fall, or when they are at 50% capacity, whichever comes first.
- Any mechanical valves should be operated for inspection every two months.

Tree Planting

- During the first three years, mulching, watering and protection of young trees may be necessary and should be included in the inspection list.

- Inspections should be performed every three months and within one week of ice storms, within one week of high wind events that reach speeds of 20 mph until trees have reached maturity, and according to established tree inspection requirements as identified within the design manual.
- As a minimum, the following items should be included in the regular inspection list:
 - Assess tree health
 - Determine survival rate; replace any dead trees.
 - Inspect tree for evidence of insect and disease damage; treat as necessary
 - Inspect tree for damages or dead limbs; prune as necessary

Porous Pavement/Pavers

- During the winter, the spreading of sand or other particles for traction cannot be done. If the area is to be plowed of snow, this should be done carefully so as not to upset the permeable pavement.
- Areas that receive high volumes of sediment will require frequent maintenance activities, and areas that experience high volumes of vehicular traffic will clog more readily due to soil compaction. Typical maintenance activities for permeable paving are summarized in the table below:

Typical Maintenance Activities Associated with Permeable Pavers	
Activity	Schedule
Ensure paving area is free of debris	Monthly
Ensure paving dewaterers between storms	Monthly and after storms >0.5"
Ensure area is clean of sediments	Monthly
Mow upland and adjacent areas and seed bare areas	As needed
Vacuum sweep frequently to keep surface free of sediments	Typically 3 to 4 times a year
Inspect the surface for deterioration or spalling	Annually

- Generally, routine vacuum sweeping and high-pressure washing (with proper disposal of removed material and washwater) can maintain infiltration rates when clogged or crusted material is removed. Signs can also be posted visibly within a permeable paving area to prevent such activities as resurfacing, the use of abrasives, and to restrict truck parking.

7.0 CONSTRUCTION WASTE

Waste Materials: All waste materials generated during construction will be disposed at a suitable landfill, or transfer station.

Hazardous Waste: The project will not be a generator of hazardous waste and it is not anticipated that any hazardous waste will be generated during construction. If there are any materials generated, a licensed hazardous waste carrier will be contracted to dispose the hazardous material at a suitable disposal site. If hazardous materials are discovered during construction, the work will be stopped until the issue is resolved.

Waste: Portable sanitary facilities will be made available to construction personnel and will be serviced regularly.

8.0 OFFSITE VEHICLE TRACKING

Excavation equipment involved with the construction will remain on the project site and will not regularly egress or ingress the site. Any trucks used to bring in materials or remove materials via municipal paved roads will do so over a stabilized construction entrance. If any off-site vehicle tracking occurs, the contractor will be directed to initiate, street sweeping program in the immediate vicinity of the site.

9.0 TEMPORARY STABILIZATION FOR FROZEN CONDITIONS

The following temporary stabilization measures **MUST** be performed when construction is occurring during winter/frozen ground conditions. The following requirements do not supersede any other requirements of this SWPPP as they apply to non-frozen ground conditions.

- Perimeter erosion control **MUST** still be installed prior to earthwork disturbance as per this SWPPP.
- Any areas that cannot be seeded to turf by October 1 or earlier will receive a temporary seeding. The temporary seeding will consist of winter rye seeded at the rate of 120 pounds per acre (2.5 pounds per 1,000 square feet) or stabilized as per the temporary stabilization for winter construction/frozen conditions.
- Any area of disturbance that will remain inactive for a period of 14 consecutive days **MUST** be mulched. This includes any previously disturbed areas that are covered with snow.
- Mulch **MUST** consist of loose straw applied at the rate of 2 to 3 bales (90 to 100 pounds) per thousand square feet.
- Mulch **MUST** be applied uniformly over the area of bare soil or bare soil that is covered with snow. For the latter condition, mulch **MUST** be applied on top of snow.
- Using a tracked vehicle, mulch **MUST** be crimped into the bare soil/snow. The tracked vehicle **MUST** be driven across the mulched areas in at least two directions to maximize crimping of mulch into the soil/snow.
- If mulch gets blown off an area to a significant degree, the site inspector **WILL** require that an area be re-mulched in accordance with

Items 2 through 5 above, and this area **WILL** be included on the inspection checklist for the next inspection.

- If a particular area repeatedly experiences loss of mulch due to wind, then the inspector **WILL** require that an alternative method be used to secure the mulch in place. Such alternatives may include the use of netting, tackifier or other methods deemed appropriate by the inspector.
- During periods when snow is melting and/or surface soils are thawing during daytime hours, mulched areas **MUST** be re-tracked (crimped) as per Item 5 above at least once every seven days, more frequently if directed by the inspector. Additional mulch may be required to obtain complete coverage of an area. Biodegradable erosion control matting may be required on steeper slopes.
- Additional stabilization measures for non-frozen ground conditions described in this SWPPP **WILL** be implemented at the time deemed appropriate by the inspector.

During the winter season, if a site has been stabilized and soil disturbing activities have been suspended for the winter, weekly inspections can be suspended. However, monthly inspections must still be conducted. All normal weekly inspections must resume when soil disturbing activities resume.

10.0 SPILL PREVENTION PRACTICES

Good Housekeeping and Material Management Practices

The following good housekeeping and material management practices will be followed on site during the construction project to reduce the risk of spills or other accidental exposure of materials and substances to stormwater runoff.

- Materials will be brought on site in the minimum quantities required.
- All materials stored on site will be stored in a neat, orderly manner in their appropriate containers, and if possible, under a roof or other enclosure.
- Products will be kept in their original containers with the original manufacturer's label.
- Substances will not be mixed with one another unless recommended by the manufacturer.
- Whenever possible, all of a product will be used up before disposal.
- Manufacturer's recommendations for proper use and disposal will be followed.
- The construction manager or his designee will inspect regularly to ensure proper use and disposal of materials on site.
- The contractor shall prohibit washing of tools, equipment, and machinery in or within 100 feet of any watercourse or wetland.
- All above grade storage tanks are to be protected from vehicle damage by temporary barriers.

Inventory for Pollution Prevention Plan

The materials and substances listed below are expected to be on-site during construction.

- Petroleum for fueling vehicles will be stored in above ground storage tanks. Tanks will either be steel with an enclosure capable of holding 110% of the storage tank volume or of a Con-Store, concrete encased type typically employed by NYSDOT. Hydraulic oil and other oils will be stored in their original containers. Concrete and asphalt will be stored in the original delivery trucks.
- Fertilizer may be stored on site in its original container for a short period of time prior to seeding. Original containers will be safely piled on pallets or similar devices to protect from moisture.
- Paints and other similar materials will be stored in their original containers and all empty containers will be disposed of in accordance with label directions.
- Portable sanitary facilities, which contain chemical disinfectants (deodorants) will be located on-site, with the disinfectants held in the tank of the toilet.

Hazardous Products

These practices are used to reduce the risks associated with hazardous materials.

- Products will be kept in original containers unless they are not re-sealable.
- Original labels and material safety data sheets will be retained; they contain important product information.
- If surplus product must be disposed of, manufacturers' or local and State recommended methods for proper disposal will be followed.

Spill Prevention

The following product specific practices will be followed on site.

Petroleum Products:

- Construction personnel should be made aware that emergency telephone numbers are located in this SWPPP.
- The contractor shall immediately contact NYSDEC in the event of a spill, and shall take all appropriate steps to contain the spill, including construction of a dike around the spill and placing absorbent material over this spill.
- The contractor shall instruct personnel that spillage of fuels, oils, and similar chemicals must be avoided and will have arranged with a qualified spill remediation company to serve the site.
- Fuels, oils, and chemicals will be stored in appropriate and tightly capped containers. Containers shall not be disposed of on the project site.
- Fuels, oils, chemicals, material, equipment, and sanitary facilities will be stored/located away from trees and at least 100 feet from streams, wells, wet areas, and other environmentally sensitive sites.
- Dispose of chemical containers and surplus chemicals off the project site in accordance with label directions.
- Use tight connections and hoses with appropriate nozzles in all operations involving fuels, lubricating materials or chemicals.
- Use funnels when pouring fuels, lubricating materials or chemicals.
- Refueling and cleaning of construction equipment will take place in parking areas to provide rapid response to emergency situations.
- All on-site vehicles will be monitored for leaks and receive regular preventative maintenance to reduce the chance of leakage. Any vehicle leaking fuel or hydraulic fuel will be immediately scheduled for repairs and use will be discontinued until repairs are made.

Fertilizers:

- Fertilizer will be stored in its original containers on pallets with water resistant coverings.
- Proper delivery scheduling will minimize storage time.
- Any damaged containers will be repaired immediately upon discovery and any released fertilizer recovered to the fullest extent practicable.

Paints:

- All containers will be tightly sealed and stored when not required for use.
- Excess paint will not be discharged to the storm water system or wastewater system, but will be properly disposed of according to manufacturers' instructions or State and local regulations.

Concrete Trucks:

- Concrete trucks will be allowed to wash out or discharge surplus concrete or drum wash water only at designated locations on site.

Asphalt Trucks:

- Asphalt trucks shall not discharge surplus asphalt on the site.

Spill Control Practices

In addition to the good housekeeping and material management practices discussed in the previous sections of this plan, the following practices will be followed for spill prevention and cleanup. The construction manager or site superintendent responsible for the day-to-day site operations will be the spill prevention and cleanup coordinator. He will designate at least three other site personnel who will receive spill prevention and cleanup training. These individuals will each become responsible for a particular phase of prevention and cleanup. The names of responsible spill personnel will be posted in the material storage area and in the onsite construction office or trailer.

- Manufacturers' recommended methods for spill cleanup will be clearly posted and site personnel will be made aware of the procedures and the location of the information and cleanup supplies. Any spill in excess or suspected to be in excess of two gallons will be reported to the NYSDEC Regional Spill Response Unit. Notification to the NYSDEC (1-800-457-7362) must be completed within two hours of the discovery of the spill.
- Materials and equipment necessary for spill cleanup will be kept in the material storage area onsite. Equipment and materials will include but not be limited to absorbent pads, brooms, dust pans, mops, rags,

gloves, goggles, activated clay, sand, sawdust, and plastic and metal trash containers specifically for this purpose.

- All spills will be cleaned up immediately after discovery.
- The spill area will be kept well ventilated and personnel will wear appropriate protective clothing to prevent injury from contact with spilled substance.
- Spills of toxic or hazardous material will be reported to the appropriate State or local government agency, regardless of the size

11.0 CERTIFICATIONS

Preparer Certification of Compliance with Federal, State, and Local Regulations

This Stormwater Pollution Prevention Plan was prepared in accordance with the New York State Department of Environmental Conservation SPDES General Permit for Stormwater Discharges from Construction Activities (Permit No. GP-0-15-002), pursuant to Article 17, Titles 7, 8 and Article 70 of the Environmental Conservation Law. This SPDES General Permit implements the Federal Clean Water Act pertaining to stormwater discharges.

Name: Doug Heller Title: Civil Engineer

Signature: _____ Date: _____

Company Name: The LA Group, PC

Owner Pollution Prevention Plan Certification

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

I understand that GP-0-15-002 requires site inspections be conducted by a qualified professional once every seven (7) days and when approved in writing by the NYSDEC, disturbances of greater than five (5) acres at one time require site inspections two (2) times every seven (7) days. These inspections shall be performed by a qualified professional as defined by the General Permit.

The Owner/Operator will be held financially responsible for any and all fines related to work tasks that are not specified by the Contractor(s)/Subcontractor(s) below.

Name: Tony Bonacio Owner/Operator

Signature: _____ Date: _____

Company Name: 46 Union Avenue, LLC

Contractor and Subcontractor Certification

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

Name _____ Title _____

Signature _____ Date _____

Company Name _____

Address _____

City, State, Zip _____

Phone Number _____

- 1. _____
- 2. _____
- SWPPP Components You Are Responsible For 3. _____
- 4. _____
- 5. _____
- 6. _____

Name of Trained Individual Responsible for SWPPP Implementation _____ Title _____

Signature of Trained Individual Responsible for SWPPP Implementation _____ Date _____

Contractor and Subcontractor Certification

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

Name _____ Title _____

Signature _____ Date _____

Company Name _____

Address _____

City, State, Zip _____

Phone Number _____

SWPPP Components You
Are Responsible For

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____

Name of Trained
Individual Responsible for
SWPPP Implementation _____ Title _____Signature of Trained
Individual Responsible for
SWPPP Implementation _____ Date _____

Contractor and Subcontractor Certification

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

Name _____ Title _____

Signature _____ Date _____

Company Name _____

Address _____

City, State, Zip _____

Phone Number _____

- SWPPP Components You Are Responsible For
1. _____
 2. _____
 3. _____
 4. _____
 5. _____
 6. _____

Name of Trained Individual Responsible for SWPPP Implementation _____ Title _____

Signature of Trained Individual Responsible for SWPPP Implementation _____ Date _____

Contractor and Subcontractor Certification

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

Name _____ Title _____

Signature _____ Date _____

Company Name _____

Address _____

City, State, Zip _____

Phone Number _____

SWPPP Components You Are Responsible For

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____

Name of Trained Individual Responsible for SWPPP Implementation _____ Title _____

Signature of Trained Individual Responsible for SWPPP Implementation _____ Date _____

12.0 DEFINITIONS

Construction Activity(ies) - means any clearing, grading, excavation, filling, demolition, or stockpiling activities that result in soil disturbance. Clearing activities can include, but are not limited to, logging equipment operation, the cutting and skidding of trees, tree removal, stump removal and/or brush removal. Construction activity does not include routine maintenance that is performed to maintain the original line and grade, hydraulic capacity, or original purpose of a facility.

Construction Phasing Plan - a plan designed to construct particular portions of an individual project at different times. Phasing is often used when a project is very large to limit the disturbance at a single time to 5 acres per phase.

Erosion and Sediment Control Practices – temporary measures installed prior to construction and maintained during construction to temporarily treat any stormwater runoff. Once construction is completed and post-construction stormwater management practices are installed and the site is stabilized, the erosion and sediment control practices are removed from the site.

Final Stabilization - means that all soil disturbance activities have ceased and a uniform, perennial vegetative cover with a density of eighty (80) percent over the entire pervious surface has been established; or other equivalent stabilization measures, such as permanent landscape mulches, rock rip-rap or washed/crushed stone have been applied on all disturbed areas that are not covered by permanent structures, concrete pavement.

Green Infrastructure – in the context of stormwater management, the term green infrastructure includes a wide array of practices at multiple scales to manage and treat stormwater, maintain and restore natural hydrology and ecological function by infiltration, evapotranspiration, capture and reuse of stormwater, and establishment of natural vegetative features. On a regional scale, green infrastructure is the preservation and restoration of natural landscape features, such as forests, floodplains and wetlands, coupled with policies such as infill and redevelopment that reduce overall imperviousness in a watershed or ecoregion. On the local scale green infrastructure consist of site and neighborhood specific practices and runoff reduction techniques. Such practices essentially result in runoff reduction and or establishment of habitat areas with significant utilization of soils, vegetation, and engineered media rather than traditional hardscape collection, conveyance and storage structures. Some examples include green roofs, trees and tree boxes, pervious pavement, rain gardens, vegetated swales, planters, reforestation and protection and enhancement of riparian buffers and floodplains.

Impervious Area (Cover) - means all impermeable surfaces that cannot effectively infiltrate rainfall. This includes paved, concrete and gravel surfaces (i.e. parking lots, driveways, roads, runways, and sidewalks); building rooftops, and miscellaneous impermeable structures such as patios, pools, and sheds.

Municipal Separate Storm Sewer (MS4) – a conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains):

- i. Owned or operated by a state, city, town, borough, county, parish, district, association, or other public body (created by or pursuant to State law) having jurisdiction over disposal of sewage, industrial wastes, stormwater, or other wastes, including special districts under State law such as a sewer district, flood control district or drainage district, or similar entity, or an Indian tribe or an authorized Indian tribal organization, or a designated and approved management agency under section 208 of the CWA that discharges to surface waters of the State.
- ii. Designed or used for collecting or conveying stormwater
- iii. Which is not a combined sewer
- iv. Which is not part of a Publicly Owned Treatment Works (POTW) as defined at 40 CFR 122.2.

Notice of Intent – a standardized format notification sent to the NYSDEC to inform them of the proposed activity to be sent after the SWPPP has been completed.

Owner or Operator – means the person, persons or legal entity which owns or leases the property on which the construction activity is occurring; and/or an entity that has operational control over the construction plans and specifications, including the ability to make modifications to the plans and specifications.

Post-Construction Stormwater Management Practices – permanent devices constructed or installed onsite to treat stormwater from a site when construction is completed.

Qualified Inspector – means a person that is knowledgeable in the principles and practices of erosion and sediment control, such as a licensed Professional Engineer, Certified Professional in Erosion and Sediment Control (CPESC), Registered Landscape Architect, or other Department endorsed individual(s). It can also mean someone working under the direct supervision of, and at the same company as, the licensed Professional Engineer or Registered Landscape Architect, provided that person has training in the principles and practices of erosion and sediment control. Training in the principles and practices of erosion and sediment control means that the individual working under the direct supervision of the licensed Professional Engineer or Registered Landscape Architect has received four (4) hours of Department endorsed training in proper erosion and sediment control principles from a Soil and Water Conservation District, or other Department endorsed entity. After receiving the initial training, the individual working under the direct supervision of the licensed Professional Engineer or Registered Landscape Architect shall receive four (4) hours of training every three (3) years. It can also mean a person that meets the *Qualified Professional* qualifications in addition to the *Qualified Inspector* qualifications.

Qualified Professional – means a person that is knowledgeable in the principles and practices of stormwater management and treatment, such as a licensed Professional

Engineer, Registered Landscape Architect or other Department endorsed individual(s). Individuals preparing SWPPPs that require the post-construction stormwater management practice component must have an understanding of the principles of hydrology, water quality management practice design, water quantity control design, and, in many cases, the principles of hydraulics. All components of the SWPPP that involve the practice of engineering, as defined by the NYS Education Law (see Article 145) , shall be prepared by, or under the direct supervision of, a professional engineer licensed to practice in the State of New York.

Regulated, Traditional Land Use Control MS4 - means a city, town, or village with land use control authority that is required to gain coverage under New York State DEC's SPDES General Permit for Stormwater Discharges from Municipal Separate Stormwater Sewer Systems (MS4s).

Sequence of Operations – the individual steps and their specific order which are undertaken in order to construct a project or a given phase of a project from beginning to end. (i.e. clearing, grading, foundation work, landscaping, etc.)

State Pollutant Discharge Elimination System (SPDES) – means the system established pursuant to Article 17 of the Environmental Conservation Law (ECL) and 6 NYCRR Part 750 for issuance of permits authorizing discharges to the waters of the state.

Stormwater Pollution Prevention Plan (SWPPP) - a report that is compiled providing detailed information about the proposed activity and the specifics to how the stormwater will be managed during construction and after construction is completed.

Surface Waters of the State - shall be construed to include lakes, bays, sounds, ponds, impounding reservoirs, springs, rivers, streams, creeks, estuaries, marshes, inlets, canals, the Atlantic Ocean, within the territorial seas of the state of New York and all other bodies of surface water, natural or artificial, inland or coastal, fresh or salt, public or private (except those private waters that do not combine or effect a junction with natural surface or underground waters), which are wholly or partially within or bordering the state or within its jurisdiction. Waters of the state are further defined in 6 NYCRR Parts 800-941.

Temporary Stabilization – means that exposed soil has been covered with material(s) as set forth in the technical standard, New York Standards and Specifications for Erosion and Sediment Control, to prevent the exposed soil from eroding. The materials can include, but are not limited to, mulch, seed and mulch, and erosion control mats (e.g. jute twisted yarn, excelsior wood fiber mats).

Trained Contractor – means an employee from a contracting (construction) company responsible for the day to day implementation of the SWPPP. The trained contractor must have received 4 hours of Department endorsed training in proper erosion and sediment control principles from a Soil and Water Conservation District, or other

Department endorsed entity. After receiving the initial training, the qualified inspector shall receive 4 hours of training every 3 years.

It can also mean an employee from the contracting (construction) company that meets the qualified inspector qualifications (e.g. licensed Professional Engineer, Certified Professional in Erosion and Sediment Control (CPESC), Registered Landscape Architect, or someone working under the direct supervision of, and at the same company as, the licensed Professional Engineer or Registered Landscape Architect, provided they have received 4 hours of Department endorsed training in proper erosion and sediment control principles from a Soil and Water Conservation District, or other Department endorsed entity.

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Appendix A

**Notice of Intent
(NOI)
and
MS4 Acceptance Form**

Details

Owner/Operator Information

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

46 Union Avenue, LLC

Owner/Operator Contact Person Last Name (NOT CONSULTANT)

Bonacio

Owner/Operator Contact Person First Name

Tony

Owner/Operator Mailing Address

18 Division Street, Suite 401

City

Saratoga Springs

State

NY

Zip

12866

Phone

5185849007

Email

tony@bonacio.com

Federal Tax ID

NONE PROVIDED

Project Location

Project/Site Name

Union Avenue Condominiums

Street Address (Not P.O. Box)

46 Union Avenue

Side of Street

South

City/Town/Village (THAT ISSUES BUILDING PERMIT)

Saratoga Springs

State

NY

Zip

12866

County

SARATOGA

DEC Region

5

Name of Nearest Cross Street

Regent Street

Distance to Nearest Cross Street (Feet)

200

Project In Relation to Cross Street

East

Tax Map Numbers Section-Block-Parcel

165.76-1-32, 165.76-1-33

Tax Map Numbers

NONE PROVIDED

1. Coordinates

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

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

43.07706805824562,-73.78088995814323

Project Details**2. What is the nature of this project?**Redevelopment with
increase in impervious area**3. Select the predominant land use for both pre and post development conditions.****Pre-Development Existing Landuse**

Institutional/School

Post-Development Future Land Use

Multifamily Residential

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

NONE PROVIDED

4. In accordance with the larger common plan of development or sale, enter the total project site acreage, the acreage to be disturbed and the future impervious area (acreage)within the disturbed area. *** ROUND TO THE NEAREST TENTH OF AN ACRE. *

Total Site Area (acres)

1.28

Total Area to be Disturbed (acres)

1.28

Existing Impervious Area to be Disturbed (acres)

.87

Future Impervious Area Within Disturbed Area (acres)

.89

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

No

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

A (%)

100

B (%)

0

C (%)

0

D (%)

0

7. Is this a phased project?

No

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

Start Date

07/31/2016

End Date

08/01/2017

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

Unnamed

9a. Type of waterbody identified in question 9?

Stream/Creek Off Site

Other Waterbody Type Off Site Description

NONE PROVIDED

9b. If "wetland" was selected in 9A, how was the wetland identified?

NONE PROVIDED

10. Has the surface waterbody(ies in question 9 been identified as a 303(d) segment in Appendix E of GP-0-15-002?

No

11. Is this project located in one of the Watersheds identified in Appendix C of GP-0-15-002?

No

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

No

If No, skip question 13.

13. Does this construction activity disturb land with no existing impervious cover and where the Soil Slope Phase is identified as an E or F on the USDA Soil Survey?

No

If Yes, what is the acreage to be disturbed?

NONE PROVIDED

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

No

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

Yes

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

City of Saratoga Springs

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

No

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

No

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

No

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

No

Required SWPPP Components

21. Has the required Erosion and Sediment Control component of the SWPPP been developed in conformance with the current NYS Standards and Specifications for Erosion and Sediment Control (aka Blue Book)?

Yes

22. Does this construction activity require the development of a SWPPP that includes the post-construction stormwater management practice component (i.e. Runoff Reduction, Water Quality and Quantity Control practices/techniques)?

Yes

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

23. Has the post-construction stormwater management practice component of the SWPPP been developed in conformance with the current NYS Stormwater Management Design Manual?

Yes

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

Professional Engineer (P.E.)

SWPPP Preparer

The LA Group

Contact Name (Last, Space, First)

Heller, Douglas

Mailing Address

40 Long Alley

City

Saratoga Springs

State

NY

Zip

12866

Phone

5185878100

Email

dheller@thelagroup.com

Download SWPPP Preparer Certification Form

Please take the following steps to prepare and upload your preparer certification form: 1) Click on the link below to download a blank certification form 2) The certified SWPPP preparer should sign this form 3) Scan the signed form 4) Upload the scanned doc

[Download SWPPP Preparer Certification Form](#)

Please upload the SWPPP Preparer Certification - Attachment

NONE PROVIDED

Comment: NONE PROVIDED

Erosion & Sediment Control Criteria

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

Yes

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

Temporary Structural

Dust

Control

Silt Fence
Stabilized Construction Entrance
Storm Drain Inlet
Protection

Biotechnical
None

Vegetative Measures

Mulching
Seeding

Permanent Structural

None

Other

NONE PROVIDED

Post-Construction Criteria

* IMPORTANT: Completion of Questions 27-39 is not required if response to Question 22 is No.

27. Identify all site planning practices that were used to prepare the final site plan/layout for the project.

Locating Development in Less Sensitive Areas

27a. Indicate which of the following soil restoration criteria was used to address the requirements in Section 5.1.6("Soil Restoration") of the Design Manual (2010 version).

All disturbed areas will be restored in accordance with the Soil Restoration requirements in Table 5.3 of the Design Manual (see page 5-22).

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

0.022

29. Post-construction SMP Identification

Use the Post-construction SMP Identification section to identify the RR techniques (Area Reduction), RR techniques(Volume Reduction) and Standard SMPs with RRv Capacity that were used to reduce the Total WQv Required (#28). Identify the SMPs to be used by providing the total impervious area that contributes runoff to each technique/practice selected. For the Area Reduction Techniques, provide the total contributing area (includes pervious area) and, if applicable, the total impervious area that contributes runoff to the technique/practice. Note: Redevelopment projects shall use the Post-Construction SMP Identification section to identify the SMPs used to treat and/or reduce the WQv required. If runoff reduction techniques will not be used to reduce the required WQv, skip to question 33a after identifying the SM

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

0.033

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

Yes

If Yes, go to question 36. If No, go to question 32.

32. Provide the Minimum RRv required based on HSG. [Minimum RRv Required = (P) (0.95) (Ai) / 12, Ai=(s) (Aic)] (acre-feet)

NONE PROVIDED

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

If Yes, go to question 33.

Note: Use the space provided in question #39 to summarize the specific site limitations and justification for not reducing 100% of WQv required (#28). A detailed evaluation of the specific site limitations and justification for not reducing 100% of the WQv required (#28) must also be included in the SWPPP. If No, sizing criteria has not been met; therefore, NOI can not be processed. SWPPP preparer must modify design to meet sizing criteria.

33. SMPs

Use the Post-construction SMP Identification section to identify the Standard SMPs and, if applicable, the Alternative SMPs to be used to treat the remaining total WQv (=Total WQv Required in #28 - Total RRv Provided in #30). Also, provide the total impervious area that contributes runoff to each practice selected.

NOTE: Use the Post-construction SMP Identification section to identify the SMPs used on Redevelopment proje

33a. Indicate the Total WQv provided (i.e. WQv treated) by the SMPs identified in question #33 and Standard SMPs with RRv Capacity identified in question #29. (acre-feet)

NONE PROVIDED

Note: For the standard SMPs with RRv capacity, the WQv provided by each practice = the WQv calculated using the contributing drainage area to the practice - provided by the practice. (See Table 3.5 in Design Manual)

34. Provide the sum of the Total RRv provided (#30) and the WQv provided (#33a).

NONE PROVIDED

35. Is the sum of the RRv provided (#30) and the WQv provided (#33a) greater than or equal to the total WQv required (#28)?

If Yes, go to question 36. If No, sizing criteria has not been met; therefore, NOI can not be processed. SWPPP preparer must modify design to meet sizing criteria

36. Provide the total Channel Protection Storage Volume (CPv required and provided or select waiver (#36a), if applicable.

CPv Required (acre-feet)

NONE PROVIDED

CPv Provided (acre-feet)

NONE PROVIDED

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

Reduction of the total CPv is achieved on site through runoff reduction techniques or infiltration systems.

37. Provide the Overbank Flood (Qp) and Extreme Flood (Qf) control criteria or select waiver (#37a), if applicable.

Overbank Flood Control Criteria (Qp)

Pre-Development (CFS)

4.39

Post-Development (CFS)

2.28

Total Extreme Flood Control Criteria (Qf)

Pre-Development (CFS)

7.47

Post-Development (CFS)

4.27

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

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

Yes

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

46 Union Avenue, LLC

39. Use this space to summarize the specific site limitations and justification for not reducing 100% of WQv required (#28). (See question #32a) This space can also be used for other pertinent project information.

NONE PROVIDED

Post-Construction SMP Identification

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

Identify the Post-construction SMPs to be used by providing the total impervious area that contributes runoff to each technique/practice selected. For the Area Reduction Techniques, provide the total contributing area (includes pervious area) and, if applicable, the total impervious area that contributes runoff to the technique/practice.

RR Techniques (Area Reduction)

Round to the nearest tenth

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

NONE PROVIDED

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

NONE PROVIDED

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

NONE PROVIDED

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

NONE PROVIDED

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

NONE PROVIDED

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

NONE PROVIDED

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

NONE PROVIDED

RR Techniques (Volume Reduction)

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

NONE PROVIDED

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

NONE PROVIDED

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

NONE PROVIDED

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

NONE PROVIDED

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

NONE PROVIDED

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

.17

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

NONE PROVIDED

Standard SMPs with RRv Capacity

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

NONE PROVIDED

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

NONE PROVIDED

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

NONE PROVIDED

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

0.28

Total Contributing Impervious Acres for Bioretention (F-5)

NONE PROVIDED

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

NONE PROVIDED

Standard SMPs

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

NONE PROVIDED

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

NONE PROVIDED

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

NONE PROVIDED

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

NONE PROVIDED

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

NONE PROVIDED

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

NONE PROVIDED

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

NONE PROVIDED

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

NONE PROVIDED

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

NONE PROVIDED

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

NONE PROVIDED

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

NONE PROVIDED

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

NONE PROVIDED

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

NONE PROVIDED

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

NONE PROVIDED

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

Total Contributing Impervious Area for Hydrodynamic

NONE PROVIDED

Total Contributing Impervious Area for Wet Vault

NONE PROVIDED

Total Contributing Impervious Area for Media Filter

NONE PROVIDED

"Other" Alternative SMP?

NONE PROVIDED

Total Contributing Impervious Area for "Other"

NONE PROVIDED

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

Note: Redevelopment projects which do not use RR techniques, shall use questions 28, 29, 33 and 33a to provide SMPs used, total WQv required and total WQv provided for the project.

Manufacturer of Alternative SMP

NONE PROVIDED

Name of Alternative SMP

NONE PROVIDED

Other Permits

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

None

If SPDES Multi-Sector GP, then give permit ID

NONE PROVIDED

If Other, then identify

NONE PROVIDED

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

No

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

NONE PROVIDED

42. If this NOI is being submitted for the purpose of continuing or transferring coverage under a general permit for stormwater runoff from construction activities, please indicate the former SPDES number assigned.

NONE PROVIDED

MS4 SWPPP Acceptance

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

Yes - Please

attach the MS4 Acceptance form below

If No, skip question 44

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

MS4 SWPPP Acceptance Form Download

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

[MS4 SWPPP Acceptance Form](#)

MS4 Acceptance Form Upload - Attachment

NONE
 PROVIDED
 Comment: NONE PROVIDED

Owner/Operator Certification

Owner/Operator Certification Form Download

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

[Owner/Operator Certification Form \(PDF, 45KB\)](#)

Upload Owner/Operator Certification Form * - Attachment

NONE
 PROVIDED
 Comment: NONE PROVIDED

Attachments

Date	Attachment Name	Context

Status History

Date	User	Processing Status
None		

Processing Steps

Step Name	Assigned To/Completed By	Date Completed
Form Submitted		
Deemed Complete	Toni Cioffi	

Appendix B

**Stormwater Management Report
Hydro CAD**

Stormwater Management Report

for:

Union Avenue Condominiums
at
46 Union Avenue
Saratoga Springs, NY 12866
Saratoga County

Owner/Operator(s):

46 Union Avenue, LLC
18 Division Street, Suite 401
Saratoga Springs, NY 12866
Contact: Tony Bonacio

SWM Report Contact(s):

The LA Group, PC
40 Long Alley
Saratoga Springs, NY 12866
1-518-587-8100
Project No. 201496

Preparation Date:

May 26, 2016

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Attachment

- A Soil Investigations**
 - Soil Survey**
 - Natural Resource Map**

- B Existing Conditions Watershed Map and HydroCAD Calculations**

- C Proposed Conditions Watershed Map and HydroCAD Calculations**

- D Storm Data**

1.0 INTRODUCTION

The following is a Stormwater Management Report (SWM Report) developed for the Owner, 46 Union Avenue, LLC, for the Union Avenue Condominiums, herein referred to as the “Project.” It is prepared in accordance with the New York State Department of Environmental Conservation (NYSDEC) Stormwater Management Design Manual, dated January, 2015.

This project a combination of new and redevelopment and has been designed in accordance with Chapter 4 and Chapter 9 of the NYSDEC Stormwater Management Design Manual (SMDM), and NYSDEC’s General Permit GP-0-15-002 for construction activities.

Stormwater calculations were performed utilizing widely accepted engineering methodologies, including TR-55, and the stormwater modeling computer program HydroCAD (version 10.00) produced by HydroCAD Software Solutions, LLC.

2.0 PROJECT DESCRIPTION

2.1 Site Location

The Project is located at 46 Union Avenue in the City of Saratoga Springs, Saratoga County, NY 12866.

2.2 Project Description

The Project is for the construction of five (5) building that will house a total of eighteen (18) condominiums. The remainder of the proposed improvements includes the construction of parking lots, site lighting, landscaping, stormwater controls, and connections to the municipal water and sewer. The Project Site represents the area that will be disturbed as a result of the Project.

Development of the Project results in a net increase in impervious surface within the Project’s watershed. The Project’s watershed impervious surface will increase by 0.02 acres.

2.3 Soil Conditions/Soil Testing

According to the Natural Resources Conservation Service (NRCS) Web Soil Survey, the area including and surrounding the Project Site is comprised of Windsor loamy sand. The hydrological soil group classification for Windsor loamy sand is A. For additional soil information, refer to Attachment A. Soil testing was completed throughout the site by Dente

Engineering on April 11, 2016. Tests indicated deep sands with no groundwater encountered within 17 feet. Soil testing results can be found in Attachment A.

2.4 Curve Numbers and Rainfall Data

The surface cover for the project area is predominantly impervious parking lots and roofs. The curve numbers utilized in the modeling were assigned based on cover type and HSG soil classification.

The design storms used for the pre-development versus post-development comparison were the 1, 10, and 100-year, 24-hour duration, SCS Type II events. The rainfall amounts for these storms are 2.15, 3.75, and 6.20 inches, respectively.

3.0 EXISTING CONDITIONS

The Project area existing condition for which this stormwater management plan is based, consists of an existing six (6) story building surrounded by paved parking lots and drives. Under the watershed's Existing Condition, the watershed is divided into five (5) subcatchments. The northern portion of the project area (Subcatchment E1) enters a closed drainage system along Union Avenue (Analysis Point 1). The central portion of the project area (Subcatchment-E2 & E3) drains to North Lane which flows west to the closed drainage system along Regent Street (Analysis Point 2). The southern portion of the site (Subcatchment-E4) flows to an existing dry well and during larger storm events overflows to the south to the municipal closed drainage system along White Street (Analysis Point 3) Subcatchment E5 flows to the municipal closed drainage system along White Street. The White Street closed drainage systems flows west towards Regent Street. These three Analysis Points will be utilized in comparing all pre- versus post-runoff conditions. Refer to drawing "W-1 Existing Conditions Watershed Map," located in Appendix B for more information.

Table 3-1 below provides a summary of the existing conditions peak discharge rates for the Project's watershed.

Table 3-1 Existing Conditions Peak Discharge Rates			
Analysis Point	AP-1	AP-2	AP-3
Design Storm	(cfs)	(cfs)	(cfs)
10-Year	2.06	1.32	1.01
100-Year	3.50	2.21	1.76

Refer to **Attachment B** for more information on the existing conditions watershed modeling.

4.0 PROPOSED CONDITIONS

Under the watershed's Proposed Condition, all stormwater from the Project will continue to discharge to the same points as in the Existing Condition (Analysis Points-1 through -3). The total watershed has remained unchanged, as is shown on the drawing "W-2 Proposed Conditions Watershed Map" contained in Appendix C. To meet NYSDEC requirements (see Section 5.0 NYSDEC Design Criteria of this report) underground infiltration chambers and porous pavement have been incorporated into the stormwater management design to mitigate the quality and quantity of stormwater runoff discharged from the Project Site.

Table 4-1 below provides a summary of the existing conditions versus proposed conditions peak discharge rates for the Project's watershed.

Table 4-1 Existing Conditions Versus Proposed Conditions Peak Discharge Rates						
Analysis Point	AP-1		AP-2		AP-3	
	Existing	Proposed	Existing	Proposed	Existing	Proposed
Design Storm	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
10-Year	2.06	1.79	1.32	0.12	1.01	0.37
100-Year	3.50	3.43	2.21	0.21	1.76	0.63

Refer to Attachment C for more information on the proposed conditions watershed modeling.

5.0 NYSDEC DESIGN CRITERIA

The New York State Stormwater Management Design Manual, dated January 2015 (The Manual) has been utilized to develop the stormwater management plan. The Manual includes a five-step process that involves site planning and stormwater management practice selection. The five steps include;

- Site planning to preserve natural features and reduce impervious cover,
- Calculation of the Water Quality Volume (WQv) for the Site,
- Incorporation of green infrastructure techniques and standard SMPs with Runoff Reduction Volume (RRv) capacity,
- Use of standard SMPs where applicable, to treat the portion of WQv not addressed by green infrastructure techniques and standard SMPs with RRv capacity, and
- Design of volume and peak rate control (where required)

The approach of the stormwater management plan was to address the stormwater requirements separately. The five steps were reduced to Site Planning to Preserve Natural Features, Water

Quality Volume, Runoff Reduction Volume, Channel Protection Volume, and Overbank Flood and Extreme Storm Attenuation, as discussed in the following sections.

Attachment D of this report contains detailed calculations for determining and summarizing the required and provided volumes for Water Quality and Runoff Reduction. In general, the required design criteria (WQv and RRv) were calculated for all areas where site disturbance or green infrastructure techniques are proposed.

5.1 Site Planning to Preserve Natural Features

Within Chapter 3 of The Manual, Table 3.1 Green Infrastructure Planning General Categories and Specific Practices includes a list of planning practices utilized in the planning and design of a project. There are two categories, Preservation of Natural Resources and Reduction of Imperious Cover.

Preservation of Natural Resources includes:

- Preservation of Undisturbed Areas
- Preservation of Buffers
- Reduction of Clearing and Grading
- Locating Development in Less Sensitive Areas
- Open Space Design
- Soil Restoration

Reduction of Impervious Cover includes:

- Roadway Reduction
- Sidewalk Reduction
- Driveway Reduction
- Cul-de-sac Reduction
- Building Footprint Reduction
- Parking Reduction

A Natural Resource Map for Green Infrastructure Planning has been developed which indicates natural resource areas and critical environmental areas to be protected (where feasible). As required in Section 3.6 of The Manual, the map includes (where applicable):

- Jurisdictional Wetlands
 - There are no wetlands located within the site.
- Waterways
 - No waterways are impacted by the Project.
- Wetland Adjacent Area
 - There are no adjacent wetlands to the project.

- Floodplains
 - The project is not within the flood plain.
- Forest, vegetative cover
 - There is no forest within the project site.
- Topography/Steep slopes
 - There are no steep slopes located in the project area.
- Existing soils, including hydrologic soil groups and soil erodibility
 - See Section 2.3 of this Report.
- Drainage Patterns
 - See Section 3.0 of this Report.
- Bedrock/Significant geological features
 - See Section 2.3 of this Report.

The Natural Resource Plan indicates the areas to be avoided and depicts the area most suitable for development.

5.2 Water Quality Volume (WQv)

The Water Quality Volume (WQv) requirement is designed to improve water quality sizing to capture and treat 90% of the average annual stormwater runoff volumes. The WQv is directly related to the amount of impervious cover created at a site. The following equation is used to determine the water quality storage volume.

$$WQv = \frac{(P)(Rv)(A)}{12}$$

Where:

- WQv = Water quality volume (acre/feet)
- P = 90% Rainfall Event (1.15” for Saratoga Springs)
- Rv = 0.05 + 0.009(I) where I is percent impervious cover
- A = Site area in acres

The required WQv will be provided by underground infiltration chambers and porous pavement designed in accordance with the SWMDM. Refer to Table 5-1 for a summary of the WQv provided by each practice. The total WQv volume has been calculated in accordance with Chapter 9 of the SWMDM for redevelopment projects. The total WQv required for the site is 0.022 ac-ft.

Table 5-1 Water Quality Volume (WQv) Summary			
SMP	Type	Required	Provided
		(ac-ft)	(ac-ft)

SMP1	Underground Infiltration Chambers	-	0.026
SMP2/3/4	Porous Pavement/Pavers	-	0.016
TOTAL		0.022	0.042

The total WQv provided by the proposed stormwater management practices is greater than the required. The WQv calculations can be found in Attachment D.

5.3 Runoff Reduction Volume (RRv)

Section 4.3 of the Manual states, “Runoff reduction shall be achieved by infiltration, groundwater recharge, reuse, recycle, evaporation/evapotranspiration of 100 percent of the post-development water quality volumes to replicate pre-development hydrology by maintaining pre-construction infiltration, peak runoff flow, discharge volume, as well as minimizing concentrated flow by using runoff control techniques to provide treatment in a distributed manner before runoff reaches the collection system.”

The Project achieves 100% runoff reduction of the on-site WQv by utilizing green infrastructure and infiltration practices. The total RRv provided is 0.033 acre-feet which is greater than the required RRv of 0.001 acre-feet. See Table 5-2 for a summary of the provided runoff reduction volumes for each green infrastructure practice.

SMP	Provided
	(unit)
5.3.1 Conservation of Natural Areas	-
5.3.2 Sheetflow to Riparian Buffers/Filter Strips	-
5.3.3 Vegetated Open Swales	-
5.3.4 Tree Planting/Tree Box	-
5.3.5 Disconnection of Rooftop Runoff	-
5.3.6 Stream Daylighting	-
5.3.7 Rain Garden	-
5.3.8 Green Roof	-
5.3.9 Stormwater Planters	-
5.3.10 Rain Tanks/Cisterns	-
5.3.11 Porous Pavement/Pavers	0.013
Underground Infiltration Chambers	0.020
TOTAL	0.033 (ac-ft)

Refer to Attachment D for detailed RRv calculations.

5.4 Channel Protection Volume (CPv)

Stream Channel Protection Volume (CPv) requirements are designed to protect stream channels from erosion. In New York State, this goal is accomplished by providing 24-hour extended detention of the one-year, 24-hour storm event. The required CPv is calculated utilizing TR-55 (or TR-20) and Appendix B of The Manual. The entire CPv is reduced through proposed green infrastructure and infiltration systems.

5.5 Overbank Flood (Qp) and Extreme Flood (Qf) Attenuation

The primary purpose of the Overbank Flood (Qp) control sizing criterion is to prevent an increase in the frequency and magnitude of out-of-bank flooding generated by urban development. It requires storage and attenuation of the 10-year, 24-hour storm to ensure post-development peak discharge rates do not exceed the pre-development condition.

The intent of the Extreme Flood (Qf) criteria is to (a) prevent the increased risk of flood damage from large storm events, (b) maintain the boundaries of the pre-development 100-year floodplain, and (c) protect the physical integrity of stormwater management practices. It requires storage and attenuation of the 100-year, 24-hour storm to ensure post-development peak discharge rates do not exceed the pre-development condition.

During the 10-year and 100-year 24-hour storm the post-development peak discharge rates do not exceed the pre-development rates. See Table 4-1 of this Report for detailed comparison of pre- and post-development peak rates.

6.0 PROPOSED STORMWATER FACILITIES

The Project is proposing installing underground infiltration chambers to address stormwater requirements for the project. The underground infiltration chambers have been indicated on the plans and HydroCAD reports as SMP-1. The Stormwater Facilities have been designed to provide the necessary pretreatment, treatment, and peak rate attenuation for stormwater runoff, for the project, as required by NYSDEC.

6.1 Pretreatment

Pretreatment for the Underground Infiltration Chambers (SMP-1) is provided by a hydrodynamic separator. The hydrodynamic separator has a treatment flow rate of 0.56 cfs which is greater than the total flow during the WQv storm event (0.40 cfs).

6.2 Treatment

Treatment at the underground infiltration chambers will be performed by capturing and treating the entire WQv through infiltration into the underlying soils. Treatment for the porous pavement is provided by capturing and treating the entire WQv through infiltration into the underlying soils.

7.0 POST-CONSTRUCTION MAINTENANCE REQUIREMENTS

46 Union Avenue will be responsible for the continuous upkeep and maintenance of all stormwater management facilities. Maintenance includes, but is not limited to, cleaning of sediment from drainage inlet sumps, removal of sediment from SMPs, cleaning conveyance piping and channels of obstructions, inspection and repair as required of any outlet control mechanisms, and repairing any other detriments in the design that is resulting in the facilities to not function as intended in the design.

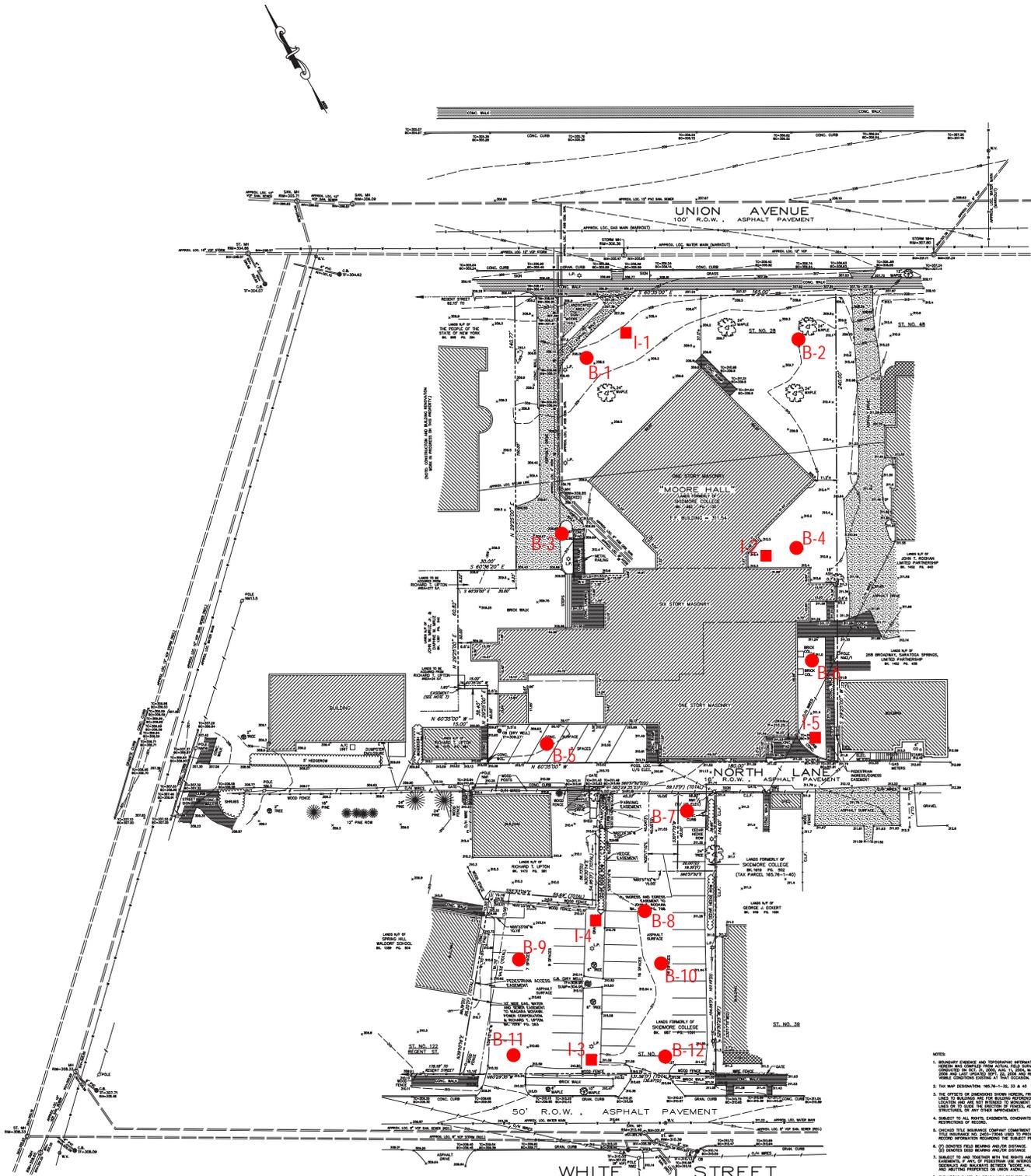
8.0 REFERENCES

1. Urban Hydrology for Small Watersheds. Published by the U.S. Soil Conservation Service, Washington, D.C., June 1986.
2. HydroCAD 10.00 Computer Program, by HydroCAD Software Solutions, LLC.
3. NYSDEC Stormwater Management Design Manual. Published by the New York State Department of Environmental Conservation, Updated January 2015.

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Attachment A

**Soil Investigations
Soil Survey
Natural Resource Map**



- Soil Boring Locations
- Infiltration Test Locations

BEARING BASE NOTE:

THE BEARING BASE FOR NO. 28 UNION AVENUE AND NO. 25 WHITE STREET SHOWN HEREON ARE REFERENCED TO THE DEED BEARING SYSTEM OF EACH RESPECTIVE PROPERTY WHICH HAVE DIFFERENT NORTH REFERENCES.

UNAUTHORIZED ALTERATION OR ADDITION TO A SURVEY MAP BEARING A LICENSED SURVEYOR'S SEAL IS A VIOLATION OF SECTION 240, SUBSECTION A OF THE SURVEYING AND MAPPING LAW OF THE STATE OF NEW YORK.

ONLY COPIES FROM THE ORIGINAL OF THIS SURVEY BEARING AN ORIGINAL SURVEYOR'S SEAL SHALL BE CONSIDERED VALID FOR RECORD.

- NOTES:**
1. BOUNDARY SURVEYS AND TOPOGRAPHIC INFORMATION SHOWN HEREON ARE BASED ON THE STATE PLATTED SURVEY OF 1842 AND THE SURVEY OF 1852. THE SURVEY OF 1842 IS THE BASIS FOR THE DEED BEARING SYSTEM OF EACH RESPECTIVE PROPERTY WHICH HAVE DIFFERENT NORTH REFERENCES.
 2. TAX MAP DESIGNATION: 96.79-1-20, 22 & 40
 3. THE POSITION OF UNIMPROVED CORNER MARKERS FROM ADJACENT LOTS IS BELIEVED TO BE THE BEST AVAILABLE INFORMATION AND THE LOCATION OF ANY SUCH MARKERS IS NOT GUARANTEED BY ANY OTHER INSTRUMENT.
 4. OBJECTS OF ALL PUBLIC UTILITIES, CONDUITS AND RESTRICTIONS OF RECORD.
 5. THE POSITION OF UNIMPROVED CORNER MARKERS FROM ADJACENT LOTS IS BELIEVED TO BE THE BEST AVAILABLE INFORMATION AND THE LOCATION OF ANY SUCH MARKERS IS NOT GUARANTEED BY ANY OTHER INSTRUMENT.
 6. THE POSITION OF UNIMPROVED CORNER MARKERS FROM ADJACENT LOTS IS BELIEVED TO BE THE BEST AVAILABLE INFORMATION AND THE LOCATION OF ANY SUCH MARKERS IS NOT GUARANTEED BY ANY OTHER INSTRUMENT.
 7. THE POSITION OF UNIMPROVED CORNER MARKERS FROM ADJACENT LOTS IS BELIEVED TO BE THE BEST AVAILABLE INFORMATION AND THE LOCATION OF ANY SUCH MARKERS IS NOT GUARANTEED BY ANY OTHER INSTRUMENT.
 8. ELEVATION BASED ON MEASUREMENTS MADE BY CITY OF SARATOGA SURVEYOR AND BASED ON STATION 100.00 FEET AS MEASURED BY THE CITY OF SARATOGA SURVEYOR AND BASED ON STATION 100.00 FEET AS MEASURED BY THE CITY OF SARATOGA SURVEYOR.
 9. UNIMPROVED CORNER MARKERS FROM ADJACENT LOTS IS BELIEVED TO BE THE BEST AVAILABLE INFORMATION AND THE LOCATION OF ANY SUCH MARKERS IS NOT GUARANTEED BY ANY OTHER INSTRUMENT.

MAP REFERENCES:

1. "MAP OF CITY OF SARATOGA BY A. H. HARRIS, DATED 1842, AS AMENDED BY THE CITY OF SARATOGA SURVEYOR AND BASED ON STATION 100.00 FEET AS MEASURED BY THE CITY OF SARATOGA SURVEYOR."
2. "MAP OF CITY OF SARATOGA BY A. H. HARRIS, DATED 1842, AS AMENDED BY THE CITY OF SARATOGA SURVEYOR AND BASED ON STATION 100.00 FEET AS MEASURED BY THE CITY OF SARATOGA SURVEYOR."
3. "MAP OF CITY OF SARATOGA BY A. H. HARRIS, DATED 1842, AS AMENDED BY THE CITY OF SARATOGA SURVEYOR AND BASED ON STATION 100.00 FEET AS MEASURED BY THE CITY OF SARATOGA SURVEYOR."
4. "MAP OF CITY OF SARATOGA BY A. H. HARRIS, DATED 1842, AS AMENDED BY THE CITY OF SARATOGA SURVEYOR AND BASED ON STATION 100.00 FEET AS MEASURED BY THE CITY OF SARATOGA SURVEYOR."
5. "MAP OF CITY OF SARATOGA BY A. H. HARRIS, DATED 1842, AS AMENDED BY THE CITY OF SARATOGA SURVEYOR AND BASED ON STATION 100.00 FEET AS MEASURED BY THE CITY OF SARATOGA SURVEYOR."
6. "MAP OF CITY OF SARATOGA BY A. H. HARRIS, DATED 1842, AS AMENDED BY THE CITY OF SARATOGA SURVEYOR AND BASED ON STATION 100.00 FEET AS MEASURED BY THE CITY OF SARATOGA SURVEYOR."
7. "MAP OF CITY OF SARATOGA BY A. H. HARRIS, DATED 1842, AS AMENDED BY THE CITY OF SARATOGA SURVEYOR AND BASED ON STATION 100.00 FEET AS MEASURED BY THE CITY OF SARATOGA SURVEYOR."
8. "MAP OF CITY OF SARATOGA BY A. H. HARRIS, DATED 1842, AS AMENDED BY THE CITY OF SARATOGA SURVEYOR AND BASED ON STATION 100.00 FEET AS MEASURED BY THE CITY OF SARATOGA SURVEYOR."
9. "MAP OF CITY OF SARATOGA BY A. H. HARRIS, DATED 1842, AS AMENDED BY THE CITY OF SARATOGA SURVEYOR AND BASED ON STATION 100.00 FEET AS MEASURED BY THE CITY OF SARATOGA SURVEYOR."

PRELIMINARY

TOPOGRAPHIC SURVEY MAP OF LANDS KNOWN AS ST. NO. 28 UNION AVE. & ST. NO. 35 WHITE ST.

UNION AVENUE & WHITE STREET CITY OF SARATOGA SPRINGS COUNTY OF SARATOGA STATE OF NEW YORK

NO.	DATE	DESCRIPTION	BY
1	10/4/07	ADDITIONAL TOPOGRAPHY ON NORTH LANE ADDED	JLS
2	12/6/06	WHITE STREET DATUM REVISED	JLS
3			
4			
5			
6			
7			
8			
9			
10			

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 PHONE: (518) 782-1800 FAX: (518) 782-1252

DESIGNED BY:	JLS
DRAWN BY:	JLS
CHECKED BY:	JLS
APPROVED BY:	JLS
SCALE:	1" = 20'
DATE:	OCTOBER 4, 2007

DATE	10/4/07
BY	JLS
CHECKED BY	JLS
APPROVED BY	JLS
SCALE	1" = 20'
DATE	OCTOBER 4, 2007

INTERPRETATION OF SUBSURFACE LOGS

The Subsurface Logs present observations and the results of tests performed in the field by the Driller, Technicians, Geologists and Geotechnical Engineers as noted. Soil/Rock Classifications are made visually, unless otherwise noted, on a portion of the materials recovered through the sampling process and may not necessarily be representative of the materials between sampling intervals or locations.

The following defines some of the terms utilized in the preparation of the Subsurface Logs.

SOIL CLASSIFICATIONS

Soil Classifications are visual descriptions on the basis of the Unified Soil Classification ASTM D-2487 and USBR, 1973 with additional comments by weight of constituents by BUHRMASTER. The soil density or consistency is based on the penetration resistance determined by ASTM METHOD D1586. Soil Moisture of the recovered materials is described as DRY, MOIST, WET or SATURATED.

SIZE DESCRIPTION		RELATIVE DENSITY/CONSISTENCY (basis ASTM D1586)			
SOIL TYPE	PARTICLE SIZE	GRANULAR SOIL		COHESIVE SOIL	
BOULDER	> 12	DENSITY	BLOWS/FT.	CONSISTENCY	BLOWS/FT.
COBBLE	3" - 12"	LOOSE	< 10	VERY SOFT	< 3
GRAVEL-COARSE	3" - 3/4"	FIRM	11 - 30	SOFT	4 - 5
GRAVEL - FINE	3/4" - #4	COMPACT	31 - 50	MEDIUM	6 - 15
SAND - COARSE	#4 - #10	VERY COMPACT	50 +	STIFF	16 - 25
SAND - MEDIUM	#10 - #40			HARD	25 +
SAND - FINE	#40 - #200				
SILT/NONPLASTIC	< #200				
CLAY/PLASTIC	< #200				

SOIL STRUCTURE		RELATIVE PROPORTION OF SOIL TYPES	
STRUCTURE	DESCRIPTION	DESCRIPTION	% OF SAMPLE BY WEIGHT
LAYER	6" THICK OR GREATER	AND	35 - 50
SEAM	6" THICK OR LESS	SOME	20 - 35
PARTING	LESS THAN 1/4" THICK	LITTLE	10 - 20
VARVED	UNIFORM HORIZONTAL PARTINGS OR SEAMS	TRACE	LESS THAN 10

Note that the classification of soils or soil like materials is subject to the limitations imposed by the size of the sampler, the size of the sample and its degree of disturbance and moisture.

ROCK CLASSIFICATIONS

Rock Classifications are visual descriptions on the basis of the Driller's, Technician's, Geologist's or Geotechnical Engineer's observations of the coring activity and the recovered samples applying the following classifications.

CLASSIFICATION TERM	DESCRIPTION
VERY HARD	NOT SCRATCHED BY KNIFE
HARD	SCRATCHED WITH DIFFICULTY
MEDIUM HARD	SCRATCHED EASILY
SOFT	SCRATCHED WITH FINGERNAIL
VERY WEATHERED	DISINTEGRATED WITH NUMEROUS SOIL SEAM
WEATHERED	SLIGHT DISINTEGRATION, STAINING, NO SEAMS
SOUND	NO EVIDENCE OF ABOVE
MASSIVE	ROCK LAYER GREATER THAN 36" THICK
THICK BEDDED	ROCK LAYER 12" - 36"
BEDDED	ROCK LAYER 4" - 12"
THIN BEDDED	ROCK LAYER 1" - 4"
LAMINATED	ROCK LAYER LESS THAN 1"
FRACTURES	NATURAL BREAKS AT SOME ANGLE TO BEDS

Core sample recovery is expressed as percent recovered of total sampled. The ROCK QUALITY DESIGNATION (RQD) is the total length of core sample pieces exceeding 4" length divided by the total core sample length for N size cored.

GENERAL

- Soil and Rock classifications are made visually on samples recovered. The presence of Gravel, Cobbles and Boulders will influence sample recovery classification density/consistency determination.
- Groundwater, if encountered, was measured and its depth recorded at the time and under the conditions as noted.
- Topsoil or pavements, if present, were measured and recorded at the time and under the conditions as noted.
- Stratification Lines are approximate boundaries between soil types. These transitions may be gradual or distinct and are approximated.

DENTE ENGINEERING, P.C.

SUBSURFACE LOG B-1

PROJECT: Moore Hall

DATE

START: 4/20/16

FINISH: 4/20/16

LOCATION: Saratoga Springs, New York

METHODS: 3 1/4" Hollow Stem Augers, ASTM

CLIENT: Bonacio Construction

D1586 Drilling Methods with Auto Hammer

JOB NUMBER: FDE-16-70

SURFACE ELEVATION: +/- 308.0'

DRILL TYPE: CME 45C

CLASSIFICATION: O.Burns

SAMPLE		BLOWS ON SAMPLER					CLASSIFICATION / OBSERVATIONS
DEPTH	#	6"	12"	18"	24"	N	
							+/- 3" Topsoil
	1	1	2				FILL: Brown F-M SAND, trace silt and gravel, Grades rootlets noted (MOIST, LOOSE) ----- Brown Fine SAND, trace silt
				1	1	3	
	2	2	1				
				2	2	3	
5'	3	2	3				
				3	3	6	
10'							
	4	2	1				Grades Brown F-M SAND, trace coarse sand and fine gravel
				1	1	2	
15'							
	5	1/12	-				Grades Brown F-M SAND, trace silt (MOIST, LOOSE)
				1/12	-	1	
20'							End of boring 17.0' depth. Groundwater was not present within auger casings upon completion of borehole.
25'							
30'							

DENTE ENGINEERING, P.C.

SUBSURFACE LOG B-2

PROJECT: Moore Hall

DATE

START: 4/20/16

FINISH: 4/20/16

LOCATION: Saratoga Springs, New York

METHODS: 3 1/4" Hollow Stem Augers, ASTM

CLIENT: Bonacio Construction

D1586 Drilling Methods with Auto Hammer

JOB NUMBER: FDE-16-70

SURFACE ELEVATION: +/- 310.0'

DRILL TYPE: CME 45C

CLASSIFICATION: O.Burns

SAMPLE		BLOWS ON SAMPLER					CLASSIFICATION / OBSERVATIONS
DEPTH	#	6"	12"	18"	24"	N	
	1	2	2				+/- 3" Topsoil
				2	1	4	Dark Brown to Brown F-M SAND, trace silt and gravel (MOIST)
	2	1	1				
				2	2	3	Grades Brown F-M SAND, trace silt
5'	3	3	2				
				3	5	5	
							Grades Brown Fine SAND, trace silt
10'	4	3	4				
				3	3	7	
15'	5	4	4				(MOIST, LOOSE)
				3	3	7	
							End of boring 17.0' depth. Groundwater was not present within auger casings upon completion of borehole.
20'							
25'							
30'							

DENTE ENGINEERING, P.C.

SUBSURFACE LOG B-3

PROJECT: Moore Hall

DATE

START: 4/20/16

FINISH: 4/20/16

LOCATION: Saratoga Springs, New York

METHODS: 3 1/4" Hollow Stem Augers, ASTM

CLIENT: Bonacio Construction

D1586 Drilling Methods with Auto Hammer

JOB NUMBER: FDE-16-70

SURFACE ELEVATION: +/- 310.0'

DRILL TYPE: CME 45C

CLASSIFICATION: O.Burns

SAMPLE		BLOWS ON SAMPLER					CLASSIFICATION / OBSERVATIONS
DEPTH	#	6"	12"	18"	24"	N	
5'	1	1	3				FILL: Dark Brown F-C SAND and GRAVEL, trace silt, slate, and coal (MOIST, LOOSE) ----- Brown F-M SAND, trace silt Grades trace fine gravel
				3	3	6	
	2	2	2				
				1	1	3	
	3	2	1				
10'				1	2	2	Grades Brown Fine SAND, trace silt
	4	3	3				
				3	3	6	
15'	5	4	3				Grades Brown Fine SAND, Little Silt to Brown F-C SAND, Little Silt (MOIST, LOOSE)
				3	4	6	
20'							End of boring 17.0' depth. Groundwater was not present within auger casings upon completion of borehole.
25'							
30'							

DENTE ENGINEERING, P.C.

SUBSURFACE LOG B-4

PROJECT: Moore Hall

DATE

START: 4/20/16

FINISH: 4/20/16

LOCATION: Saratoga Springs, New York

METHODS: 3 1/4" Hollow Stem Augers, ASTM

CLIENT: Bonacio Construction

D1586 Drilling Methods with Auto Hammer

JOB NUMBER: FDE-16-70

SURFACE ELEVATION: +/- 310.0'

DRILL TYPE: CME 45C

CLASSIFICATION: O.Burns

SAMPLE		BLOWS ON SAMPLER					CLASSIFICATION / OBSERVATIONS
DEPTH	#	6"	12"	18"	24"	N	
	1	1	3				+/- 1" Topsoil
				2	2	5	FILL: Dark Brown F-M SAND, Little Gravel and Silt, trace mortar (MOIST, LOOSE)
	2	2	2				----- Brown F-M SAND, trace to Little Silt
				1	1	3	
5'	3	2	2				Grades Brown F-M SAND, trace silt
				1	1	3	
10'	4	3	2				Grades Brown Fine SAND, trace silt
				3	2	5	
15'	5	3	3				
				2	2	5	(MOIST, LOOSE)
20'							End of boring 17.0' depth. Groundwater was not present within auger casings upon completion of borehole.
25'							
30'							

DENTE ENGINEERING, P.C.

SUBSURFACE LOG B-5

PROJECT: Moore Hall

DATE

START: 4/20/16

FINISH: 4/20/16

LOCATION: Saratoga Springs, New York

METHODS: 3 1/4" Hollow Stem Augers, ASTM

CLIENT: Bonacio Construction

D1586 Drilling Methods with Auto Hammer

JOB NUMBER: FDE-16-70

SURFACE ELEVATION: +/- 310.0'

DRILL TYPE: CME 45C

CLASSIFICATION: O.Burns

SAMPLE		BLOWS ON SAMPLER					CLASSIFICATION / OBSERVATIONS
DEPTH	#	6"	12"	18"	24"	N	
							+/- 2" Concrete Slab, +/- 5" Base
	1	2	4				FILL: Brown/Dark Brown Mottled F-M SAND Little Silt, trace brick and gravel ----- (MOIST, LOOSE) ----- Brown Fine SAND, trace medium to coarse sand and silt Grades Brown F-M SAND, trace silt
	2	3	3	5	4	9	
5'	3	2	3	2	2	5	
				2	3	5	
10'	4	3	2				Grades Brown Fine SAND, trace silt
				2	2	4	
15'	5	2	2				Grades Little Silt (MOIST, LOOSE)
				3	4	5	
20'							End of boring 17.0' depth. Groundwater was not present within auger casings upon completion of borehole.
25'							
30'							

DENTE ENGINEERING, P.C.

SUBSURFACE LOG B-6

PROJECT: Moore Hall

DATE

START: 4/19/16

FINISH: 4/19/16

LOCATION: Saratoga Springs, New York

METHODS: 3 1/4" Hollow Stem Augers, ASTM

CLIENT: Bonacio Construction

D1586 Drilling Methods with Auto Hammer

JOB NUMBER: FDE-16-70

SURFACE ELEVATION: +/- 311.0'

DRILL TYPE: CME 45C

CLASSIFICATION: O.Burns

SAMPLE		BLOWS ON SAMPLER					CLASSIFICATION / OBSERVATIONS
DEPTH	#	6"	12"	18"	24"	N	
	1	2	2				+/- 3" Topsoil
				2	2	4	FILL: Brown F-M SAND, Little Silt and Gravel (MOIST)
	2	3	6				Grades trace coal
				12	12	18	(MOIST, LOOSE TO FIRM)
5'	3	3	2				Brown Fine SAND, trace silt
				1	2	3	
10'	4	2	3				
				2	2	5	
15'	5	3	3				Grades Little Silt
				3	2	6	(MOIST, LOOSE)
20'							End of boring 17.0' depth.
							Groundwater was not present within auger casings upon completion of borehole.
25'							
30'							

DENTE ENGINEERING, P.C.

SUBSURFACE LOG B-7

PROJECT: Moore Hall

DATE

START: 4/19/16

FINISH: 4/19/16

LOCATION: Saratoga Springs, New York

METHODS: 3 1/4" Hollow Stem Augers, ASTM

CLIENT: Bonacio Construction

D1586 Drilling Methods with Auto Hammer

JOB NUMBER: FDE-16-70

SURFACE ELEVATION: +/- 311.0'

DRILL TYPE: CME 45C

CLASSIFICATION: O.Burns

SAMPLE		BLOWS ON SAMPLER					CLASSIFICATION / OBSERVATIONS
DEPTH	#	6"	12"	18"	24"	N	
							+/- 2" Asphalt, +/- 5" Base
	1	5	1				FILL: Dark Brown F-M SAND, Little Gravel, trace brick, cinders, ash, and silt ----- (MOIST, LOOSE) ----- Brown Fine SAND, trace silt
	2	2	2	1	2	2	
5'	3	3	2	2	2	4	
				3	3	5	
10'	4	3	3				Grades Little Silt
				2	2	5	
15'	5	4	3				Grades to Brown F-C SAND, trace silt
				2	3	5	
20'	6	2	1/12				Grades Brown Fine SAND, trace silt
				-	1	1	(SATURATED)
25'	7	1	2				
				2	3	4	
30'							

DENTE ENGINEERING, P.C.

SUBSURFACE LOG B-7 contin.

PROJECT: Moore Hall

DATE

START: 4/19/16

FINISH: 4/19/16

LOCATION: Saratoga Springs, New York

METHODS: 3 1/4" Hollow Stem Augers, ASTM

CLIENT: Bonacio Construction

D1586 Drilling Methods with Auto Hammer

JOB NUMBER: FDE-16-70

SURFACE ELEVATION: +/- 311.0'

DRILL TYPE: CME 45C

CLASSIFICATION: O.Burns

SAMPLE		BLOWS ON SAMPLER					CLASSIFICATION / OBSERVATIONS
DEPTH	#	6"	12"	18"	24"	N	
	8	7	8				Brown Fine SAND, trace silt
				9	9	17	
35'	9	5	6				
				7	7	13	
40'	10	11	5				
				6	6	11	
45'	11	10	6				(MOIST TO SATURATED, LOOSE TO FIRM) Gray SILT, Little Fine Sand
				7	6	13	
50'	12	5	7				(SATURATED, FIRM) Gray Fine SAND and SILT (SATURATED, FIRM)
				7	9	14	
55'							End of boring 52.0' depth. Groundwater measured at 20.0' depth within auger casings after Sample #5. Introduced drilling mud to borehole at 20.0' depth.
60'							

DENTE ENGINEERING, P.C.

SUBSURFACE LOG B-8

PROJECT: Moore Hall

DATE

START: 4/19/16

FINISH: 4/19/16

LOCATION: Saratoga Springs, New York

METHODS: 3 1/4" Hollow Stem Augers, ASTM

CLIENT: Bonacio Construction

D1586 Drilling Methods with Auto Hammer

JOB NUMBER: FDE-16-70

SURFACE ELEVATION: +/- 311.0'

DRILL TYPE: CME 45C

CLASSIFICATION: O.Burns

SAMPLE		BLOWS ON SAMPLER					CLASSIFICATION / OBSERVATIONS
DEPTH	#	6"	12"	18"	24"	N	
							+/- 1" Asphalt, +/- 7" Base
	1	5	3				FILL: Dark Brown to Brown F-M SAND, Little to trace silt, Little Gravel, trace brick, glass, and coal (MOIST, LOOSE)
	2	2	2	3	2	6	
5'	3	2	3	1	2	3	Brown F-M SAND, trace silt Grades Brown Fine SAND, Little Silt
				3	4	6	
10'	4	3	2				Grades trace silt
				2	3	4	
15'	5	2	1				Grades Brown F-M SAND, Little Coarse Sand, trace silt (MOIST, LOOSE)
				1	2	2	
20'							End of boring 17.0' depth. Groundwater was not present within auger casings upon completion of borehole.
25'							
30'							

DENTE ENGINEERING, P.C.

SUBSURFACE LOG B-9

PROJECT: Moore Hall

DATE

START: 4/19/16

FINISH: 4/19/16

LOCATION: Saratoga Springs, New York

METHODS: 3 1/4" Hollow Stem Augers, ASTM

CLIENT: Bonacio Construction

D1586 Drilling Methods with Auto Hammer

JOB NUMBER: FDE-16-70

SURFACE ELEVATION: +/- 310.5'

DRILL TYPE: CME 45C

CLASSIFICATION: O.Burns

SAMPLE		BLOWS ON SAMPLER					CLASSIFICATION / OBSERVATIONS
DEPTH	#	6"	12"	18"	24"	N	
							+/- 2" Asphalt, +/- 6" Base
	1	4	3				FILL: Brown/Dark Brown Mottled F-M SAND, trace silt and gravel (MOIST, LOOSE) Brown Fine SAND, trace silt Grades Brown F-M SAND, trace silt
	2	1	2				
5'	3	2	2				
				2	1	4	
				2	4	4	
10'	4	2	3				Grades Little Silt
				3	2	6	
15'	5	3	3				Grades trace silt (MOIST, LOOSE)
				3	2	6	
20'							End of boring 17.0' depth. Groundwater was not present within auger casings upon completion of borehole.
25'							
30'							

DENTE ENGINEERING, P.C.

SUBSURFACE LOG B-10

PROJECT: Moore Hall

DATE

START: 4/19/16

FINISH: 4/19/16

LOCATION: Saratoga Springs, New York

METHODS: 3 1/4" Hollow Stem Augers, ASTM

CLIENT: Bonacio Construction

D1586 Drilling Methods with Auto Hammer

JOB NUMBER: FDE-16-70

SURFACE ELEVATION: +/- 311.0'

DRILL TYPE: CME 45C

CLASSIFICATION: O.Burns

SAMPLE		BLOWS ON SAMPLER					CLASSIFICATION / OBSERVATIONS
DEPTH	#	6"	12"	18"	24"	N	
							+/- 1" Asphalt, +/- 7" Base
	1	5	7				FILL: Dark Brown F-M SAND, Little Silt, trace cinders (MOIST) Grades Brown F-M SAND, Some Gravel, trace silt (MOIST, FIRM TO LOOSE) Brown Fine SAND, trace silt (WET)
	2	3	3	5	4	12	
5'				4	3	7	
	3	3	3				
				3	3	6	
10'							Grades (MOIST)
	4	3	2				
				3	5	5	
15'							(WET TO MOIST, LOOSE)
	5	3	3				
				4	7	7	
20'							End of boring 17.0' depth. Groundwater was not present within auger casings upon completion of borehole.
25'							
30'							

DENTE ENGINEERING, P.C.

SUBSURFACE LOG B-11

PROJECT: Moore Hall

DATE

START: 4/19/16

FINISH: 4/19/16

LOCATION: Saratoga Springs, New York

METHODS: 3 1/4" Hollow Stem Augers, ASTM

CLIENT: Bonacio Construction

D1586 Drilling Methods with Auto Hammer

JOB NUMBER: FDE-16-70

SURFACE ELEVATION: +/- 310.5'

DRILL TYPE: CME 45C

CLASSIFICATION: O.Burns

SAMPLE		BLOWS ON SAMPLER					CLASSIFICATION / OBSERVATIONS
DEPTH	#	6"	12"	18"	24"	N	
							+/- 2" Asphalt, +/- 6" Base
	1	1	2				FILL: Brown/Gray Mottled F-M SAND and SILT to Brown F-M SAND, trace silt Grades trace gravel and mortar Grades to Light Brown MORTAR (MOIST, LOOSE)
				1	1	3	
	2	2	3				
5'				4	4	7	
	3	2	2				
				1/12	-	3	
10'							Brown Fine SAND, trace silt
	4	2	3				
				3	2	6	
15'							(MOIST, LOOSE)
	5	3	2				
				3	2	5	
20'							End of boring 17.0' depth. Groundwater was not present within auger casings upon completion of borehole.
25'							
30'							

DENTE ENGINEERING, P.C.

SUBSURFACE LOG B-12

PROJECT: Moore Hall

DATE

START: 4/19/16

FINISH: 4/19/16

LOCATION: Saratoga Springs, New York

METHODS: 3 1/4" Hollow Stem Augers, ASTM

CLIENT: Bonacio Construction

D1586 Drilling Methods with Auto Hammer

JOB NUMBER: FDE-16-70

SURFACE ELEVATION: +/- 311.0'

DRILL TYPE: CME 45C

CLASSIFICATION: O.Burns

SAMPLE		BLOWS ON SAMPLER					CLASSIFICATION / OBSERVATIONS
DEPTH	#	6"	12"	18"	24"	N	
							+/- 1.5" Asphalt, +/- 7" Base
	1	7	9				FILL: Brown F-M SAND, Some Brick, Little Asphalt, trace silt (MOIST, FIRM) ----- Brown F-M SAND, trace coarse sand and silt Grades Brown F-M SAND, trace silt
	2	2	1				
5'				6	2	15	
	3	4	4				
				1	2	2	
				4	4	8	
10'							Grades Brown Fine SAND, Little Silt
	4	3	3				
				2	2	5	
15'							(MOIST, LOOSE)
	5	3	2				
				2	3	4	
20'							End of boring 17.0' depth. Groundwater was not present within auger casings upon completion of borehole.
25'							
30'							



ALBANY AREA
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 PO Box 482
 Orchard Park, NY 14127
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INFILTRATION TEST RESULTS					
PROJECT: Moore Hall			PROJECT NO.		
PROJECT LOCATION: Saratoga Springs, New York			TEST DATE: April 11, 2016		
WEATHER: Raining/overcast, 35 degrees			TESTER: ORB		
Test Location	Test Depth (feet)	Trial No.	Water Drop (inches)	Elapsed Time (hours)	Infiltration Rate (inches/hour)
I-1	5.9	1	27.6	0.58	47.6
		2	27.6	0.83	33.3
		3	27.6	0.80	34.5
		4	26.4	0.85	31.1
		Average infiltration rate for four trials was 36.6 inches per hour. Infiltration rate of final trial was 31.1 inches per hour.			
I-2	4.0	1	24.0	0.25	96.0
		2	24.0	0.38	63.2
		3	24.0	0.42	57.1
		4	24.0	0.47	51.1
		Average infiltration rate for four trials was 66.9 inches per hour. Infiltration rate of final trial was 51.1 inches per hour.			

Notes:

- (1) Testing was conducted in general accord with the "Infiltration Testing Requirements" contained in Appendix D of the New York State Management Design Manual.
- (2) Test pipes were installed within test excavations.

SOIL CLASSIFICATION AT TEST DEPTH

Test Location I-1: Brown F-M SAND, trace silt

Test Location I-2: Brown F-M SAND, Little Gravel, trace brick and glass



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INFILTRATION TEST RESULTS					
PROJECT: Moore Hall			PROJECT NO.		
PROJECT LOCATION: Saratoga Springs, New York			TEST DATE: April 11, 2016		
WEATHER: Raining/overcast, 35 degrees			TESTER: ORB		
Test Location	Test Depth (feet)	Trial No.	Water Drop (inches)	Elapsed Time (hours)	Infiltration Rate (inches/hour)
I-3	1.4	1	24.0	0.40	60.0
		2	24.0	0.75	32.0
		3	24.0	0.73	32.9
		4	24.0	0.65	36.9
		Average infiltration rate for four trials was 40.5 inches per hour. Infiltration rate of final trial was 36.9 inches per hour.			
I-4	1.4	1	13.2	1.00	13.2
		2	8.4	1.00	8.4
		3	8.4	1.00	8.4
		4	7.2	1.00	7.2
		Average infiltration rate for four trials was 9.3 inches per hour. Infiltration rate of final trial was 7.2 inches per hour.			

Notes:

- (1) Testing was conducted in general accord with the "Infiltration Testing Requirements" contained in Appendix D of the New York State Management Design Manual.
- (2) Test pipes were installed within test excavations.

SOIL CLASSIFICATION AT TEST DEPTH

Test Location I-3: Brown F-C SAND and GRAVEL, Little Plastic, trace silt

Test Location I-4: Brown Fine SAND, trace silt



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INFILTRATION TEST RESULTS					
PROJECT: Moore Hall			PROJECT NO.		
PROJECT LOCATION: Saratoga Springs, New York			TEST DATE: April 11, 2016		
WEATHER: Raining/overcast, 35 degrees			TESTER: ORB		
Test Location	Test Depth (feet)	Trial No.	Water Drop (inches)	Elapsed Time (hours)	Infiltration Rate (inches/hour)
I-5	1.3	1	19.2	1.00	19.2
		2	16.8	1.00	16.8
		3	15.6	1.00	15.6
		4	18.0	1.00	18.0
		Average infiltration rate for four trials was 17.4 inches per hour. Infiltration rate of final trial was 18.0 inches per hour.			

Notes:

- (1) Testing was conducted in general accord with the "Infiltration Testing Requirements" contained in Appendix D of the New York State Management Design Manual.
- (2) Test pipe was installed within a test excavation.

SOIL CLASSIFICATION AT TEST DEPTH

Test Location I-5: Brown F-C SAND, Some Gravel, Little Silt, trace glass

DENTE ENGINEERING

TEST PIT FIELD LOG

PROJECT: Moore Hall		NUMBER: I-1
LOCATION: Saratoga Springs, New York		FILE NO.
CONTRACTOR: Galusha & Sons Construction		DATE: April 11, 2016
MAKE: Komatsu	MODEL: PC 45 MR	ENGINEER: ORB
WEATHER: Rainy, 35 degrees	CAPACITY: 1/3 cubic yard	BOOM REACH: +/- 10'
GROUND LEVEL: +/- 308.0'	TIME START:	TIME STOP:

DEPTH	SOIL DESCRIPTION	EXCAVATION EFFORT	BOULDER COUNT
1' —	FILL: Dark Brown to Brown F-M SAND, trace silt and brick ----- Brown F-M SAND, trace silt	E	
2' —		E	
3' —		E	
4' —		E	
5' —		E	
6' —		E	
7' —	End of test pit 6.0' depth. Groundwater did not infiltrate the test pit upon its completion.		
8' —			
9' —			
10' —			
11' —			
12' —			
13' —			
14' —			
15' —			

Remarks:

BOULDER COUNT		ABBREVIATIONS	EXCAVATION EFFORT
SIZE RANGE CLASSIFICATION	LETTER DESIGNATION	F = FINE M = MEDIUM C = COARSE F-M = FINE TO MEDIUM F-C = FINE TO COARSE GR = GRAY BN = BROWN YEL = YELLOW	EASY.....E
6" - 18"	A		MODERATE.....M
18" - 36"	B		DIFFICULT.....D
36" & OVER	C		

DENTE ENGINEERING

TEST PIT FIELD LOG

PROJECT: Moore Hall		NUMBER: I-2
LOCATION: Saratoga Springs, New York		FILE NO.
CONTRACTOR: Galusha & Sons Construction		DATE: April 11, 2016
MAKE: Komatsu	MODEL: PC 45 MR	ENGINEER: ORB
WEATHER: Rainy, 35 degrees	CAPACITY: 1/3 cubic yard	BOOM REACH: +/- 10'
GROUND LEVEL: +/- 310.0'	TIME START:	TIME STOP:

DEPTH	SOIL DESCRIPTION	EXCAVATION EFFORT	BOULDER COUNT
1'	FILL: Brown F-M SAND, Little Gravel, trace brick and glass	E	
2'		E	
3'		E	
4'		E	
5'	End of test pit 4.0' depth. Groundwater did not infiltrate the test pit upon its completion.		
6'			
7'			
8'			
9'			
10'			
11'			
12'			
13'			
14'			
15'			

Remarks:

BOULDER COUNT		ABBREVIATIONS	EXCAVATION EFFORT
SIZE RANGE CLASSIFICATION 6" - 18" 18" - 36" 36" & OVER	LETTER DESIGNATION A B C	F = FINE M = MEDIUM C = COARSE F-M = FINE TO MEDIUM F-C = FINE TO COARSE GR = GRAY BN = BROWN YEL = YELLOW	EASY.....E MODERATE.....M DIFFICULT.....D

DENTE ENGINEERING

TEST PIT FIELD LOG

PROJECT: Moore Hall		NUMBER: I-3
LOCATION: Saratoga Springs, New York		FILE NO.
CONTRACTOR: N/A		DATE: April 11, 2016
MAKE: N/A	MODEL: N/A	ENGINEER: ORB
WEATHER: Rainy, 35 degrees	CAPACITY: N/A	BOOM REACH: N/A
GROUND LEVEL: +/- 311.0'	TIME START:	TIME STOP:

DEPTH	SOIL DESCRIPTION	EXCAVATION EFFORT	BOULDER COUNT
1'	FILL: Brown F-C SAND and GRAVEL, Little Plastic, trace silt <hr style="border: 0.5px solid black;"/> End of test pit 1.4' depth. Groundwater did not infiltrate the test pit upon its completion.	E	
2'		E	
3'			
4'			
5'			
6'			
7'			
8'			
9'			
10'			
11'			
12'			
13'			
14'			
15'			

Remarks: This test pit was hand dug.

BOULDER COUNT		ABBREVIATIONS	EXCAVATION EFFORT
SIZE RANGE CLASSIFICATION	LETTER DESIGNATION	F = FINE M = MEDIUM C = COARSE F-M = FINE TO MEDIUM F-C = FINE TO COARSE GR = GRAY BN = BROWN YEL = YELLOW	EASY.....E
6" - 18"	A		MODERATE.....M
18" - 36"	B		DIFFICULT.....D
36" & OVER	C		

DENTE ENGINEERING

TEST PIT FIELD LOG

PROJECT: Moore Hall		NUMBER: I-4
LOCATION: Saratoga Springs, New York		FILE NO.
CONTRACTOR: N/A		DATE: April 11, 2016
MAKE: N/A	MODEL: N/A	ENGINEER: ORB
WEATHER: Rainy, 35 degrees	CAPACITY: N/A	BOOM REACH: N/A
GROUND LEVEL: +/- 311.0'	TIME START:	TIME STOP:

DEPTH	SOIL DESCRIPTION	EXCAVATION EFFORT	BOULDER COUNT
1'	FILL: Dark Brown F-M SAND, Some Silt, trace plastic	E	
2'	Brown Fine SAND, trace silt	E	
3'	End of test pit 1.4' depth. Groundwater did not infiltrate the test pit upon its completion.		
4'			
5'			
6'			
7'			
8'			
9'			
10'			
11'			
12'			
13'			
14'			
15'			

Remarks: This test pit was hand dug.

BOULDER COUNT		ABBREVIATIONS	EXCAVATION EFFORT
SIZE RANGE CLASSIFICATION	LETTER DESIGNATION	F = FINE M = MEDIUM C = COARSE F-M = FINE TO MEDIUM F-C = FINE TO COARSE GR = GRAY BN = BROWN YEL = YELLOW	EASY.....E
6" - 18"	A		MODERATE.....M
18" - 36"	B		DIFFICULT.....D
36" & OVER	C		

DENTE ENGINEERING

TEST PIT FIELD LOG

PROJECT: Moore Hall		NUMBER: I-5
LOCATION: Saratoga Springs, New York		FILE NO.
CONTRACTOR: N/A		DATE: April 11, 2016
MAKE: N/A	MODEL: N/A	ENGINEER: ORB
WEATHER: Rainy, 35 degrees	CAPACITY: N/A	BOOM REACH: N/A
GROUND LEVEL: +/- 311.0'	TIME START:	TIME STOP:

DEPTH	SOIL DESCRIPTION	EXCAVATION EFFORT	BOULDER COUNT
1'	FILL: Brown F-C SAND, Some Gravel, Little Silt, trace glass <hr style="border: 0.5px solid black;"/> End of test pit 1.3' depth. Groundwater did not infiltrate the test pit upon its completion.	E	
2'		E	
3'			
4'			
5'			
6'			
7'			
8'			
9'			
10'			
11'			
12'			
13'			
14'			
15'			

Remarks: This test pit was hand dug.

BOULDER COUNT		ABBREVIATIONS	EXCAVATION EFFORT
SIZE RANGE CLASSIFICATION	LETTER DESIGNATION	F = FINE M = MEDIUM C = COARSE F-M = FINE TO MEDIUM F-C = FINE TO COARSE GR = GRAY BN = BROWN YEL = YELLOW	EASY.....E
6" - 18"	A		MODERATE.....M
18" - 36"	B		DIFFICULT.....D
36" & OVER	C		



United States
Department of
Agriculture

NRCS

Natural
Resources
Conservation
Service

A product of the National
Cooperative Soil Survey,
a joint effort of the United
States Department of
Agriculture and other
Federal agencies, State
agencies including the
Agricultural Experiment
Stations, and local
participants

Custom Soil Resource Report for **Saratoga County, New York**



Preface

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

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

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

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

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

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

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How Soil Surveys Are Made

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

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

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

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

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

Custom Soil Resource Report

individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

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

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

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

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

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

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

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

Custom Soil Resource Report Soil Map



Map Scale: 1:763 if printed on A portrait (8.5" x 11") sheet.



Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 18N WGS84

MAP LEGEND

Area of Interest (AOI)

 Area of Interest (AOI)

Soils

 Soil Map Unit Polygons

 Soil Map Unit Lines

 Soil Map Unit Points

Special Point Features

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

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

Water Features

 Streams and Canals

Transportation

-  Rails
-  Interstate Highways
-  US Routes
-  Major Roads
-  Local Roads

Background

 Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
 Web Soil Survey URL: <http://websoilsurvey.nrcs.usda.gov>
 Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Saratoga County, New York
 Survey Area Data: Version 15, Sep 24, 2015

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

Date(s) aerial images were photographed: Jun 19, 2010—Oct 11, 2010

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Saratoga County, New York (NY091)			
Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
WnA	Windsor loamy sand, 0 to 3 percent slopes	1.4	100.0%
Totals for Area of Interest		1.4	100.0%

Map Unit Descriptions

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

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

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

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

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

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

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

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

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

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

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

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

Saratoga County, New York

WnA—Windsor loamy sand, 0 to 3 percent slopes

Map Unit Setting

National map unit symbol: 2svkg

Elevation: 0 to 990 feet

Mean annual precipitation: 36 to 71 inches

Mean annual air temperature: 39 to 55 degrees F

Frost-free period: 140 to 240 days

Farmland classification: Farmland of statewide importance

Map Unit Composition

Windsor, loamy sand, and similar soils: 85 percent

Minor components: 15 percent

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

Description of Windsor, Loamy Sand

Setting

Landform: Deltas, dunes, outwash plains, outwash terraces

Landform position (three-dimensional): Riser, tread

Down-slope shape: Linear, convex

Across-slope shape: Linear, convex

Parent material: Loose sandy glaciofluvial deposits derived from granite and/or loose sandy glaciofluvial deposits derived from schist and/or loose sandy glaciofluvial deposits derived from gneiss

Typical profile

O - 0 to 1 inches: moderately decomposed plant material

A - 1 to 3 inches: loamy sand

Bw - 3 to 25 inches: loamy sand

C - 25 to 65 inches: sand

Properties and qualities

Slope: 0 to 3 percent

Depth to restrictive feature: More than 80 inches

Natural drainage class: Excessively drained

Runoff class: Low

Capacity of the most limiting layer to transmit water (Ksat): Moderately high to very high (1.42 to 99.90 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)

Available water storage in profile: Low (about 3.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 2s

Hydrologic Soil Group: A

Minor Components

Deerfield, loamy sand

Percent of map unit: 10 percent

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Landform: Deltas, outwash plains, terraces

Landform position (two-dimensional): Footslope

Landform position (three-dimensional): Tread, talf

Down-slope shape: Linear

Across-slope shape: Linear

Hinckley, loamy sand

Percent of map unit: 5 percent

Landform: Deltas, eskers, kames, outwash plains

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

Landform position (three-dimensional): Nose slope, side slope, crest, head slope,
rise

Down-slope shape: Convex

Across-slope shape: Convex, linear

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Attachment B

**Existing Conditions Watershed Map and
HydroCAD Calculations**

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Prepared for:
46 Union Ave, LLC
 18 Division Street, Suite 401
 Saratoga Springs, NY 12866

Project Title:
**Union Avenue
 Condos**
 46 Union Avenue
 Saratoga Springs, NY 12866

Project No.: 201496
 Design: BCS
 Drawn: BCS Ch'k'd: DBH
 Date: 05/26/16 Scale: 1"=20'

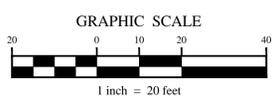
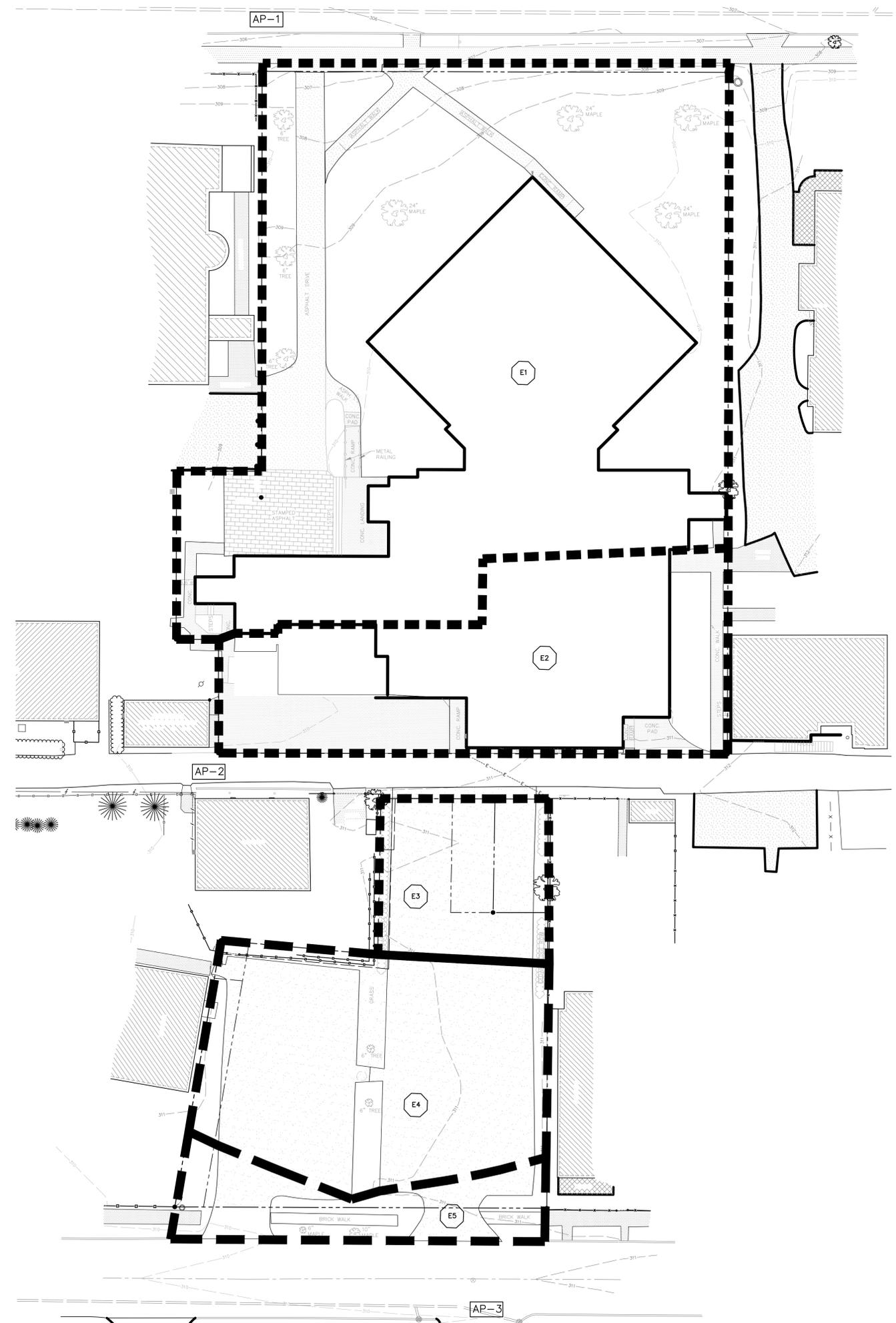
Rev.	Description:	Date:

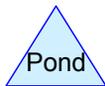
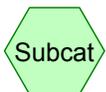
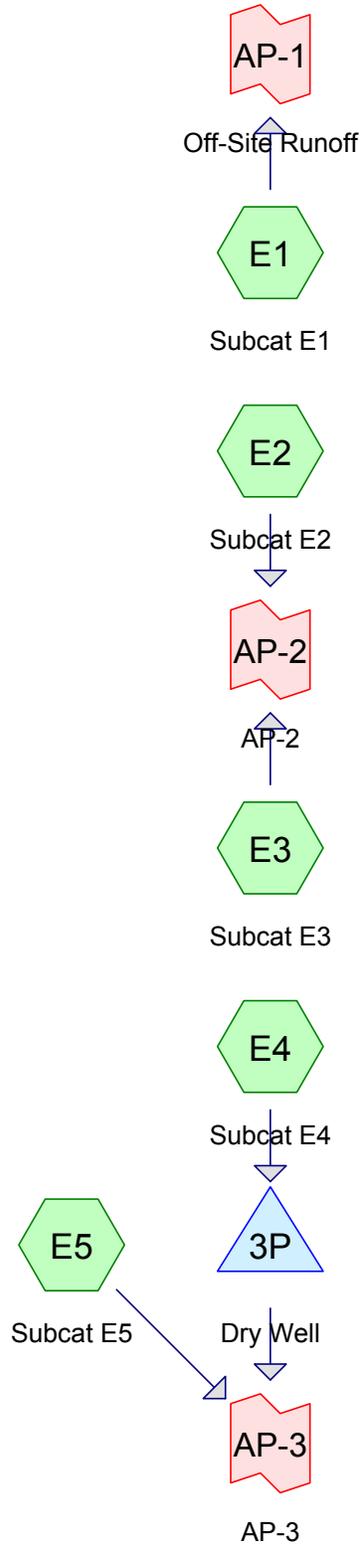
Drawing Title:
**Existing Conditions
 Watershed Map**

Drawing No.:
W-1

LEGEND

-  SUBCATCHMENT BOUNDARY
-  SUBCATCHMENT ID
-  ANALYSIS POINT





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Area Listing (all nodes)

Area (sq-ft)	CN	Description (subcatchment-numbers)
20,610	39	>75% Grass cover, Good, HSG A (E1, E2, E3, E4, E5)
37,836	98	Paved parking, HSG A (E1, E2, E3, E4, E5)
58,446	77	TOTAL AREA

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Soil Listing (all nodes)

Area (sq-ft)	Soil Group	Subcatchment Numbers
58,446	HSG A	E1, E2, E3, E4, E5
0	HSG B	
0	HSG C	
0	HSG D	
0	Other	
58,446		TOTAL AREA

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Ground Covers (all nodes)

HSG-A (sq-ft)	HSG-B (sq-ft)	HSG-C (sq-ft)	HSG-D (sq-ft)	Other (sq-ft)	Total (sq-ft)	Ground Cover	Sub Num
20,610	0	0	0	0	20,610	>75% Grass cover, Good	
37,836	0	0	0	0	37,836	Paved parking	
58,446	0	0	0	0	58,446	TOTAL AREA	

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Type II 24-hr 1-yr Rainfall=2.15"

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Time span=0.00-48.00 hrs, dt=0.05 hrs, 961 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment E1: Subcat E1	Runoff Area=32,205 sf 53.80% Impervious Runoff Depth=1.03" Tc=6.0 min CN=WQ Runoff=1.16 cfs 2,777 cf
Subcatchment E2: Subcat E2	Runoff Area=10,275 sf 80.54% Impervious Runoff Depth=1.55" Tc=6.0 min CN=WQ Runoff=0.55 cfs 1,326 cf
Subcatchment E3: Subcat E3	Runoff Area=3,390 sf 84.73% Impervious Runoff Depth=1.63" Tc=6.0 min CN=WQ Runoff=0.19 cfs 460 cf
Subcatchment E4: Subcat E4	Runoff Area=9,478 sf 80.58% Impervious Runoff Depth=1.55" Tc=6.0 min CN=WQ Runoff=0.51 cfs 1,224 cf
Subcatchment E5: Subcat E5	Runoff Area=3,098 sf 55.72% Impervious Runoff Depth=1.07" Tc=6.0 min CN=WQ Runoff=0.12 cfs 277 cf
Pond 3P: Dry Well	Peak Elev=310.01' Storage=208 cf Inflow=0.51 cfs 1,224 cf Discarded=0.07 cfs 881 cf Primary=0.43 cfs 343 cf Outflow=0.50 cfs 1,224 cf
Link AP-1: Off-Site Runoff	Inflow=1.16 cfs 2,777 cf Primary=1.16 cfs 2,777 cf
Link AP-2: AP-2	Inflow=0.75 cfs 1,786 cf Primary=0.75 cfs 1,786 cf
Link AP-3: AP-3	Inflow=0.55 cfs 620 cf Primary=0.55 cfs 620 cf

Total Runoff Area = 58,446 sf Runoff Volume = 6,063 cf Average Runoff Depth = 1.24"
35.26% Pervious = 20,610 sf 64.74% Impervious = 37,836 sf

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Type II 24-hr 10-yr Rainfall=3.75"

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Time span=0.00-48.00 hrs, dt=0.05 hrs, 961 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment E1: Subcat E1	Runoff Area=32,205 sf 53.80% Impervious Runoff Depth=1.90" Tc=6.0 min CN=WQ Runoff=2.06 cfs 5,106 cf
Subcatchment E2: Subcat E2	Runoff Area=10,275 sf 80.54% Impervious Runoff Depth=2.84" Tc=6.0 min CN=WQ Runoff=0.98 cfs 2,428 cf
Subcatchment E3: Subcat E3	Runoff Area=3,390 sf 84.73% Impervious Runoff Depth=2.98" Tc=6.0 min CN=WQ Runoff=0.34 cfs 842 cf
Subcatchment E4: Subcat E4	Runoff Area=9,478 sf 80.58% Impervious Runoff Depth=2.84" Tc=6.0 min CN=WQ Runoff=0.91 cfs 2,241 cf
Subcatchment E5: Subcat E5	Runoff Area=3,098 sf 55.72% Impervious Runoff Depth=1.97" Tc=6.0 min CN=WQ Runoff=0.20 cfs 508 cf
Pond 3P: Dry Well	Peak Elev=310.02' Storage=234 cf Inflow=0.91 cfs 2,241 cf Discarded=0.08 cfs 1,419 cf Primary=0.81 cfs 822 cf Outflow=0.89 cfs 2,241 cf
Link AP-1: Off-Site Runoff	Inflow=2.06 cfs 5,106 cf Primary=2.06 cfs 5,106 cf
Link AP-2: AP-2	Inflow=1.32 cfs 3,271 cf Primary=1.32 cfs 3,271 cf
Link AP-3: AP-3	Inflow=1.01 cfs 1,331 cf Primary=1.01 cfs 1,331 cf

Total Runoff Area = 58,446 sf Runoff Volume = 11,126 cf Average Runoff Depth = 2.28"
35.26% Pervious = 20,610 sf 64.74% Impervious = 37,836 sf

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Type II 24-hr 100-yr Rainfall=6.20"

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Page 1

Time span=0.00-48.00 hrs, dt=0.05 hrs, 961 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment E1: Subcat E1	Runoff Area=32,205 sf 53.80% Impervious Runoff Depth=3.44" Tc=6.0 min CN=WQ Runoff=3.50 cfs 9,233 cf
Subcatchment E2: Subcat E2	Runoff Area=10,275 sf 80.54% Impervious Runoff Depth=4.90" Tc=6.0 min CN=WQ Runoff=1.64 cfs 4,195 cf
Subcatchment E3: Subcat E3	Runoff Area=3,390 sf 84.73% Impervious Runoff Depth=5.13" Tc=6.0 min CN=WQ Runoff=0.57 cfs 1,449 cf
Subcatchment E4: Subcat E4	Runoff Area=9,478 sf 80.58% Impervious Runoff Depth=4.90" Tc=6.0 min CN=WQ Runoff=1.52 cfs 3,871 cf
Subcatchment E5: Subcat E5	Runoff Area=3,098 sf 55.72% Impervious Runoff Depth=3.54" Tc=6.0 min CN=WQ Runoff=0.35 cfs 915 cf
Pond 3P: Dry Well	Peak Elev=310.04' Storage=263 cf Inflow=1.52 cfs 3,871 cf Discarded=0.10 cfs 2,187 cf Primary=1.41 cfs 1,684 cf Outflow=1.51 cfs 3,871 cf
Link AP-1: Off-Site Runoff	Inflow=3.50 cfs 9,233 cf Primary=3.50 cfs 9,233 cf
Link AP-2: AP-2	Inflow=2.21 cfs 5,644 cf Primary=2.21 cfs 5,644 cf
Link AP-3: AP-3	Inflow=1.76 cfs 2,599 cf Primary=1.76 cfs 2,599 cf

Total Runoff Area = 58,446 sf Runoff Volume = 19,663 cf Average Runoff Depth = 4.04"
35.26% Pervious = 20,610 sf 64.74% Impervious = 37,836 sf

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Type II 24-hr 100-yr Rainfall=6.20"

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Summary for Subcatchment E1: Subcat E1

Runoff = 3.50 cfs @ 11.97 hrs, Volume= 9,233 cf, Depth= 3.44"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-yr Rainfall=6.20"

Area (sf)	CN	Description
14,880	39	>75% Grass cover, Good, HSG A
17,326	98	Paved parking, HSG A
32,205		Weighted Average
14,880		46.20% Pervious Area
17,326		53.80% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

Summary for Subcatchment E2: Subcat E2

Runoff = 1.64 cfs @ 11.96 hrs, Volume= 4,195 cf, Depth= 4.90"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-yr Rainfall=6.20"

Area (sf)	CN	Description
2,000	39	>75% Grass cover, Good, HSG A
8,275	98	Paved parking, HSG A
10,275		Weighted Average
2,000		19.46% Pervious Area
8,275		80.54% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

Summary for Subcatchment E3: Subcat E3

Runoff = 0.57 cfs @ 11.96 hrs, Volume= 1,449 cf, Depth= 5.13"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-yr Rainfall=6.20"

Area (sf)	CN	Description
518	39	>75% Grass cover, Good, HSG A
2,872	98	Paved parking, HSG A
3,390		Weighted Average
518		15.27% Pervious Area
2,872		84.73% Impervious Area

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Type II 24-hr 100-yr Rainfall=6.20"

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Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

Summary for Subcatchment E4: Subcat E4

Runoff = 1.52 cfs @ 11.96 hrs, Volume= 3,871 cf, Depth= 4.90"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-yr Rainfall=6.20"

Area (sf)	CN	Description
1,841	39	>75% Grass cover, Good, HSG A
7,637	98	Paved parking, HSG A
9,478		Weighted Average
1,841		19.42% Pervious Area
7,637		80.58% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

Summary for Subcatchment E5: Subcat E5

Runoff = 0.35 cfs @ 11.97 hrs, Volume= 915 cf, Depth= 3.54"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-yr Rainfall=6.20"

Area (sf)	CN	Description
1,372	39	>75% Grass cover, Good, HSG A
1,726	98	Paved parking, HSG A
3,098		Weighted Average
1,372		44.28% Pervious Area
1,726		55.72% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

Summary for Pond 3P: Dry Well

Inflow Area = 9,478 sf, 80.58% Impervious, Inflow Depth = 4.90" for 100-yr event
 Inflow = 1.52 cfs @ 11.96 hrs, Volume= 3,871 cf
 Outflow = 1.51 cfs @ 11.97 hrs, Volume= 3,871 cf, Atten= 0%, Lag= 0.6 min
 Discarded = 0.10 cfs @ 11.97 hrs, Volume= 2,187 cf
 Primary = 1.41 cfs @ 11.97 hrs, Volume= 1,684 cf

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs

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Type II 24-hr 100-yr Rainfall=6.20"

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Peak Elev= 310.04' @ 11.97 hrs Surf.Area= 572 sf Storage= 263 cf

Plug-Flow detention time= 41.1 min calculated for 3,867 cf (100% of inflow)

Center-of-Mass det. time= 41.6 min (786.4 - 744.8)

Volume	Invert	Avail.Storage	Storage Description
#1	304.95'	63 cf	4.00'D x 5.00'H Vertical Cone/Cylinder
#2	309.95'	2,401 cf	Custom Stage Data (Irregular) Listed below
		2,464 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
309.95	19	15.0	0	0	19
311.00	6,491	312.0	2,401	2,401	7,749

Device	Routing	Invert	Outlet Devices
#1	Primary	310.00'	55.5' long Sharp-Crested Rectangular Weir 2 End Contraction(s)
#2	Discarded	304.95'	7.200 in/hr Exfiltration over Surface area

Discarded OutFlow Max=0.09 cfs @ 11.97 hrs HW=310.04' (Free Discharge)

↳ **2=Exfiltration** (Exfiltration Controls 0.09 cfs)

Primary OutFlow Max=1.28 cfs @ 11.97 hrs HW=310.04' (Free Discharge)

↳ **1=Sharp-Crested Rectangular Weir** (Weir Controls 1.28 cfs @ 0.63 fps)

Summary for Link AP-1: Off-Site Runoff

Inflow Area = 32,205 sf, 53.80% Impervious, Inflow Depth = 3.44" for 100-yr event
Inflow = 3.50 cfs @ 11.97 hrs, Volume= 9,233 cf
Primary = 3.50 cfs @ 11.97 hrs, Volume= 9,233 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs

Summary for Link AP-2: AP-2

Inflow Area = 13,665 sf, 81.58% Impervious, Inflow Depth = 4.96" for 100-yr event
Inflow = 2.21 cfs @ 11.96 hrs, Volume= 5,644 cf
Primary = 2.21 cfs @ 11.96 hrs, Volume= 5,644 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs

Summary for Link AP-3: AP-3

Inflow Area = 12,576 sf, 74.45% Impervious, Inflow Depth = 2.48" for 100-yr event
Inflow = 1.76 cfs @ 11.97 hrs, Volume= 2,599 cf
Primary = 1.76 cfs @ 11.97 hrs, Volume= 2,599 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs

Attachment C

**Proposed Conditions Watershed Map and
HydroCAD Calculations**

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 Prepared for:
46 Union Ave, LLC
 18 Division Street, Suite 401
 Saratoga Springs, NY 12866

Project Title:
**Union Avenue
 Condos**
 46 Union Avenue
 Saratoga Springs, NY 12866

Project No.:	201496
Design:	BCS
Drawn:	BCS Ch'kd: DBH
Date:	05/26/2016 Scale: 1"=20'

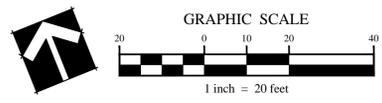
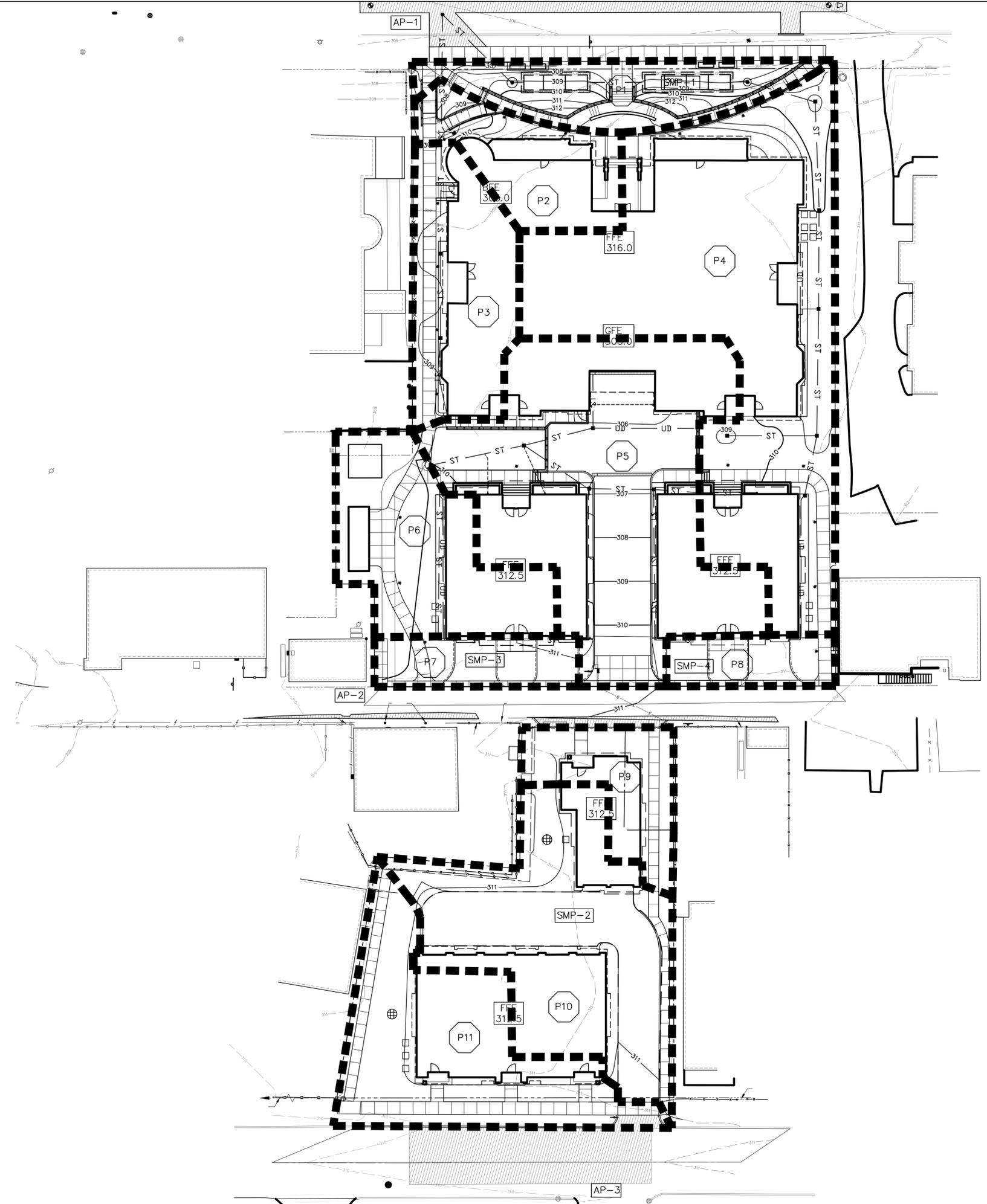
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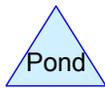
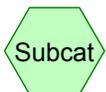
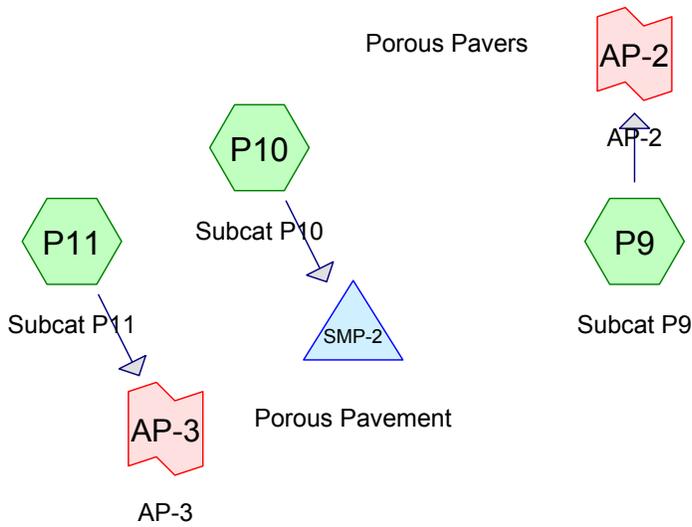
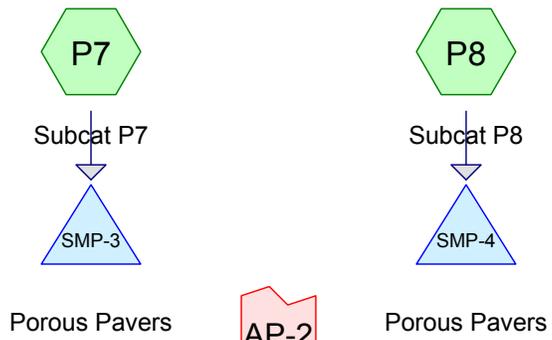
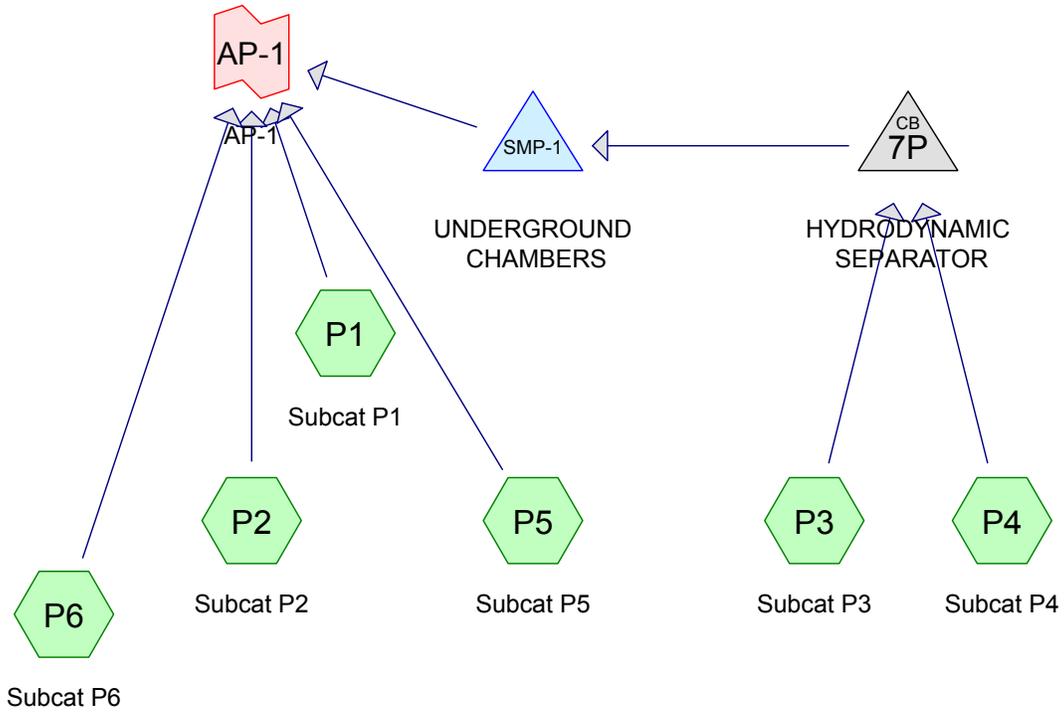
Drawing Title
**Proposed Conditions
 Watershed Map**

Drawing No.
W-2

LEGEND

-  SUBCATCHMENT BOUNDARY
-  SUBCATCHMENT ID
-  ANALYSIS POINT
-  STORMWATER MANAGEMENT PRACTICE





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Area Listing (all nodes)

Area (sq-ft)	CN	Description (subcatchment-numbers)
19,517	39	>75% Grass cover, Good, HSG A (P1, P10, P11, P2, P3, P4, P5, P6, P7, P8, P9)
38,719	98	Paved parking, HSG A (P1, P10, P11, P2, P3, P4, P5, P6, P7, P8, P9)
58,236	78	TOTAL AREA

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Soil Listing (all nodes)

Area (sq-ft)	Soil Group	Subcatchment Numbers
58,236	HSG A	P1, P10, P11, P2, P3, P4, P5, P6, P7, P8, P9
0	HSG B	
0	HSG C	
0	HSG D	
0	Other	
58,236		TOTAL AREA

Post-Development-dbh

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Ground Covers (all nodes)

HSG-A (sq-ft)	HSG-B (sq-ft)	HSG-C (sq-ft)	HSG-D (sq-ft)	Other (sq-ft)	Total (sq-ft)	Ground Cover
19,517	0	0	0	0	19,517	>75% Grass cover, Good
38,719	0	0	0	0	38,719	Paved parking
58,236	0	0	0	0	58,236	TOTAL AREA

Sub
Num

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Type II 24-hr 1-yr Rainfall=2.15"

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Time span=0.00-48.00 hrs, dt=0.05 hrs, 961 points
 Runoff by SCS TR-20 method, UH=SCS, Weighted-Q
 Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment P1: Subcat P1	Runoff Area=3,100 sf 36.18% Impervious Runoff Depth=0.70" Tc=6.0 min CN=WQ Runoff=0.08 cfs 180 cf
Subcatchment P10: Subcat P10	Runoff Area=7,769 sf 72.00% Impervious Runoff Depth=1.38" Tc=6.0 min CN=WQ Runoff=0.37 cfs 897 cf
Subcatchment P11: Subcat P11	Runoff Area=5,871 sf 53.01% Impervious Runoff Depth=1.02" Tc=6.0 min CN=WQ Runoff=0.21 cfs 499 cf
Subcatchment P2: Subcat P2	Runoff Area=2,757 sf 67.41% Impervious Runoff Depth=1.30" Tc=6.0 min CN=WQ Runoff=0.12 cfs 298 cf
Subcatchment P3: Subcat P3	Runoff Area=3,893 sf 74.57% Impervious Runoff Depth=1.43" Tc=6.0 min CN=WQ Runoff=0.19 cfs 465 cf
Subcatchment P4: Subcat P4	Runoff Area=14,037 sf 66.33% Impervious Runoff Depth=1.28" Tc=6.0 min CN=WQ Runoff=0.62 cfs 1,492 cf
Subcatchment P5: Subcat P5	Runoff Area=11,280 sf 87.43% Impervious Runoff Depth=1.68" Tc=6.0 min CN=WQ Runoff=0.66 cfs 1,580 cf
Subcatchment P6: Subcat P6	Runoff Area=4,457 sf 50.25% Impervious Runoff Depth=0.97" Tc=6.0 min CN=WQ Runoff=0.15 cfs 359 cf
Subcatchment P7: Subcat P7	Runoff Area=1,563 sf 54.96% Impervious Runoff Depth=1.06" Tc=6.0 min CN=WQ Runoff=0.06 cfs 138 cf
Subcatchment P8: Subcat P8	Runoff Area=1,294 sf 66.00% Impervious Runoff Depth=1.27" Tc=6.0 min CN=WQ Runoff=0.06 cfs 137 cf
Subcatchment P9: Subcat P9	Runoff Area=2,216 sf 45.40% Impervious Runoff Depth=0.87" Tc=6.0 min CN=WQ Runoff=0.07 cfs 161 cf
Pond 7P: HYDRODYNAMICSEPARATOR	Peak Elev=305.49' Inflow=0.82 cfs 1,957 cf 12.0" Round Culvert n=0.013 L=60.0' S=0.0083 '/' Outflow=0.82 cfs 1,957 cf
Pond SMP-1: UNDERGROUNDCHAMBERS	Peak Elev=301.97' Storage=242 cf Inflow=0.82 cfs 1,957 cf Discarded=0.37 cfs 1,973 cf Primary=0.00 cfs 0 cf Outflow=0.37 cfs 1,973 cf
Pond SMP-2: Porous Pavement	Peak Elev=309.86' Storage=6 cf Inflow=0.37 cfs 897 cf Outflow=0.37 cfs 897 cf
Pond SMP-3: Porous Pavers	Peak Elev=309.33' Storage=1 cf Inflow=0.06 cfs 138 cf Outflow=0.06 cfs 138 cf
Pond SMP-4: Porous Pavers	Peak Elev=310.08' Storage=1 cf Inflow=0.06 cfs 137 cf Outflow=0.06 cfs 137 cf

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Type II 24-hr 1-yr Rainfall=2.15"

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Link AP-1: AP-1

Inflow=1.01 cfs 2,417 cf
Primary=1.01 cfs 2,417 cf

Link AP-2: AP-2

Inflow=0.07 cfs 161 cf
Primary=0.07 cfs 161 cf

Link AP-3: AP-3

Inflow=0.21 cfs 499 cf
Primary=0.21 cfs 499 cf

Total Runoff Area = 58,236 sf Runoff Volume = 6,205 cf Average Runoff Depth = 1.28"
33.51% Pervious = 19,517 sf 66.49% Impervious = 38,719 sf

Post-Development-dbh

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Type II 24-hr 10-yr Rainfall=3.75"

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Time span=0.00-48.00 hrs, dt=0.05 hrs, 961 points
 Runoff by SCS TR-20 method, UH=SCS, Weighted-Q
 Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment P1: Subcat P1	Runoff Area=3,100 sf 36.18% Impervious Runoff Depth=1.29" Tc=6.0 min CN=WQ Runoff=0.13 cfs 333 cf
Subcatchment P10: Subcat P10	Runoff Area=7,769 sf 72.00% Impervious Runoff Depth=2.54" Tc=6.0 min CN=WQ Runoff=0.66 cfs 1,643 cf
Subcatchment P11: Subcat P11	Runoff Area=5,871 sf 53.01% Impervious Runoff Depth=1.87" Tc=6.0 min CN=WQ Runoff=0.37 cfs 917 cf
Subcatchment P2: Subcat P2	Runoff Area=2,757 sf 67.41% Impervious Runoff Depth=2.38" Tc=6.0 min CN=WQ Runoff=0.22 cfs 546 cf
Subcatchment P3: Subcat P3	Runoff Area=3,893 sf 74.57% Impervious Runoff Depth=2.63" Tc=6.0 min CN=WQ Runoff=0.34 cfs 852 cf
Subcatchment P4: Subcat P4	Runoff Area=14,037 sf 66.33% Impervious Runoff Depth=2.34" Tc=6.0 min CN=WQ Runoff=1.11 cfs 2,737 cf
Subcatchment P5: Subcat P5	Runoff Area=11,280 sf 87.43% Impervious Runoff Depth=3.08" Tc=6.0 min CN=WQ Runoff=1.17 cfs 2,892 cf
Subcatchment P6: Subcat P6	Runoff Area=4,457 sf 50.25% Impervious Runoff Depth=1.78" Tc=6.0 min CN=WQ Runoff=0.27 cfs 661 cf
Subcatchment P7: Subcat P7	Runoff Area=1,563 sf 54.96% Impervious Runoff Depth=1.94" Tc=6.0 min CN=WQ Runoff=0.10 cfs 253 cf
Subcatchment P8: Subcat P8	Runoff Area=1,294 sf 66.00% Impervious Runoff Depth=2.33" Tc=6.0 min CN=WQ Runoff=0.10 cfs 251 cf
Subcatchment P9: Subcat P9	Runoff Area=2,216 sf 45.40% Impervious Runoff Depth=1.61" Tc=6.0 min CN=WQ Runoff=0.12 cfs 297 cf
Pond 7P: HYDRODYNAMICSEPARATOR	Peak Elev=305.68' Inflow=1.45 cfs 3,589 cf 12.0" Round Culvert n=0.013 L=60.0' S=0.0083 '/' Outflow=1.45 cfs 3,589 cf
Pond SMP-1: UNDERGROUNDCHAMBERS	Peak Elev=303.35' Storage=773 cf Inflow=1.45 cfs 3,589 cf Discarded=0.37 cfs 3,572 cf Primary=0.00 cfs 0 cf Outflow=0.37 cfs 3,572 cf
Pond SMP-2: Porous Pavement	Peak Elev=309.91' Storage=69 cf Inflow=0.66 cfs 1,643 cf Outflow=0.47 cfs 1,611 cf
Pond SMP-3: Porous Pavers	Peak Elev=309.34' Storage=3 cf Inflow=0.10 cfs 253 cf Outflow=0.10 cfs 252 cf
Pond SMP-4: Porous Pavers	Peak Elev=310.09' Storage=3 cf Inflow=0.10 cfs 251 cf Outflow=0.10 cfs 249 cf

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Type II 24-hr 10-yr Rainfall=3.75"

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Link AP-1: AP-1

Inflow=1.79 cfs 4,431 cf
Primary=1.79 cfs 4,431 cf

Link AP-2: AP-2

Inflow=0.12 cfs 297 cf
Primary=0.12 cfs 297 cf

Link AP-3: AP-3

Inflow=0.37 cfs 917 cf
Primary=0.37 cfs 917 cf

Total Runoff Area = 58,236 sf Runoff Volume = 11,383 cf Average Runoff Depth = 2.35"
33.51% Pervious = 19,517 sf 66.49% Impervious = 38,719 sf

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Type II 24-hr 100-yr Rainfall=6.20"

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Time span=0.00-48.00 hrs, dt=0.05 hrs, 961 points
 Runoff by SCS TR-20 method, UH=SCS, Weighted-Q
 Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment P1: Subcat P1	Runoff Area=3,100 sf 36.18% Impervious Runoff Depth=2.48" Tc=6.0 min CN=WQ Runoff=0.23 cfs 640 cf
Subcatchment P10: Subcat P10	Runoff Area=7,769 sf 72.00% Impervious Runoff Depth=4.43" Tc=6.0 min CN=WQ Runoff=1.12 cfs 2,871 cf
Subcatchment P11: Subcat P11	Runoff Area=5,871 sf 53.01% Impervious Runoff Depth=3.40" Tc=6.0 min CN=WQ Runoff=0.63 cfs 1,662 cf
Subcatchment P2: Subcat P2	Runoff Area=2,757 sf 67.41% Impervious Runoff Depth=4.18" Tc=6.0 min CN=WQ Runoff=0.37 cfs 961 cf
Subcatchment P3: Subcat P3	Runoff Area=3,893 sf 74.57% Impervious Runoff Depth=4.57" Tc=6.0 min CN=WQ Runoff=0.58 cfs 1,484 cf
Subcatchment P4: Subcat P4	Runoff Area=14,037 sf 66.33% Impervious Runoff Depth=4.12" Tc=6.0 min CN=WQ Runoff=1.86 cfs 4,824 cf
Subcatchment P5: Subcat P5	Runoff Area=11,280 sf 87.43% Impervious Runoff Depth=5.28" Tc=6.0 min CN=WQ Runoff=1.95 cfs 4,959 cf
Subcatchment P6: Subcat P6	Runoff Area=4,457 sf 50.25% Impervious Runoff Depth=3.25" Tc=6.0 min CN=WQ Runoff=0.45 cfs 1,206 cf
Subcatchment P7: Subcat P7	Runoff Area=1,563 sf 54.96% Impervious Runoff Depth=3.50" Tc=6.0 min CN=WQ Runoff=0.17 cfs 456 cf
Subcatchment P8: Subcat P8	Runoff Area=1,294 sf 66.00% Impervious Runoff Depth=4.11" Tc=6.0 min CN=WQ Runoff=0.17 cfs 443 cf
Subcatchment P9: Subcat P9	Runoff Area=2,216 sf 45.40% Impervious Runoff Depth=2.98" Tc=6.0 min CN=WQ Runoff=0.21 cfs 551 cf
Pond 7P: HYDRODYNAMICSEPARATOR	Peak Elev=305.97' Inflow=2.44 cfs 6,308 cf 12.0" Round Culvert n=0.013 L=60.0' S=0.0083 '/' Outflow=2.44 cfs 6,308 cf
Pond SMP-1: UNDERGROUNDCHAMBERS	Peak Elev=305.12' Storage=1,345 cf Inflow=2.44 cfs 6,308 cf Discarded=0.37 cfs 5,621 cf Primary=1.28 cfs 691 cf Outflow=1.65 cfs 6,312 cf
Pond SMP-2: Porous Pavement	Peak Elev=310.16' Storage=355 cf Inflow=1.12 cfs 2,871 cf Outflow=0.47 cfs 2,892 cf
Pond SMP-3: Porous Pavers	Peak Elev=309.50' Storage=38 cf Inflow=0.17 cfs 456 cf Outflow=0.09 cfs 464 cf
Pond SMP-4: Porous Pavers	Peak Elev=310.24' Storage=36 cf Inflow=0.17 cfs 443 cf Outflow=0.09 cfs 445 cf

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Type II 24-hr 100-yr Rainfall=6.20"

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Link AP-1: AP-1

Inflow=3.43 cfs 8,457 cf
Primary=3.43 cfs 8,457 cf

Link AP-2: AP-2

Inflow=0.21 cfs 551 cf
Primary=0.21 cfs 551 cf

Link AP-3: AP-3

Inflow=0.63 cfs 1,662 cf
Primary=0.63 cfs 1,662 cf

Total Runoff Area = 58,236 sf Runoff Volume = 20,056 cf Average Runoff Depth = 4.13"
33.51% Pervious = 19,517 sf 66.49% Impervious = 38,719 sf

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Type II 24-hr 100-yr Rainfall=6.20"

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Summary for Subcatchment P1: Subcat P1

Runoff = 0.23 cfs @ 11.97 hrs, Volume= 640 cf, Depth= 2.48"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-yr Rainfall=6.20"

Area (sf)	CN	Description
1,978	39	>75% Grass cover, Good, HSG A
1,122	98	Paved parking, HSG A
3,100		Weighted Average
1,978		63.82% Pervious Area
1,122		36.18% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

Summary for Subcatchment P10: Subcat P10

Runoff = 1.12 cfs @ 11.96 hrs, Volume= 2,871 cf, Depth= 4.43"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-yr Rainfall=6.20"

Area (sf)	CN	Description
2,175	39	>75% Grass cover, Good, HSG A
5,594	98	Paved parking, HSG A
7,769		Weighted Average
2,175		28.00% Pervious Area
5,594		72.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

Summary for Subcatchment P11: Subcat P11

Runoff = 0.63 cfs @ 11.97 hrs, Volume= 1,662 cf, Depth= 3.40"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-yr Rainfall=6.20"

Area (sf)	CN	Description
2,759	39	>75% Grass cover, Good, HSG A
3,112	98	Paved parking, HSG A
5,871		Weighted Average
2,759		46.99% Pervious Area
3,112		53.01% Impervious Area

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Type II 24-hr 100-yr Rainfall=6.20"

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Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

Summary for Subcatchment P2: Subcat P2

Runoff = 0.37 cfs @ 11.96 hrs, Volume= 961 cf, Depth= 4.18"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-yr Rainfall=6.20"

Area (sf)	CN	Description
898	39	>75% Grass cover, Good, HSG A
1,858	98	Paved parking, HSG A
2,757		Weighted Average
898		32.59% Pervious Area
1,858		67.41% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

Summary for Subcatchment P3: Subcat P3

Runoff = 0.58 cfs @ 11.96 hrs, Volume= 1,484 cf, Depth= 4.57"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-yr Rainfall=6.20"

Area (sf)	CN	Description
990	39	>75% Grass cover, Good, HSG A
2,903	98	Paved parking, HSG A
3,893		Weighted Average
990		25.43% Pervious Area
2,903		74.57% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

Summary for Subcatchment P4: Subcat P4

Runoff = 1.86 cfs @ 11.96 hrs, Volume= 4,824 cf, Depth= 4.12"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-yr Rainfall=6.20"

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Type II 24-hr 100-yr Rainfall=6.20"

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Area (sf)	CN	Description
4,726	39	>75% Grass cover, Good, HSG A
9,310	98	Paved parking, HSG A
14,037		Weighted Average
4,726		33.67% Pervious Area
9,310		66.33% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

Summary for Subcatchment P5: Subcat P5

Runoff = 1.95 cfs @ 11.96 hrs, Volume= 4,959 cf, Depth= 5.28"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-yr Rainfall=6.20"

Area (sf)	CN	Description
1,418	39	>75% Grass cover, Good, HSG A
9,862	98	Paved parking, HSG A
11,280		Weighted Average
1,418		12.57% Pervious Area
9,862		87.43% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

Summary for Subcatchment P6: Subcat P6

Runoff = 0.45 cfs @ 11.97 hrs, Volume= 1,206 cf, Depth= 3.25"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-yr Rainfall=6.20"

Area (sf)	CN	Description
2,218	39	>75% Grass cover, Good, HSG A
2,240	98	Paved parking, HSG A
4,457		Weighted Average
2,218		49.75% Pervious Area
2,240		50.25% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

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Type II 24-hr 100-yr Rainfall=6.20"

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Summary for Subcatchment P7: Subcat P7

Runoff = 0.17 cfs @ 11.97 hrs, Volume= 456 cf, Depth= 3.50"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-yr Rainfall=6.20"

Area (sf)	CN	Description
704	39	>75% Grass cover, Good, HSG A
859	98	Paved parking, HSG A
1,563		Weighted Average
704		45.04% Pervious Area
859		54.96% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

Summary for Subcatchment P8: Subcat P8

Runoff = 0.17 cfs @ 11.96 hrs, Volume= 443 cf, Depth= 4.11"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-yr Rainfall=6.20"

Area (sf)	CN	Description
440	39	>75% Grass cover, Good, HSG A
854	98	Paved parking, HSG A
1,294		Weighted Average
440		34.00% Pervious Area
854		66.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

Summary for Subcatchment P9: Subcat P9

Runoff = 0.21 cfs @ 11.97 hrs, Volume= 551 cf, Depth= 2.98"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-yr Rainfall=6.20"

Area (sf)	CN	Description
1,210	39	>75% Grass cover, Good, HSG A
1,006	98	Paved parking, HSG A
2,216		Weighted Average
1,210		54.60% Pervious Area
1,006		45.40% Impervious Area

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Type II 24-hr 100-yr Rainfall=6.20"

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Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

Summary for Pond 7P: HYDRODYNAMIC SEPARATOR

Inflow Area = 17,929 sf, 68.12% Impervious, Inflow Depth = 4.22" for 100-yr event
 Inflow = 2.44 cfs @ 11.96 hrs, Volume= 6,308 cf
 Outflow = 2.44 cfs @ 11.96 hrs, Volume= 6,308 cf, Atten= 0%, Lag= 0.0 min
 Primary = 2.44 cfs @ 11.96 hrs, Volume= 6,308 cf

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs / 3
 Peak Elev= 305.97' @ 11.96 hrs

Device #	Routing	Invert	Outlet Devices
#1	Primary	305.00'	12.0" Round Culvert L= 60.0' Ke= 0.500 Inlet / Outlet Invert= 305.00' / 304.50' S= 0.0083 ' S= 0.0083 ' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=2.38 cfs @ 11.96 hrs HW=305.95' (Free Discharge)
 ↑1=Culvert (Barrel Controls 2.38 cfs @ 3.98 fps)

Summary for Pond SMP-1: UNDERGROUND CHAMBERS

Inflow Area = 17,929 sf, 68.12% Impervious, Inflow Depth = 4.22" for 100-yr event
 Inflow = 2.44 cfs @ 11.96 hrs, Volume= 6,308 cf
 Outflow = 1.65 cfs @ 12.05 hrs, Volume= 6,312 cf, Atten= 32%, Lag= 5.3 min
 Discarded = 0.37 cfs @ 11.65 hrs, Volume= 5,621 cf
 Primary = 1.28 cfs @ 12.05 hrs, Volume= 691 cf

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs / 2
 Peak Elev= 305.12' @ 12.06 hrs Surf.Area= 518 sf Storage= 1,345 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
 Center-of-Mass det. time= 12.1 min (760.7 - 748.6)

Volume	Invert	Avail.Storage	Storage Description
#1A	301.00'	449 cf	8.42'W x 34.38'L x 5.50'H Field A 1,592 cf Overall - 470 cf Embedded = 1,122 cf x 40.0% Voids
#2A	301.75'	470 cf	ADS StormTech MC-3500 d +Cap x 4 Inside #1 Effective Size= 70.4"W x 45.0"H => 15.33 sf x 7.17'L = 110.0 cf Overall Size= 77.0"W x 45.0"H x 7.50'L with 0.33' Overlap Cap Storage= +14.9 cf x 2 x 1 rows = 29.8 cf
#3B	301.00'	360 cf	8.42'W x 27.21'L x 5.50'H Field B 1,260 cf Overall - 360 cf Embedded = 900 cf x 40.0% Voids
#4B	301.75'	360 cf	ADS StormTech MC-3500 d +Cap x 3 Inside #3 Effective Size= 70.4"W x 45.0"H => 15.33 sf x 7.17'L = 110.0 cf Overall Size= 77.0"W x 45.0"H x 7.50'L with 0.33' Overlap Cap Storage= +14.9 cf x 2 x 1 rows = 29.8 cf
		1,638 cf	Total Available Storage

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Type II 24-hr 100-yr Rainfall=6.20"

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Storage Group A created with Chamber Wizard
Storage Group B created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Device 2	305.00'	4.0' long Sharp-Crested Rectangular Weir 2 End Contraction(s)
#2	Primary	303.00'	12.0" Round Culvert L= 37.0' Ke= 0.500 Inlet / Outlet Invert= 303.00' / 302.63' S= 0.0100 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#3	Discarded	301.00'	31.000 in/hr Exfiltration over Surface area
#4	Device 2	304.00'	5.0" W x 5.0" H Vert. Orifice/Grate C= 0.600

Discarded OutFlow Max=0.37 cfs @ 11.65 hrs HW=301.08' (Free Discharge)

↳ **3=Exfiltration** (Exfiltration Controls 0.37 cfs)

Primary OutFlow Max=1.23 cfs @ 12.05 hrs HW=305.10' (Free Discharge)

↳ **2=Culvert** (Passes 1.23 cfs of 4.69 cfs potential flow)

↳ **1=Sharp-Crested Rectangular Weir** (Weir Controls 0.44 cfs @ 1.06 fps)

↳ **4=Orifice/Grate** (Orifice Controls 0.79 cfs @ 4.55 fps)

Summary for Pond SMP-2: Porous Pavement

Inflow Area = 7,769 sf, 72.00% Impervious, Inflow Depth = 4.43" for 100-yr event
 Inflow = 1.12 cfs @ 11.96 hrs, Volume= 2,871 cf
 Outflow = 0.47 cfs @ 11.80 hrs, Volume= 2,892 cf, Atten= 58%, Lag= 0.0 min
 Discarded = 0.47 cfs @ 11.80 hrs, Volume= 2,892 cf

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs / 2
 Peak Elev= 310.16' @ 12.08 hrs Surf.Area= 2,840 sf Storage= 355 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
 Center-of-Mass det. time= 2.5 min (749.8 - 747.3)

Volume	Invert	Avail.Storage	Storage Description
#1	309.85'	761 cf	Custom Stage Data (Prismatic) Listed below (Recalc) 1,903 cf Overall x 40.0% Voids

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
309.85	2,840	0	0
310.52	2,840	1,903	1,903

Device	Routing	Invert	Outlet Devices
#1	Discarded	309.85'	7.200 in/hr Exfiltration over Surface area

Discarded OutFlow Max=0.47 cfs @ 11.80 hrs HW=309.86' (Free Discharge)

↳ **1=Exfiltration** (Exfiltration Controls 0.47 cfs)

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Type II 24-hr 100-yr Rainfall=6.20"

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Summary for Pond SMP-3: Porous Pavers

Inflow Area = 1,563 sf, 54.96% Impervious, Inflow Depth = 3.50" for 100-yr event
Inflow = 0.17 cfs @ 11.97 hrs, Volume= 456 cf
Outflow = 0.09 cfs @ 11.85 hrs, Volume= 464 cf, Atten= 46%, Lag= 0.0 min
Discarded = 0.09 cfs @ 11.85 hrs, Volume= 464 cf

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs / 2
Peak Elev= 309.50' @ 12.06 hrs Surf.Area= 560 sf Storage= 38 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 1.0 min (755.3 - 754.3)

Volume	Invert	Avail.Storage	Storage Description
#1	309.33'	150 cf	Custom Stage Data (Prismatic) Listed below (Recalc) 375 cf Overall x 40.0% Voids

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
309.33	560	0	0
310.00	560	375	375

Device	Routing	Invert	Outlet Devices
#1	Discarded	309.33'	7.200 in/hr Exfiltration over Surface area

Discarded OutFlow Max=0.09 cfs @ 11.85 hrs HW=309.34' (Free Discharge)
↑1=Exfiltration (Exfiltration Controls 0.09 cfs)

Summary for Pond SMP-4: Porous Pavers

Inflow Area = 1,294 sf, 66.00% Impervious, Inflow Depth = 4.11" for 100-yr event
Inflow = 0.17 cfs @ 11.96 hrs, Volume= 443 cf
Outflow = 0.09 cfs @ 11.85 hrs, Volume= 445 cf, Atten= 45%, Lag= 0.0 min
Discarded = 0.09 cfs @ 11.85 hrs, Volume= 445 cf

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs / 2
Peak Elev= 310.24' @ 12.06 hrs Surf.Area= 560 sf Storage= 36 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 1.2 min (750.6 - 749.4)

Volume	Invert	Avail.Storage	Storage Description
#1	310.08'	150 cf	Custom Stage Data (Prismatic) Listed below (Recalc) 375 cf Overall x 40.0% Voids

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
310.08	560	0	0
310.75	560	375	375

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Device	Routing	Invert	Outlet Devices
#1	Discarded	310.08'	7.200 in/hr Exfiltration over Surface area

Discarded OutFlow Max=0.09 cfs @ 11.85 hrs HW=310.09' (Free Discharge)
 ↳1=Exfiltration (Exfiltration Controls 0.09 cfs)

Summary for Link AP-1: AP-1

Inflow Area = 39,523 sf, 69.06% Impervious, Inflow Depth = 2.57" for 100-yr event
 Inflow = 3.43 cfs @ 12.00 hrs, Volume= 8,457 cf
 Primary = 3.43 cfs @ 12.00 hrs, Volume= 8,457 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs

Summary for Link AP-2: AP-2

Inflow Area = 2,216 sf, 45.40% Impervious, Inflow Depth = 2.98" for 100-yr event
 Inflow = 0.21 cfs @ 11.97 hrs, Volume= 551 cf
 Primary = 0.21 cfs @ 11.97 hrs, Volume= 551 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs

Summary for Link AP-3: AP-3

Inflow Area = 5,871 sf, 53.01% Impervious, Inflow Depth = 3.40" for 100-yr event
 Inflow = 0.63 cfs @ 11.97 hrs, Volume= 1,662 cf
 Primary = 0.63 cfs @ 11.97 hrs, Volume= 1,662 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs

Attachment D

Storm Data

Stormwater Practice Sizing

Job Name and #

Union Avenue Condominiums

Water Quality Volume Calculation

5/26/2016

$$WQv = [(P)(Rv)(A)]/12$$

Where:

$$Rv = 0.05 + 0.009(I)$$

I = impervious cover in percent

P = 90% rainfall (see Figure 4.1 in NYS Stormwater Management Design Manual)

A = Area in acres

Underground Chambers

% Impervious 68.12%

Rv 0.66

90% Rainfall 1.15

Area in Square Feet 17929

WQv Required = 1139 ft³ 0.026 ac-ft

Porous Pavers 1

% Impervious 54.96%

Rv 0.54

90% Rainfall 1.15

Area in Square Feet 1563

WQv Required = 82 ft³ 0.002 ac-ft

Porous Pavers 2

% Impervious 66.00%

Rv 0.64

90% Rainfall 1.15

Area in Square Feet 1294

WQv Required = 80 ft³ 0.002 ac-ft

Porous Asphalt

% Impervious 72.00%

Rv 0.70

90% Rainfall 1.15

Area in Square Feet 7769

WQv Required = 520 ft³ 0.012 ac-ft

Existing impervious (25% Treatment)

% Impervious	100.00%		
Rv	0.95		
90% Rainfall	1.15		
Area in Square Feet	37827		
WQv Calculated =	3444 ft ³	0.079 ac-ft	
WQv Required =	861 ft³	0.020 ac-ft	

New impervious

% Impervious	100.00%		
Rv	0.95		
90% Rainfall	1.15		
Area in Square Feet	880		
WQv Required =	80 ft³	0.002 ac-ft	

Job Name and # Union Avenue Condominuims

Minimum Runoff Reduction Volume

5/26/2016

$$RR_v = [(P)(R_v^*)(A_i)]/12$$

Where:

$$A_i = (S)(A_{ic})$$

$R_v = 0.05 + 0.009(I)$ where I is 100% impervious

A_i = impervious cover targeted for runoff reduction

A_{ic} = Total area of new impervious cover

P = 90% rainfall (see Figure 4.1 in NYS Stormwater Management Design Manual)

S = Hydrologic Soil Group (HSG) Specific Reduction Factor (S)

A=0.55, B=0.40, C=0.30, D=0.20

S (HSG A)	0.55
A_{ic}	0.02 acres
R_v (Minimum 0.2)	0.95
90% Rainfall	1.15
A_i	0.011

$$RR_v = \mathbf{0.001} \text{ acre feet} = 44 \text{ ft}^3$$



**Center for Environmental Systems
Stevens Institute of Technology
One Castle Point
Hoboken, NJ 07030-0000**

May 22, 2015

Titus Magnanao
NJDEP
Division of Water Quality
Bureau of Non-Point Pollution Control
401-02B
PO Box 420
Trenton, NJ 08625-0420

Dear Mr. Magnanao,

Based on my review, evaluation and assessment of the testing conducted on the Dual Vortex Separator (DVS) Stormwater Treatment Device (Oldcastle Stormwater Solutions) at the University of Minnesota St. Anthony Falls Laboratory (SAFL), the test protocol requirements contained in the “New Jersey Laboratory Testing Protocol to Assess Total Suspended Solids Removal by a Hydrodynamic Sedimentation Manufactured Treatment Device” (NJDEP HDS Protocol) were met or exceeded. Specifically:

Test Sediment Feed

The mean PSD of the SAFL sediment for removal efficiency testing complied with the PSD criteria established by the NJDEP HDS protocol. The SAFL removal efficiency test sediment PSD analysis was plotted against the NJDEP removal efficiency test PSD specification. The test sediment was shown to be significantly finer (d_{50} of 43 μm vs. 75 μm) than the sediment blend specified by the protocol. The SAFL scour test sediment PSD analysis was plotted against the NJDEP scour test sediment PSD specification and shown to be appreciably finer than specified by the protocol.

Removal Efficiency Testing

In accordance with the NJDEP HDS Protocol, removal efficiency testing was executed on a Model DVS-48 in order to establish the ability of the Dual Vortex Separator to remove the specified test sediment at 25%, 50%, 75%, 100% and 125% of the target MTFR. Prior to the start of testing Oldcastle Stormwater Solutions (Oldcastle Precast) reviewed existing data and decided to utilize a target MTFR of 1.00 cfs. This target was chosen based on the ultimate goal of demonstrating greater than 50% annualized weighted solids removal as defined in the NJDEP HDS Protocol. The flow rates, sediment feed rates and TSS influent concentrations all met the

NJDEP HDS test protocol's coefficient of variance requirements and the background concentration for all five test runs never exceeded 20 mg/L. Background TSS concentration averaged 3.48 mg/L over all samples and all test runs. The highest background TSS concentration was 5.87 mg/L. The maximum water temperature during the five removal efficiency tests ranged from 34 F to 37 F.

Scour Testing

In order to demonstrate the ability of the Dual Vortex Separator to be used as an online treatment device scour testing was conducted at 200% of the MTFR in accordance with the NJDEP HDS Protocol. The average flow rate during the online scour test was 1.993 cfs. Background concentrations ranged from 2.21 mg/L to 3.03 mg/L with a mean of 2.61 mg/L, which complies with the 20 mg/L maximum background concentration specified by the test protocol. Unadjusted effluent concentrations ranged from 0.86 mg/L to 2.96 mg/L with a mean of 1.99 mg/L. No attempt to adjust the effluent concentration for the background concentrations was made since it is clear that the effluent TSS concentration is well below 20 mg/L at the 200% MTFR. The mean temperature during the scour test was 35 F. These results confirm that the DVS-48 met the criteria for online use.

Maintenance Frequency

The predicted maintenance frequency for all models exceeds 5.5 years.

Sincerely,



Richard S. Magee, Sc.D., P.E., BCEE

Table A-1						
MTFRs and Required Sediment Removal Intervals for DVS Models						
DVS Model	Manhole Diameter (ft)	Maximum Treatment Flow Rate (cfs)	Effective Treatment Area (sf)	Hydraulic Loading Rate (gpm/sf)	50% Max. Sediment Volume (cf)	Sediment Removal Interval (months)
DVS-36	3	0.56	7.07	35.7	5.30	67
DVS-48	4	1.00	12.57	35.7	9.42	67
DVS-60	5	1.56	19.63	35.7	14.73	67
DVS-72	6	2.25	28.27	35.7	21.21	67
DVS-84	7	3.06	38.48	35.7	28.86	67
DVS-96	8	4.00	50.27	35.7	37.70	67
DVS-120	10	6.25	78.54	35.7	58.90	67
DVS-144	12	9.00	113.10	35.7	84.82	67

Notes:

- Sediment removal interval calculated using the “monthly” calculation in Section B, Appendix A of the NJDEP HDS protocol.
- In certain areas, DVS units are available in other diameters. Units not listed here are sized not to exceed a hydraulic loading rate of 35.7 gpm/sf and maintain an acceptable aspect ratio.
- 50% sediment storage volume is equal to the effective treatment area x 9” of sediment. The maximum sediment storage volume occurs at 18” of sediment depth.

Table A-2								
Dimensional Overview for DVS Models								
DVS Model	Manhole Diameter (ft)	Maximum Treatment Flow Rate (cfs)	Treatment Chamber Depth (ft)	Sediment Sump Depth (ft)	Total Depth Below Inverts (ft)	Aspect Ratio (Dia/Depth)	50% Max. Sediment Volume (cf)	Oil Storage Capacity (cf)
DVS-36	3	0.56	3.00	1.50	4.50	1.00	5.30	6.07
DVS-48	4	1.00	3.50	1.50	5.00	0.88	9.42	15.08
DVS-60	5	1.56	4.50	1.50	6.00	0.90	14.73	28.63
DVS-72	6	2.25	5.50	1.50	7.00	0.92	21.21	48.54
DVS-84	7	3.06	6.50	1.50	8.00	0.93	28.86	79.21
DVS-96	8	4.00	7.50	1.50	9.00	0.94	37.70	116.45
DVS-120	10	6.25	9.00	1.50	10.50	0.90	58.90	225.80
DVS-144	12	9.00	10.50	1.50	12.00	0.88	84.82	388.30

Notes:

- Treatment chamber depth is defined as the depth below the invert to the top of the sediment storage area (18” above the bottom of the unit).
- The aspect ratio is the unit’s diameter/treatment chamber depth. The aspect ratio for the tested unit is 0.88. An aspect ratio of 0.88 or greater indicates that the treatment depth of the unit is proportional to or deeper than required based on the diameter to depth relationship in the tested model. An aspect ratio less than 0.88 would indicate insufficient treatment chamber depth.
- The detention time is the treatment chamber wet volume/MTFR.
- The total wet volume includes the volume of the sediment sump.

Appendix C

Map Set

Appendix D

SWPPP Inspection Form

**Union Avenue Condominiums
WEEKLY SWPPP INSPECTION REPORT**

Inspector Name:	Date:
Signature (required):	Time:
Weather:	Inspection #:
Soil Conditions (dry, saturated, etc):	

Note: Digital photos, with date stamp required for all practices requiring corrective action, before and after, to be attached to the inspection report.

YES NO N/A					
1.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Routine Inspection.	Date of last inspection: _____
2.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Inspection following rain event.	Date/time of storm ending: _____
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		Rainfall amount: _____
					Recorded by: _____
3.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Is this a final site inspection?	
4.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Has site undergone final stabilization?	
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	If so, have all temporary erosion and sediment controls been removed?	

Site Disturbance (Indicate Locations on Plan)

YES NO N/A				
1.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Areas previously disturbed, but have not undergone active site work in the last 14 days?
2.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Areas disturbed within last 14 days?
3.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Areas expected to be disturbed in next 14 days?
4.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Do areas of steep slopes or complex stabilization issues exist? If "YES" explain:
5.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Are there currently more than 5 acres of disturbed soil at the site? If so make sure there is an approval letter from NYS DEC.

Additional Comments: _____

Inspection of Erosion and Sediment Control Devices

Type of Control Device	Accumulation (if any) in %	Repairs/Maintenance Needed
1.		
2.		
3.		
4.		
5.		
6.		

Stabilization/Runoff

YES NO N/A				
1.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Are all existing disturbed areas contained by control devices? Type of devices:
2.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Are there areas that require stabilization within the next 14 days? Specify Area:
3.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Have stabilization measures been initiated in inactive areas?
4.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Is there current snow cover or frozen ground conditions?
5.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Rills or gullies?
6.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Slumping/deposition?
7.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Loss of vegetation?
8.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Lack of germination?
9.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Loss of mulching?

Receiving Structures/Water Bodies (Indicate locations where runoff leaves the project site on the site plan)

YES NO N/A

1. Surface water swale or natural surface waterbody?

If natural waterbody:

Is waterbody located onsite, or adjacent to property boundary?

Description of condition: _____

2. Municipal or community system?

Inspect locations where runoff from project site enters the receiving waters and indicate if there is evidence of:

- a. Rills or gullies?
- b. Slumping/deposition?
- c. Loss of vegetation?
- d. Undermining of structures?
- e. Was there a discharge into the receiving water on the day of inspection?
- f. Is there evidence of turbidity, sedimentation, or oil in the receiving waters?

Additional Comments: _____

Inspection of Post-Construction Stormwater Management Control Devices

Type of Control Device	Phase of Construction	Repairs/Maintenance Needed
1.		
2.		
3.		
4.		

General Site Condition

YES NO N/A

- 1. Have action items from previous reports been addressed?
- 2. Does routine maintenance of protection components occur on a regular basis?
- 3. Does cleaning and/or sweeping affected roadways occur, at minimum, daily?
- 4. Is debris and litter removed on a monthly basis, or as necessary?
- 5. Is the site maintained in an orderly manner?

Describe the condition of all natural waterbodies within or adjacent to the Project that receive runoff from the site:

Contractors progress over last 7 days: _____

Anticipated work to be begun in the next 7 days: _____

Additional Comments: _____

Visual Observations

YES NO N/A

- 1. All erosion and sediment control measures have been installed/constructed?
- 2. All erosion and sediment control measures are being maintained properly?

SUMMARY OF ACTION ITEMS TO REPAIR/REPLACE/MAINTAIN/CORRECT DEFICIENCIES

Action Reported To (no signature required): _____

Company: _____

Appendix E

Other SWPPP Forms

Construction Sequence
SWPPP Plan Changes
Spill Response Form
Stormwater Management Practice Maintenance Log

The operator shall prepare a summary of construction status using the Construction Sequence Form below once every month. Significant deviations to the sequence and reasons for those deviations (i.e. weather, subcontractor availability, etc.), shall be noted by the contractor. The schedule shall be used to record the dates for initiation of construction, implementation of erosion control measures, stabilization, etc. A copy of this table will be maintained at the construction site and updated in addition to the individual Inspection Reports completed for each inspection.

Construction Sequence Form

Construction Activities (Identify name of planned practices)	Date Complete
1.	
2.	
3.	
4.	
5.	
6.	
7.	
8.	
9.	
10.	
11.	
12.	

**STORM WATER POLLUTION PREVENTION PLAN
PLAN CHANGES, AUTHORIZATION, AND CHANGE CERTIFICATION**

CHANGES REQUIRED TO THE POLLUTION PREVENTION PLAN:

REASONS FOR CHANGES:

REQUESTED BY: _____

DATE: _____

AUTHORIZED BY: _____

DATE: _____

CERTIFICATION OF CHANGES:

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

SIGNATURE: _____

DATE: _____

SPILL RESPONSE REPORT

Within 1 hour of a spill discovery less than 2 gallons in volume the following must be notified:

Tony Bonacio
(518) 584-9007

Within 1 hour of a spill discovery greater than 2 gallons the following must be notified:

Tony Bonacio
NYSDEC Spill Response Hotline 1-800-457-7362
Spill Response Contractor

Material Spilled: _____

Approximate Volume: _____

Location: _____

Distance to nearest down gradient drainage: _____

Distance to nearest down gradient open water: _____

Temporary control measures in place: _____

Appendix F

SPDES General Permit GP-0-15-002

NEW YORK STATE
 DEPARTMENT OF ENVIRONMENTAL CONSERVATION
 SPDES GENERAL PERMIT
 FOR STORMWATER DISCHARGES

From

CONSTRUCTION ACTIVITY

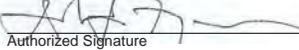
Permit No. GP-0-15-002

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

Effective Date: January 29, 2015

Expiration Date: January 28, 2020

John J. Ferguson
Chief Permit Administrator


Authorized Signature

1 / 12 / 15
Date

Address: NYS DEC
Division of Environmental Permits
625 Broadway, 4th Floor
Albany, N.Y. 12233-1750

PREFACE

Pursuant to Section 402 of the Clean Water Act ("CWA"), stormwater discharges from certain construction activities are unlawful unless they are authorized by a National Pollutant Discharge Elimination System ("NPDES") permit or by a state permit program. New York's State Pollutant Discharge Elimination System ("SPDES") is a NPDES-approved program with permits issued in accordance with the Environmental Conservation Law ("ECL").

This general permit ("permit") is issued pursuant to Article 17, Titles 7, 8 and Article 70 of the ECL. An owner or operator may obtain coverage under this permit by submitting a Notice of Intent ("NOI") to the Department. Copies of this permit and the NOI for New York are available by calling (518) 402-8109 or at any New York State Department of Environmental Conservation ("the Department") regional office (see Appendix G). They are also available on the Department's website at: <http://www.dec.ny.gov/>

An owner or operator of a construction activity that is eligible for coverage under this permit must obtain coverage prior to the commencement of construction activity. Activities that fit the definition of "construction activity", as defined under 40 CFR 122.26(b)(14)(x), (15)(i), and (15)(ii), constitute construction of a point source and therefore, pursuant to Article 17-0505 of the ECL, the owner or operator must have coverage under a SPDES permit prior to commencing construction activity. They cannot wait until there is an actual discharge from the construction site to obtain permit coverage.

***Note: The italicized words/phrases within this permit are defined in Appendix A.**

I

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
SPDES GENERAL PERMIT FOR STORMWATER DISCHARGES
FROM CONSTRUCTION ACTIVITIES

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(Part I)

Part I. PERMIT COVERAGE AND LIMITATIONS

A. Permit Application

This permit authorizes stormwater discharges to surface waters of the State from the following construction activities identified within 40 CFR Parts 122.26(b)(14)(x), 122.26(b)(15)(i) and 122.26(b)(15)(ii), provided all of the eligibility provisions of this permit are met:

1. Construction activities involving soil disturbances of one (1) or more acres; including disturbances of less than one acre that are part of a larger common plan of development or sale that will ultimately disturb one or more acres of land; excluding routine maintenance activity that is performed to maintain the original line and grade, hydraulic capacity or original purpose of a facility;
2. Construction activities involving soil disturbances of less than one (1) acre where the Department has determined that a SPDES permit is required for stormwater discharges based on the potential for contribution to a violation of a water quality standard or for significant contribution of pollutants to surface waters of the State.
3. Construction activities located in the watershed(s) identified in Appendix D that involve soil disturbances between five thousand (5,000) square feet and one (1) acre of land.

B. Effluent Limitations Applicable to Discharges from Construction Activities

Discharges authorized by this permit must achieve, at a minimum, the effluent limitations in Part I.B.1.(a) – (f) of this permit. These limitations represent the degree of effluent reduction attainable by the application of best practicable technology currently available.

1. Erosion and Sediment Control Requirements - The owner or operator must select, design, install, implement and maintain control measures to minimize the discharge of pollutants and prevent a violation of the water quality standards. The selection, design, installation, implementation, and maintenance of these control measures must meet the non-numeric effluent limitations in Part I.B.1.(a) – (f) of this permit and be in accordance with the New York State Standards and Specifications for Erosion and Sediment Control, dated August 2005, using sound engineering judgment. Where control measures are not designed in conformance with the design criteria included in the technical standard, the owner or operator must include in the Stormwater Pollution Prevention Plan ("SWPPP") the reason(s) for the deviation or alternative design and provide information

(Part I.B.1)

which demonstrates that the deviation or alternative design is equivalent to the technical standard.

a. **Erosion and Sediment Controls.** Design, install and maintain effective erosion and sediment controls to minimize the discharge of pollutants and prevent a violation of the water quality standards. At a minimum, such controls must be designed, installed and maintained to:

- (i) Minimize soil erosion through application of runoff control and soil stabilization control measure to minimize pollutant discharges;
- (ii) Control stormwater discharges to minimize channel and streambank erosion and scour in the immediate vicinity of the discharge points;
- (iii) Minimize the amount of soil exposed during construction activity;
- (iv) Minimize the disturbance of steep slopes;
- (v) Minimize sediment discharges from the site;
- (vi) Provide and maintain natural buffers around surface waters, direct stormwater to vegetated areas and maximize stormwater infiltration to reduce pollutant discharges, unless infeasible;
- (vii) Minimize soil compaction. Minimizing soil compaction is not required where the intended function of a specific area of the site dictates that it be compacted; and
- (viii) Unless infeasible, preserve a sufficient amount of topsoil to complete soil restoration and establish a uniform, dense vegetative cover.

b. **Soil Stabilization.** In areas where soil disturbance activity has temporarily or permanently ceased, the application of soil stabilization measures must be initiated by the end of the next business day and completed within fourteen (14) days from the date the current soil disturbance activity ceased. For construction sites that directly discharge to one of the 303(d) segments listed in Appendix E or is located in one of the watersheds listed in Appendix C, the application of soil stabilization measures must be initiated by the end of the next business day and completed within seven (7) days from the date the current soil disturbance activity ceased. See Appendix A for definition of Temporarily Ceased.

c. **Dewatering.** Discharges from dewatering activities, including discharges

(Part I.B.1.c)

from dewatering of trenches and excavations, must be managed by appropriate control measures.

d. **Pollution Prevention Measures.** Design, install, implement, and maintain effective pollution prevention measures to minimize the discharge of pollutants and prevent a violation of the water quality standards. At a minimum, such measures must be designed, installed, implemented and maintained to:

- (i) Minimize the discharge of pollutants from equipment and vehicle washing, wheel wash water, and other wash waters. This applies to washing operations that use clean water only. Soaps, detergents and solvents cannot be used;
- (ii) Minimize the exposure of building materials, building products, construction wastes, trash, landscape materials, fertilizers, pesticides, herbicides, detergents, sanitary waste and other materials present on the site to precipitation and to stormwater. Minimization of exposure is not required in cases where the exposure to precipitation and to stormwater will not result in a discharge of pollutants, or where exposure of a specific material or product poses little risk of stormwater contamination (such as final products and materials intended for outdoor use); and
- (iii) Prevent the discharge of pollutants from spills and leaks and implement chemical spill and leak prevention and response procedures.

e. **Prohibited Discharges.** The following discharges are prohibited:

- (i) Wastewater from washout of concrete;
- (ii) Wastewater from washout and cleanout of stucco, paint, form release oils, curing compounds and other construction materials;
- (iii) Fuels, oils, or other pollutants used in vehicle and equipment operation and maintenance;
- (iv) Soaps or solvents used in vehicle and equipment washing; and
- (v) Toxic or hazardous substances from a spill or other release.

f. **Surface Outlets.** When discharging from basins and impoundments, the outlets shall be designed, constructed and maintained in such a manner that sediment does not leave the basin or impoundment and that erosion

(Part I.B.1.f)

at or below the outlet does not occur.

C. Post-construction Stormwater Management Practice Requirements

1. The owner or operator of a construction activity that requires post-construction stormwater management practices pursuant to Part III.C. of this permit must select, design, install, and maintain the practices to meet the performance criteria in the New York State Stormwater Management Design Manual ("Design Manual"), dated January 2015, using sound engineering judgment. Where post-construction stormwater management practices ("SMPs") are not designed in conformance with the performance criteria in the Design Manual, the owner or operator must include in the SWPPP the reason(s) for the deviation or alternative design and provide information which demonstrates that the deviation or alternative design is equivalent to the technical standard.

2. The owner or operator of a construction activity that requires post-construction stormwater management practices pursuant to Part III.C. of this permit must design the practices to meet the applicable sizing criteria in Part I.C.2.a., b., c. or d. of this permit.

a. Sizing Criteria for New Development

- (i) Runoff Reduction Volume ("RRV"): Reduce the total Water Quality Volume ("WQv") by application of RR techniques and standard SMPs with RRV capacity. The total WQv shall be calculated in accordance with the criteria in Section 4.2 of the Design Manual.
- (ii) Minimum RRV and Treatment of Remaining Total WQv: Construction activities that cannot meet the criteria in Part I.C.2.a.(i) of this permit due to site limitations shall direct runoff from all newly constructed impervious areas to a RR technique or standard SMP with RRV capacity unless infeasible. The specific site limitations that prevent the reduction of 100% of the WQv shall be documented in the SWPPP. For each impervious area that is not directed to a RR technique or standard SMP with RRV capacity, the SWPPP must include documentation which demonstrates that all options were considered and for each option explains why it is considered infeasible.

In no case shall the runoff reduction achieved from the newly constructed impervious areas be less than the Minimum RRV as calculated using the criteria in Section 4.3 of the Design Manual. The remaining portion of the total WQv

(Part I.C.2.a.ii)

that cannot be reduced shall be treated by application of standard SMPs.

- (iii) Channel Protection Volume ("Cpv"): Provide 24 hour extended detention of the post-developed 1-year, 24-hour storm event; remaining after runoff reduction. The Cpv requirement does not apply when:
 - (1) Reduction of the entire Cpv is achieved by application of runoff reduction techniques or infiltration systems, or
 - (2) The site *discharges* directly to tidal waters, or fifth order or larger streams.
- (iv) Overbank Flood Control Criteria ("Qp"): Requires storage to attenuate the post-development 10-year, 24-hour peak *discharge* rate (Qp) to predevelopment rates. The Qp requirement does not apply when:
 - (1) the site *discharges* directly to tidal waters or fifth order or larger streams, or
 - (2) A downstream analysis reveals that overbank control is not required.
- (v) Extreme Flood Control Criteria ("Qf"): Requires storage to attenuate the post-development 100-year, 24-hour peak *discharge* rate (Qf) to predevelopment rates. The Qf requirement does not apply when:
 - (1) the site *discharges* directly to tidal waters or fifth order or larger streams, or
 - (2) A downstream analysis reveals that overbank control is not required.

b. Sizing Criteria for New Development in Enhanced Phosphorus Removal Watershed

- (i) Runoff Reduction Volume (RRv): Reduce the total Water Quality Volume (WQv) by application of RR techniques and standard SMPs with RRv capacity. The total WQv is the runoff volume from the 1-year, 24 hour design storm over the post-developed watershed and shall be calculated in accordance with the criteria in Section 10.3 of the Design Manual.
- (ii) Minimum RRv and Treatment of Remaining Total WQv: *Construction activities* that cannot meet the criteria in Part I.C.2.b.(i) of this permit due to *site limitations* shall direct runoff from all newly constructed *impervious areas* to a RR technique or

(Part I.C.2.b.ii)

standard SMP with RRv capacity unless *infeasible*. The specific *site limitations* that prevent the reduction of 100% of the WQv shall be documented in the SWPPP. For each *impervious area* that is not directed to a RR technique or standard SMP with RRv capacity, the SWPPP must include documentation which demonstrates that all options were considered and for each option explains why it is considered *infeasible*.

In no case shall the runoff reduction achieved from the newly constructed *impervious areas* be less than the Minimum RRv as calculated using the criteria in Section 10.3 of the Design Manual. The remaining portion of the total WQv that cannot be reduced shall be treated by application of standard SMPs.

- (iii) Channel Protection Volume (Cpv): Provide 24 hour extended detention of the post-developed 1-year, 24-hour storm event; remaining after runoff reduction. The Cpv requirement does not apply when:
 - (1) Reduction of the entire Cpv is achieved by application of runoff reduction techniques or infiltration systems, or
 - (2) The site *discharges* directly to tidal waters, or fifth order or larger streams.
- (iv) Overbank Flood Control Criteria (Qp): Requires storage to attenuate the post-development 10-year, 24-hour peak *discharge* rate (Qp) to predevelopment rates. The Qp requirement does not apply when:
 - (1) the site *discharges* directly to tidal waters or fifth order or larger streams, or
 - (2) A downstream analysis reveals that overbank control is not required.
- (v) Extreme Flood Control Criteria (Qf): Requires storage to attenuate the post-development 100-year, 24-hour peak *discharge* rate (Qf) to predevelopment rates. The Qf requirement does not apply when:
 - (1) the site *discharges* directly to tidal waters or fifth order or larger streams, or
 - (2) A downstream analysis reveals that overbank control is not required.

c. Sizing Criteria for Redevelopment Activity

(Part I.C.2.c.i)

- (i) Water Quality Volume (WQv): The WQv treatment objective for *redevelopment activity* shall be addressed by one of the following options. *Redevelopment activities* located in an Enhanced Phosphorus Removal Watershed (see Part III.B.3. and Appendix C of this permit) shall calculate the WQv in accordance with Section 10.3 of the Design Manual. All other *redevelopment activities* shall calculate the WQv in accordance with Section 4.2 of the Design Manual.

- (1) Reduce the existing *impervious cover* by a minimum of 25% of the total disturbed, *impervious area*. The Soil Restoration criteria in Section 5.1.6 of the Design Manual must be applied to all newly created pervious areas, or
- (2) Capture and treat a minimum of 25% of the WQv from the disturbed, *impervious area* by the application of standard SMPs; or reduce 25% of the WQv from the disturbed, *impervious area* by the application of RR techniques or standard SMPs with RRv capacity., or
- (3) Capture and treat a minimum of 75% of the WQv from the disturbed, *impervious area* as well as any additional runoff from tributary areas by application of the alternative practices discussed in Sections 9.3 and 9.4 of the Design Manual., or
- (4) Application of a combination of 1, 2 and 3 above that provide a weighted average of at least two of the above methods. Application of this method shall be in accordance with the criteria in Section 9.2.1(B) (IV) of the Design Manual.

If there is an existing post-construction stormwater management practice located on the site that captures and treats runoff from the *impervious area* that is being disturbed, the WQv treatment option selected must, at a minimum, provide treatment equal to the treatment that was being provided by the existing practice(s) if that treatment is greater than the treatment required by options 1 – 4 above.

- (ii) Channel Protection Volume (Cpv): Not required if there are no changes to hydrology that increase the *discharge* rate from the project site.
- (iii) Overbank Flood Control Criteria (Qp): Not required if there are no changes to hydrology that increase the *discharge* rate from the project site.

(Part I.C.2.c.ii)

- (iv) Extreme Flood Control Criteria (Qf): Not required if there are no changes to hydrology that increase the *discharge* rate from the project site.

d. Sizing Criteria for Combination of Redevelopment Activity and New Development

Construction projects that include both *New Development* and *Redevelopment Activity* shall provide post-construction stormwater management controls that meet the *sizing criteria* calculated as an aggregate of the *Sizing Criteria* in Part I.C.2.a. or b. of this permit for the *New Development* portion of the project and Part I.C.2.c of this permit for *Redevelopment Activity* portion of the project.

D. Maintaining Water Quality

The Department expects that compliance with the conditions of this permit will control *discharges* necessary to meet applicable *water quality standards*. It shall be a violation of the *ECL* for any discharge to either cause or contribute to a violation of *water quality standards* as contained in Parts 700 through 705 of Title 6 of the Official Compilation of Codes, Rules and Regulations of the State of New York, such as:

1. There shall be no increase in turbidity that will cause a substantial visible contrast to natural conditions;
2. There shall be no increase in suspended, colloidal or settleable solids that will cause deposition or impair the waters for their best usages; and
3. There shall be no residue from oil and floating substances, nor visible oil film, nor globules of grease.

If there is evidence indicating that the stormwater *discharges* authorized by this permit are causing, have the reasonable potential to cause, or are contributing to a violation of the *water quality standards*; the *owner or operator* must take appropriate corrective action in accordance with Part IV.C.5. of this general permit and document in accordance with Part IV.C.4. of this general permit. To address the *water quality standard* violation the *owner or operator* may need to provide additional information, include and implement appropriate controls in the SWPPP to correct the problem, or obtain an individual SPDES permit.

If there is evidence indicating that despite compliance with the terms and conditions of this general permit it is demonstrated that the stormwater *discharges* authorized by this permit are causing or contributing to a violation of *water quality standards*, or

(Part I.D)

if the Department determines that a modification of the permit is necessary to prevent a violation of *water quality standards*, the authorized *discharges* will no longer be eligible for coverage under this permit. The Department may require the *owner or operator* to obtain an individual SPDES permit to continue discharging.

E. Eligibility Under This General Permit

1. This permit may authorize all *discharges* of stormwater from *construction activity* to *surface waters of the State* and *groundwaters* except for ineligible *discharges* identified under subparagraph F. of this Part.
2. Except for non-stormwater *discharges* explicitly listed in the next paragraph, this permit only authorizes stormwater *discharges* from *construction activities*.
3. Notwithstanding paragraphs E.1 and E.2 above, the following non-stormwater *discharges* may be authorized by this permit: *discharges* from firefighting activities; fire hydrant flushings; waters to which cleansers or other components have not been added that are used to wash vehicles or control dust in accordance with the SWPPP, routine external building washdown which does not use detergents; pavement washwaters where spills or leaks of toxic or hazardous materials have not occurred (unless all spilled material has been removed) and where detergents are not used; air conditioning condensate; uncontaminated *groundwater* or spring water; uncontaminated *discharges* from construction site de-watering operations; and foundation or footing drains where flows are not contaminated with process materials such as solvents. For those entities required to obtain coverage under this permit, and who *discharge* as noted in this paragraph, and with the exception of flows from firefighting activities, these *discharges* must be identified in the SWPPP. Under all circumstances, the *owner or operator* must still comply with *water quality standards* in Part I.D of this permit.
4. The *owner or operator* must maintain permit eligibility to *discharge* under this permit. Any *discharges* that are not compliant with the eligibility conditions of this permit are not authorized by the permit and the *owner or operator* must either apply for a separate permit to cover those ineligible *discharges* or take steps necessary to make the *discharge* eligible for coverage.

F. Activities Which Are Ineligible for Coverage Under This General Permit

All of the following are not authorized by this permit:

(Part I.F)

1. *Discharges* after *construction activities* have been completed and the site has undergone *final stabilization*;
2. *Discharges* that are mixed with sources of non-stormwater other than those expressly authorized under subsection E.3. of this Part and identified in the SWPPP required by this permit;
3. *Discharges* that are required to obtain an individual SPDES permit or another SPDES general permit pursuant to Part VII.K. of this permit;
4. *Construction activities* or *discharges* from *construction activities* that may adversely affect an endangered or threatened species unless the *owner or operator* has obtained a permit issued pursuant to 6 NYCRR Part 182 for the project or the Department has issued a letter of non-jurisdiction for the project. All documentation necessary to demonstrate eligibility shall be maintained on site in accordance with Part II.C.2 of this permit.
5. *Discharges* which either cause or contribute to a violation of *water quality standards* adopted pursuant to the *ECL* and its accompanying regulations;
6. *Construction activities* for residential, commercial and institutional projects:
 - a. Where the *discharges* from the *construction activities* are tributary to waters of the state classified as AA or AA-s; and
 - b. Which disturb one or more acres of land with no existing *impervious cover*; and
 - c. Which are undertaken on land with a Soil Slope Phase that is identified as an E or F, or the map unit name is inclusive of 25% or greater slope, on the United States Department of Agriculture ("USDA") Soil Survey for the County where the disturbance will occur.
7. *Construction activities* for linear transportation projects and linear utility projects:
 - a. Where the *discharges* from the *construction activities* are tributary to waters of the state classified as AA or AA-s; and
 - b. Which disturb two or more acres of land with no existing *impervious cover*; and
 - c. Which are undertaken on land with a Soil Slope Phase that is identified as an E or F, or the map unit name is inclusive of 25% or greater slope, on the USDA Soil Survey for the County where the disturbance will occur.

(Part I.F.8)

8. *Construction activities* that have the potential to affect an *historic property*, unless there is documentation that such impacts have been resolved. The following documentation necessary to demonstrate eligibility with this requirement shall be maintained on site in accordance with Part II.C.2 of this permit and made available to the Department in accordance with Part VII.F of this permit:
 - a. Documentation that the *construction activity* is not within an archeologically sensitive area indicated on the sensitivity map, and that the *construction activity* is not located on or immediately adjacent to a property listed or determined to be eligible for listing on the National or State Registers of Historic Places, and that there is no new permanent building on the construction site within the following distances from a building, structure, or object that is more than 50 years old, or if there is such a new permanent building on the construction site within those parameters that NYS Office of Parks, Recreation and Historic Preservation (OPRHP), a Historic Preservation Commission of a Certified Local Government, or a qualified preservation professional has determined that the building, structure, or object more than 50 years old is not historically/archeologically significant.
 - 1-5 acres of disturbance - 20 feet
 - 5-20 acres of disturbance - 50 feet
 - 20+ acres of disturbance - 100 feet, or
 - b. DEC consultation form sent to OPRHP, and copied to the NYS DEC Agency Historic Preservation Officer (APO), and
 - (i) the State Environmental Quality Review (SEQR) Environmental Assessment Form (EAF) with a negative declaration or the Findings Statement, with documentation of OPRHP's agreement with the resolution; or
 - (ii) documentation from OPRHP that the *construction activity* will result in No Impact; or
 - (iii) documentation from OPRHP providing a determination of No Adverse Impact; or
 - (iv) a Letter of Resolution signed by the owner/operator, OPRHP and the DEC APO which allows for this *construction activity* to be eligible for coverage under the general permit in terms of the State Historic Preservation Act (SHPA); or
 - c. Documentation of satisfactory compliance with Section 106 of the National Historic Preservation Act for a coterminous project area:
 - (i) No Affect
 - (ii) No Adverse Affect

(Part I.F.8.c.iii)

(iii) Executed Memorandum of Agreement, or

- d. Documentation that:
 - (i) SHPA Section 14.09 has been completed by NYS DEC or another state agency.
9. *Discharges* from *construction activities* that are subject to an existing SPDES individual or general permit where a SPDES permit for *construction activity* has been terminated or denied; or where the *owner or operator* has failed to renew an expired individual permit.

Part II. OBTAINING PERMIT COVERAGE

A. Notice of Intent (NOI) Submittal

1. An *owner or operator* of a *construction activity* that is not subject to the requirements of a *regulated, traditional land use control MS4* must first prepare a SWPPP in accordance with all applicable requirements of this permit and then submit a completed NOI form to the Department in order to be authorized to *discharge* under this permit. An *owner or operator* shall use either the electronic (eNOI) or paper version of the NOI that the Department prepared. Both versions of the NOI are located on the Department's website (<http://www.dec.ny.gov/>). The paper version of the NOI shall be signed in accordance with Part VII.H. of this permit and submitted to the following address.

**NOTICE OF INTENT
NYS DEC, Bureau of Water Permits
625 Broadway, 4th Floor
Albany, New York 12233-3505**

2. An *owner or operator* of a *construction activity* that is subject to the requirements of a *regulated, traditional land use control MS4* must first prepare a SWPPP in accordance with all applicable requirements of this permit and then have its SWPPP reviewed and accepted by the *regulated, traditional land use control MS4* prior to submitting the NOI to the Department. The *owner or operator* shall have the "MS4 SWPPP Acceptance" form signed in accordance with Part VII.H., and then submit that form along with a completed NOI to the Department. An *owner or operator* shall use either the electronic (eNOI) or paper version of the NOI.

The paper version of the NOI shall be signed in accordance with Part VII.H. of this permit and submitted to the address in Part II.A.1.

(Part II.A.2)

The requirement for an *owner or operator* to have its SWPPP reviewed and accepted by the *MS4* prior to submitting the NOI to the Department does not apply to an *owner or operator* that is obtaining permit coverage in accordance with the requirements in Part II.E. (Change of *Owner or Operator*) or where the *owner or operator* of the *construction activity* is the *regulated, traditional land use control MS4*.

3. The *owner or operator* shall have the SWPPP preparer sign the "SWPPP Preparer Certification" statement on the NOI prior to submitting the form to the Department.
4. As of the date the NOI is submitted to the Department, the *owner or operator* shall make the NOI and SWPPP available for review and copying in accordance with the requirements in Part VII.F. of this permit.

B. Permit Authorization

1. An *owner or operator* shall not commence construction activity until their authorization to discharge under this permit goes into effect.
2. Authorization to discharge under this permit will be effective when the *owner or operator* has satisfied all of the following criteria:
 - a. project review pursuant to the State Environmental Quality Review Act ("SEQRA") have been satisfied, when SEQRA is applicable. See the Department's website (<http://www.dec.ny.gov/>) for more information,
 - b. where required, all necessary Department permits subject to the *Uniform Procedures Act ("UPA")* (see 6 NYCRR Part 621) have been obtained, unless otherwise notified by the Department pursuant to 6 NYCRR 621.3(a)(4). *Owners or operators of construction activities* that are required to obtain *UPA* permits must submit a preliminary SWPPP to the appropriate DEC Permit Administrator at the Regional Office listed in Appendix F at the time all other necessary *UPA* permit applications are submitted. The preliminary SWPPP must include sufficient information to demonstrate that the *construction activity* qualifies for authorization under this permit,
 - c. the final SWPPP has been prepared, and
 - d. a complete NOI has been submitted to the Department in accordance with the requirements of this permit.
3. An *owner or operator* that has satisfied the requirements of Part II.B.2 above

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(Part II.B.4)

under this permit if the Department determines that the SWPPP does not meet the permit requirements. In accordance with statute, regulation, and the terms and conditions of this permit, the Department may deny coverage under this permit and require submittal of an application for an individual SPDES permit based on a review of the NOI or other information pursuant to Part II.

5. Coverage under this permit authorizes stormwater discharges from only those areas of disturbance that are identified in the NOI. If an *owner or operator* wishes to have stormwater discharges from future or additional areas of disturbance authorized, they must submit a new NOI that addresses that phase of the development, unless otherwise notified by the Department. The *owner or operator* shall not commence construction activity on the future or additional areas until their authorization to discharge under this permit goes into effect in accordance with Part II.B. of this permit.

C. General Requirements For Owners or Operators With Permit Coverage

1. The *owner or operator* shall ensure that the provisions of the SWPPP are implemented from the commencement of construction activity until all areas of disturbance have achieved final stabilization and the Notice of Termination ("NOT") has been submitted to the Department in accordance with Part V. of this permit. This includes any changes made to the SWPPP pursuant to Part III.A.4. of this permit.
2. The *owner or operator* shall maintain a copy of the General Permit (GP-0-15-002), NOI, *NOI Acknowledgment Letter*, SWPPP, MS4 SWPPP Acceptance form, inspection reports, and all documentation necessary to demonstrate eligibility with this permit at the construction site until all disturbed areas have achieved final stabilization and the NOT has been submitted to the Department. The documents must be maintained in a secure location, such as a job trailer, on-site construction office, or mailbox with lock. The secure location must be accessible during normal business hours to an individual performing a compliance inspection.
3. The *owner or operator* of a *construction activity* shall not disturb greater than five (5) acres of soil at any one time without prior written authorization from the Department or, in areas under the jurisdiction of a *regulated, traditional land use control MS4*, the *regulated, traditional land use control MS4* (provided the *regulated, traditional land use control MS4* is not the *owner or operator* of the *construction activity*). At a minimum, the *owner or operator* must comply with the following requirements in order to be authorized to disturb greater than five (5) acres of soil at any one time:
 - a. The *owner or operator* shall

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will be authorized to discharge stormwater from their *construction activity* in accordance with the following schedule:

- a. For *construction activities* that are not subject to the requirements of a *regulated, traditional land use control MS4*:
 - (i) Five (5) business days from the date the Department receives a complete electronic version of the NOI (eNOI) for *construction activities* with a SWPPP that has been prepared in conformance with the design criteria in the technical standard referenced in Part III.B.1 and the *performance criteria* in the technical standard referenced in Parts III.B., 2 or 3, for *construction activities* that require post-construction stormwater management practices pursuant to Part III.C.; or
 - (ii) Sixty (60) business days from the date the Department receives a complete NOI (electronic or paper version) for *construction activities* with a SWPPP that has not been prepared in conformance with the design criteria in technical standard referenced in Part III.B.1. or, for *construction activities* that require post-construction stormwater management practices pursuant to Part III.C., the *performance criteria* in the technical standard referenced in Parts III.B., 2 or 3;
 - (iii) Ten (10) business days from the date the Department receives a complete paper version of the NOI for *construction activities* with a SWPPP that has been prepared in conformance with the design criteria in the technical standard referenced in Part III.B.1 and the *performance criteria* in the technical standard referenced in Parts III.B., 2 or 3, for *construction activities* that require post-construction stormwater management practices pursuant to Part III.C.
- b. For *construction activities* that are subject to the requirements of a *regulated, traditional land use control MS4*:
 - (i) Five (5) business days from the date the Department receives both a complete electronic version of the NOI (eNOI) and signed "MS4 SWPPP Acceptance" form, or
 - (ii) Ten (10) business days from the date the Department receives both a complete paper version of the NOI and signed "MS4 SWPPP Acceptance" form.
4. The Department may suspend or deny an *owner's or operator's* coverage

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(Part II.C.3.a)

have a *qualified inspector* conduct at least two (2) site inspections in accordance with Part IV.C. of this permit every seven (7) calendar days, for as long as greater than five (5) acres of soil remain disturbed. The two (2) inspections shall be separated by a minimum of two (2) full calendar days.

- b. In areas where soil disturbance activity has temporarily or permanently ceased, the application of soil stabilization measures must be initiated by the end of the next business day and completed within seven (7) days from the date the current soil disturbance activity ceased. The soil stabilization measures selected shall be in conformance with the technical standard, New York State Standards and Specifications for Erosion and Sediment Control, dated August 2005.
- c. The *owner or operator* shall prepare a phasing plan that defines maximum disturbed area per phase and shows required cuts and fills.
- d. The *owner or operator* shall install any additional site specific practices needed to protect water quality.
- e. The *owner or operator* shall include the requirements above in their SWPPP.
4. In accordance with statute, regulations, and the terms and conditions of this permit, the Department may suspend or revoke an *owner's or operator's* coverage under this permit at any time if the Department determines that the SWPPP does not meet the permit requirements. Upon a finding of significant non-compliance with the practices described in the SWPPP or violation of this permit, the Department may order an immediate stop to all activity at the site until the non-compliance is remedied. The stop work order shall be in writing, describe the non-compliance in detail, and be sent to the *owner or operator*.
5. For *construction activities* that are subject to the requirements of a *regulated, traditional land use control MS4*, the *owner or operator* shall notify the *regulated, traditional land use control MS4* in writing of any planned amendments or modifications to the post-construction stormwater management practice component of the SWPPP required by Part III.A. 4. and 5. of this permit. Unless otherwise notified by the *regulated, traditional land use control MS4*, the *owner or operator* shall have the SWPPP amendments or modifications reviewed and accepted by the *regulated, traditional land use control MS4* prior to commencing construction of the post-construction stormwater management practice

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(Part II.D)

D. Permit Coverage for Discharges Authorized Under GP-0-10-001

1. Upon renewal of SPDES General Permit for Stormwater Discharges from Construction Activity (Permit No. GP-0-10-001), an *owner or operator* of a construction activity with coverage under GP-0-10-001, as of the effective date of GP-0-15-002, shall be authorized to discharge in accordance with GP-0-15-002, unless otherwise notified by the Department.

An *owner or operator* may continue to implement the technical/design components of the post-construction stormwater management controls provided that such design was done in conformance with the technical standards in place at the time of initial project authorization. However, they must comply with the other, non-design provisions of GP-0-15-002.

E. Change of Owner or Operator

2. When property ownership changes or when there is a change in operational control over the construction plans and specifications, the original *owner or operator* must notify the new *owner or operator*, in writing, of the requirement to obtain permit coverage by submitting a NOI with the Department. Once the new *owner or operator* obtains permit coverage, the original *owner or operator* shall then submit a completed NOT with the name and permit identification number of the new *owner or operator* to the Department at the address in Part II.A.1. of this permit. If the original *owner or operator* maintains ownership of a portion of the construction activity and will disturb soil, they must maintain their coverage under the permit.

Permit coverage for the new *owner or operator* will be effective as of the date the Department receives a complete NOI, provided the original *owner or operator* was not subject to a sixty (60) business day authorization period that has not expired as of the date the Department receives the NOI from the new *owner or operator*.

(Part III)

Part III. STORMWATER POLLUTION PREVENTION PLAN (SWPPP)

A. General SWPPP Requirements

1. A SWPPP shall be prepared and implemented by the *owner or operator* of each construction activity covered by this permit. The SWPPP must document the selection, design, installation, implementation and maintenance of the control measures and practices that will be used to meet the effluent limitations in Part I.B. of this permit and where applicable, the post-construction stormwater management practice requirements in Part I.C. of this permit. The SWPPP shall be prepared prior to the submittal of the NOI. The NOI shall be submitted to the Department prior to the commencement of construction activity. A copy of the completed, final NOI shall be included in the SWPPP.
2. The SWPPP shall describe the erosion and sediment control practices and where required, post-construction stormwater management practices that will be used and/or constructed to reduce the pollutants in stormwater discharges and to assure compliance with the terms and conditions of this permit. In addition, the SWPPP shall identify potential sources of pollution which may reasonably be expected to affect the quality of stormwater discharges.
3. All SWPPPs that require the post-construction stormwater management practice component shall be prepared by a *qualified professional* that is knowledgeable in the principles and practices of stormwater management and treatment.
4. The *owner or operator* must keep the SWPPP current so that it at all times accurately documents the erosion and sediment controls practices that are being used or will be used during construction, and all post-construction stormwater management practices that will be constructed on the site. At a minimum, the *owner or operator* shall amend the SWPPP:
 - a. whenever the current provisions prove to be ineffective in minimizing pollutants in stormwater discharges from the site;
 - b. whenever there is a change in design, construction, or operation at the construction site that has or could have an effect on the discharge of pollutants; and
 - c. to address issues or deficiencies identified during an inspection by the *qualified inspector*, the Department or other regulatory authority.
5. The Department may notify the *owner or operator* at any time that the

(Part III.A.5)

SWPPP does not meet one or more of the minimum requirements of this permit. The notification shall be in writing and identify the provisions of the SWPPP that require modification. Within fourteen (14) calendar days of such notification, or as otherwise indicated by the Department, the *owner or operator* shall make the required changes to the SWPPP and submit written notification to the Department that the changes have been made. If the *owner or operator* does not respond to the Department's comments in the specified time frame, the Department may suspend the *owner's or operator's* coverage under this permit or require the *owner or operator* to obtain coverage under an individual SPDES permit in accordance with Part II.C.4. of this permit.

6. Prior to the commencement of construction activity, the *owner or operator* must identify the contractor(s) and subcontractor(s) that will be responsible for installing, constructing, repairing, replacing, inspecting and maintaining the erosion and sediment control practices included in the SWPPP; and the contractor(s) and subcontractor(s) that will be responsible for constructing the post-construction stormwater management practices included in the SWPPP. The *owner or operator* shall have each of the contractors and subcontractors identify at least one person from their company that will be responsible for implementation of the SWPPP. This person shall be known as the *trained contractor*. The *owner or operator* shall ensure that at least one *trained contractor* is on site on a daily basis when soil disturbance activities are being performed.

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

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

In addition to providing the certification statement above, the certification page must also identify the specific elements of the SWPPP that each contractor and subcontractor will be responsible for and include the name and title of the person providing the signature, the name and title of the

(Part III.A.6)

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

7. For projects where the Department requests a copy of the SWPPP or inspection reports, the *owner or operator* shall submit the documents in both electronic (PDF only) and paper format within five (5) business days, unless otherwise notified by the Department.

B. Required SWPPP Contents

1. Erosion and sediment control component - All SWPPPs prepared pursuant to this permit shall include erosion and sediment control practices designed in conformance with the technical standard, New York State Standards and Specifications for Erosion and Sediment Control, dated August 2005. Where erosion and sediment control practices are not designed in conformance with the design criteria included in the technical standard, the *owner or operator* must demonstrate *equivalence* to the technical standard. At a minimum, the erosion and sediment control component of the SWPPP shall include the following:
 - a. Background information about the scope of the project, including the location, type and size of project;
 - b. A site map/construction drawing(s) for the project, including a general location map. At a minimum, the site map shall show the total site area; all improvements; areas of disturbance; areas that will not be disturbed; existing vegetation; on-site and adjacent off-site surface water(s); floodplain/floodway boundaries; wetlands and drainage patterns that could be affected by the construction activity; existing and final contours; locations of different soil types with boundaries; material, waste, borrow or equipment storage areas located on adjacent properties; and location(s) of the stormwater discharge(s);
 - c. A description of the soil(s) present at the site, including an identification of the Hydrologic Soil Group (HSG);
 - d. A construction phasing plan and sequence of operations describing the intended order of construction activities, including clearing and grubbing, excavation and grading, utility and infrastructure installation and any other

(Part III.B.1.d)

activity at the site that results in soil disturbance;

- e. A description of the minimum erosion and sediment control practices to be installed or implemented for each *construction activity* that will result in soil disturbance. Include a schedule that identifies the timing of initial placement or implementation of each erosion and sediment control practice and the minimum time frames that each practice should remain in place or be implemented;
- f. A temporary and permanent soil stabilization plan that meets the requirements of this general permit and the technical standard, New York State Standards and Specifications for Erosion and Sediment Control, dated August 2005, for each stage of the project, including initial land clearing and grubbing to project completion and achievement of *final stabilization*;
- g. A site map/construction drawing(s) showing the specific location(s), size(s), and length(s) of each erosion and sediment control practice;
- h. The dimensions, material specifications, installation details, and operation and maintenance requirements for all erosion and sediment control practices. Include the location and sizing of any temporary sediment basins and structural practices that will be used to divert flows from exposed soils;
- i. A maintenance inspection schedule for the contractor(s) identified in Part III.A.6. of this permit, to ensure continuous and effective operation of the erosion and sediment control practices. The maintenance inspection schedule shall be in accordance with the requirements in the technical standard, New York State Standards and Specifications for Erosion and Sediment Control, dated August 2005;
- j. A description of the pollution prevention measures that will be used to control litter, construction chemicals and construction debris from becoming a *pollutant source* in the stormwater *discharges*;
- k. A description and location of any stormwater *discharges* associated with industrial activity other than construction at the site, including, but not limited to, stormwater *discharges* from asphalt plants and concrete plants located on the construction site; and
- l. Identification of any elements of the design that are not in conformance with the design criteria in the technical standard, New York State Standards and Specifications for Erosion and Sediment Control, dated August 2005. Include the reason for the deviation or alternative design

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(Part III.B.1.l)

and provide information which demonstrates that the deviation or alternative design is *equivalent* to the technical standard.

- 2. Post-construction stormwater management practice component – The *owner or operator* of any construction project identified in Table 2 of Appendix B as needing post-construction stormwater management practices shall prepare a SWPPP that includes practices designed in conformance with the applicable *sizing criteria* in Part I.C.2.a., c. or d. of this permit and the *performance criteria* in the technical standard, New York State Stormwater Management Design Manual dated January 2015

Where post-construction stormwater management practices are not designed in conformance with the *performance criteria* in the technical standard, the *owner or operator* must include in the SWPPP the reason(s) for the deviation or alternative design and provide information which demonstrates that the deviation or alternative design is *equivalent* to the technical standard.

The post-construction stormwater management practice component of the SWPPP shall include the following:

- a. Identification of all post-construction stormwater management practices to be constructed as part of the project. Include the dimensions, material specifications and installation details for each post-construction stormwater management practice;
- b. A site map/construction drawing(s) showing the specific location and size of each post-construction stormwater management practice;
- c. A Stormwater Modeling and Analysis Report that includes:
 - (i) Map(s) showing pre-development conditions, including watershed/subcatchments boundaries, flow paths/routing, and design points;
 - (ii) Map(s) showing post-development conditions, including watershed/subcatchments boundaries, flow paths/routing, design points and post-construction stormwater management practices;
 - (iii) Results of stormwater modeling (i.e. hydrology and hydraulic analysis) for the required storm events. Include supporting calculations (model runs), methodology, and a summary table that compares pre and post-development runoff rates and volumes for the different storm events;
 - (iv) Summary table, with supporting calculations, which demonstrates

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(Part III.B.2.c.iv)

that each post-construction stormwater management practice has been designed in conformance with the *sizing criteria* included in the Design Manual;

- (v) Identification of any *sizing criteria* that is not required based on the requirements included in Part I.C. of this permit; and
- (vi) Identification of any elements of the design that are not in conformance with the *performance criteria* in the Design Manual. Include the reason(s) for the deviation or alternative design and provide information which demonstrates that the deviation or alternative design is *equivalent* to the Design Manual;
- d. Soil testing results and locations (test pits, borings);
- e. Infiltration test results, when required; and
- f. An operations and maintenance plan that includes inspection and maintenance schedules and actions to ensure continuous and effective operation of each post-construction stormwater management practice. The plan shall identify the entity that will be responsible for the long term operation and maintenance of each practice.
- 3. Enhanced Phosphorus Removal Standards - All construction projects identified in Table 2 of Appendix B that are located in the watersheds identified in Appendix C shall prepare a SWPPP that includes post-construction stormwater management practices designed in conformance with the applicable *sizing criteria* in Part I.C.2. b., c. or d. of this permit and the *performance criteria*, Enhanced Phosphorus Removal Standards included in the Design Manual. At a minimum, the post-construction stormwater management practice component of the SWPPP shall include items 2.a - 2.f. above.

C. Required SWPPP Components by Project Type

Unless otherwise notified by the Department, *owners or operators of construction activities* identified in Table 1 of Appendix B are required to prepare a SWPPP that only includes erosion and sediment control practices designed in conformance with Part III.B.1 of this permit. *Owners or operators of the construction activities* identified in Table 2 of Appendix B shall prepare a SWPPP that also includes post-construction stormwater management practices designed in conformance with Part III.B.2 or 3 of this permit.

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(Part IV)

Part IV. INSPECTION AND MAINTENANCE REQUIREMENTS

A. General Construction Site Inspection and Maintenance Requirements

- 1. The *owner or operator* must ensure that all erosion and sediment control practices (including pollution prevention measures) and all post-construction stormwater management practices identified in the SWPPP are inspected and maintained in accordance with Part IV.B. and C. of this permit.
- 2. The terms of this permit shall not be construed to prohibit the State of New York from exercising any authority pursuant to the ECL, common law or federal law, or prohibit New York State from taking any measures, whether civil or criminal, to prevent violations of the laws of the State of New York, or protect the public health and safety and/or the environment.

B. Contractor Maintenance Inspection Requirements

- 1. The *owner or operator* of each *construction activity* identified in Tables 1 and 2 of Appendix B shall have a *trained contractor* inspect the erosion and sediment control practices and pollution prevention measures being implemented within the active work area daily to ensure that they are being maintained in effective operating condition at all times. If deficiencies are identified, the contractor shall begin implementing corrective actions within one business day and shall complete the corrective actions in a reasonable time frame.
- 2. For construction sites where soil disturbance activities have been temporarily suspended (e.g. winter shutdown) and *temporary stabilization* measures have been applied to all disturbed areas, the *trained contractor* can stop conducting the maintenance inspections. The *trained contractor* shall begin conducting the maintenance inspections in accordance with Part IV.B.1. of this permit as soon as soil disturbance activities resume.

- 3. For construction sites where soil disturbance activities have been shut down with partial project completion, the *trained contractor* can stop conducting the maintenance inspections if all areas disturbed as of the project shutdown date have achieved *final stabilization* and all post-construction stormwater management practices required for the completed portion of the project have been constructed in conformance with the SWPPP and are operational.

C. Qualified Inspector Inspection Requirements

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(Part IV.C)

The owner or operator shall have a qualified inspector conduct site inspections in conformance with the following requirements:

[Note: The trained contractor identified in Part III.A.6. and IV.B. of this permit cannot conduct the qualified inspector site inspections unless they meet the qualified inspector qualifications included in Appendix A. In order to perform these inspections, the trained contractor would have to be a:

- licensed Professional Engineer,
- Certified Professional in Erosion and Sediment Control (CPESC),
- Registered Landscape Architect, or
- someone working under the direct supervision of, and at the same company as, the licensed Professional Engineer or Registered Landscape Architect, provided they have received four (4) hours of Department endorsed training in proper erosion and sediment control principles from a Soil and Water Conservation District, or other Department endorsed entity].

1. A qualified inspector shall conduct site inspections for all construction activities identified in Tables 1 and 2 of Appendix B, with the exception of:
 - a. the construction of a single family residential subdivision with 25% or less impervious cover at total site build-out that involves a soil disturbance of one (1) or more acres of land but less than five (5) acres and is not located in one of the watersheds listed in Appendix C and not directly discharging to one of the 303(d) segments listed in Appendix E;
 - b. the construction of a single family home that involves a soil disturbance of one (1) or more acres of land but less than five (5) acres and is not located in one of the watersheds listed in Appendix C and not directly discharging to one of the 303(d) segments listed in Appendix E;
 - c. construction on agricultural property that involves a soil disturbance of one (1) or more acres of land but less than five (5) acres; and
 - d. construction activities located in the watersheds identified in Appendix D that involve soil disturbances between five thousand (5,000) square feet and one (1) acre of land.
2. Unless otherwise notified by the Department, the qualified inspector shall conduct site inspections in accordance with the following timetable:
 - a. For construction sites where soil disturbance activities are on-going, the qualified inspector shall conduct a site inspection at least once every seven (7) calendar days.
 - b. For construction sites where soil disturbance activities are on-going and

(Part IV.C.2.b)

the owner or operator has received authorization in accordance with Part II.C.3 to disturb greater than five (5) acres of soil at any one time, the qualified inspector shall conduct at least two (2) site inspections every seven (7) calendar days. The two (2) inspections shall be separated by a minimum of two (2) full calendar days.

- c. For construction sites where soil disturbance activities have been temporarily suspended (e.g. winter shutdown) and temporary stabilization measures have been applied to all disturbed areas, the qualified inspector shall conduct a site inspection at least once every thirty (30) calendar days. The owner or operator shall notify the DOW Water (SPDES) Program contact at the Regional Office (see contact information in Appendix F) or, in areas under the jurisdiction of a regulated, traditional land use control MS4, the regulated, traditional land use control MS4 (provided the regulated, traditional land use control MS4 is not the owner or operator of the construction activity) in writing prior to reducing the frequency of inspections.
- d. For construction sites where soil disturbance activities have been shut down with partial project completion, the qualified inspector can stop conducting inspections if all areas disturbed as of the project shutdown date have achieved final stabilization and all post-construction stormwater management practices required for the completed portion of the project have been constructed in conformance with the SWPPP and are operational. The owner or operator shall notify the DOW Water (SPDES) Program contact at the Regional Office (see contact information in Appendix F) or, in areas under the jurisdiction of a regulated, traditional land use control MS4, the regulated, traditional land use control MS4 (provided the regulated, traditional land use control MS4 is not the owner or operator of the construction activity) in writing prior to the shutdown. If soil disturbance activities are not resumed within 2 years from the date of shutdown, the owner or operator shall have the qualified inspector perform a final inspection and certify that all disturbed areas have achieved final stabilization, and all temporary, structural erosion and sediment control measures have been removed; and that all post-construction stormwater management practices have been constructed in conformance with the SWPPP by signing the "Final Stabilization" and "Post-Construction Stormwater Management Practice" certification statements on the NOT. The owner or operator shall then submit the completed NOT form to the address in Part II.A.1 of this permit.
- e. For construction sites that directly discharge to one of the 303(d) segments listed in Appendix E or is located in one of the watersheds listed in Appendix C, the qualified inspector shall conduct at least two (2) site inspections every seven (7) calendar days. The two (2) inspections shall

(Part IV.C.2.e)

be separated by a minimum of two (2) full calendar days.

3. At a minimum, the qualified inspector shall inspect all erosion and sediment control practices and pollution prevention measures to ensure integrity and effectiveness, all post-construction stormwater management practices under construction to ensure that they are constructed in conformance with the SWPPP, all areas of disturbance that have not achieved final stabilization, all points of discharge to natural surface waterbodies located within, or immediately adjacent to, the property boundaries of the construction site, and all points of discharge from the construction site.
4. The qualified inspector shall prepare an inspection report subsequent to each and every inspection. At a minimum, the inspection report shall include and/or address the following:
 - a. Date and time of inspection;
 - b. Name and title of person(s) performing inspection;
 - c. A description of the weather and soil conditions (e.g. dry, wet, saturated) at the time of the inspection;
 - d. A description of the condition of the runoff at all points of discharge from the construction site. This shall include identification of any discharges of sediment from the construction site. Include discharges from conveyance systems (i.e. pipes, culverts, ditches, etc.) and overland flow;
 - e. A description of the condition of all natural surface waterbodies located within, or immediately adjacent to, the property boundaries of the construction site which receive runoff from disturbed areas. This shall include identification of any discharges of sediment to the surface waterbody;
 - f. Identification of all erosion and sediment control practices and pollution prevention measures that need repair or maintenance;
 - g. Identification of all erosion and sediment control practices and pollution prevention measures that were not installed properly or are not functioning as designed and need to be reinstalled or replaced;
 - h. Description and sketch of areas with active soil disturbance activity, areas that have been disturbed but are inactive at the time of the inspection, and areas that have been stabilized (temporary and/or final) since the last inspection;

(Part IV.C.4.i)

- i. Current phase of construction of all post-construction stormwater management practices and identification of all construction that is not in conformance with the SWPPP and technical standards;
- j. Corrective action(s) that must be taken to install, repair, replace or maintain erosion and sediment control practices and pollution prevention measures; and to correct deficiencies identified with the construction of the post-construction stormwater management practice(s);
- k. Identification and status of all corrective actions that were required by previous inspection; and
- l. Digital photographs, with date stamp, that clearly show the condition of all practices that have been identified as needing corrective actions. The qualified inspector shall attach paper color copies of the digital photographs to the inspection report being maintained onsite within seven (7) calendar days of the date of the inspection. The qualified inspector shall also take digital photographs, with date stamp, that clearly show the condition of the practice(s) after the corrective action has been completed. The qualified inspector shall attach paper color copies of the digital photographs to the inspection report that documents the completion of the corrective action work within seven (7) calendar days of that inspection.
5. Within one business day of the completion of an inspection, the qualified inspector shall notify the owner or operator and appropriate contractor or subcontractor identified in Part III.A.6. of this permit of any corrective actions that need to be taken. The contractor or subcontractor shall begin implementing the corrective actions within one business day of this notification and shall complete the corrective actions in a reasonable time frame.
6. All inspection reports shall be signed by the qualified inspector. Pursuant to Part II.C.2. of this permit, the inspection reports shall be maintained on site with the SWPPP.

Part V. TERMINATION OF PERMIT COVERAGE

A. Termination of Permit Coverage

1. An owner or operator that is eligible to terminate coverage under this permit must submit a completed NOT form to the address in Part II.A.1 of this permit. The NOT form shall be one which is associated with this permit, signed in accordance with Part VII.H of this permit.

(Part V.A.2)

2. An *owner or operator* may terminate coverage when one or more the following conditions have been met:
 - a. Total project completion - All *construction activity* identified in the SWPPP has been completed; and all areas of disturbance have achieved *final stabilization*; and all temporary, structural erosion and sediment control measures have been removed; and all post-construction stormwater management practices have been constructed in conformance with the SWPPP and are operational;
 - b. Planned shutdown with partial project completion - All soil disturbance activities have ceased; and all areas disturbed as of the project shutdown date have achieved *final stabilization*; and all temporary, structural erosion and sediment control measures have been removed; and all post-construction stormwater management practices required for the completed portion of the project have been constructed in conformance with the SWPPP and are operational;
 - c. A new *owner or operator* has obtained coverage under this permit in accordance with Part II.E. of this permit.
 - d. The *owner or operator* obtains coverage under an alternative SPDES general permit or an individual SPDES permit.
3. For *construction activities* meeting subdivision 2a. or 2b. of this Part, the *owner or operator* shall have the *qualified inspector* perform a final site inspection prior to submitting the NOT. The *qualified inspector* shall, by signing the "Final Stabilization" and "Post-Construction Stormwater Management Practice certification statements on the NOT, certify that all the requirements in Part V.A.2.a. or b. of this permit have been achieved.
4. For *construction activities* that are subject to the requirements of a *regulated, traditional land use control MS4* and meet subdivision 2a. or 2b. of this Part, the *owner or operator* shall have the *regulated, traditional land use control MS4* sign the "MS4 Acceptance" statement on the NOT in accordance with the requirements in Part VII.H. of this permit. The *regulated, traditional land use control MS4* official, by signing this statement, has determined that it is acceptable for the *owner or operator* to submit the NOT in accordance with the requirements of this Part. The *regulated, traditional land use control MS4* can make this determination by performing a final site inspection themselves or by accepting the *qualified inspector's* final site inspection certification(s) required in Part V.A.3. of this permit.

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(Part V.A.5)

5. For *construction activities* that require post-construction stormwater management practices and meet subdivision 2a. of this Part, the *owner or operator* must, prior to submitting the NOT, ensure one of the following:
 - a. the post-construction stormwater management practice(s) and any right-of-way(s) needed to maintain such practice(s) have been deeded to the municipality in which the practice(s) is located,
 - b. an executed maintenance agreement is in place with the municipality that will maintain the post-construction stormwater management practice(s),
 - c. for post-construction stormwater management practices that are privately owned, the *owner or operator* has a mechanism in place that requires operation and maintenance of the practice(s) in accordance with the operation and maintenance plan, such as a deed covenant in the *owner or operator's* deed of record,
 - d. for post-construction stormwater management practices that are owned by a public or private institution (e.g. school, university, hospital), government agency or authority, or public utility; the *owner or operator* has policy and procedures in place that ensures operation and maintenance of the practices in accordance with the operation and maintenance plan.

Part VI. REPORTING AND RETENTION OF RECORDS

A. Record Retention

The *owner or operator* shall retain a copy of the NOI, NOI Acknowledgment Letter, SWPPP, MS4 SWPPP Acceptance form and any inspection reports that were prepared in conjunction with this permit for a period of at least five (5) years from the date that the Department receives a complete NOT submitted in accordance with Part V. of this general permit.

B. Addresses

With the exception of the NOI, NOT, and MS4 SWPPP Acceptance form (which must be submitted to the address referenced in Part II.A.1 of this permit), all written correspondence requested by the Department, including individual permit applications, shall be sent to the address of the appropriate DOW Water (SPDES) Program contact at the Regional Office listed in Appendix F.

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(Part VII)

Part VII. STANDARD PERMIT CONDITIONS

A. Duty to Comply

The *owner or operator* must comply with all conditions of this permit. All contractors and subcontractors associated with the project must comply with the terms of the SWPPP. Any non-compliance with this permit constitutes a violation of the Clean Water Act (CWA) and the ECL and is grounds for an enforcement action against the *owner or operator* and/or the contractor/subcontractor; permit revocation, suspension or modification; or denial of a permit renewal application. Upon a finding of significant non-compliance with this permit or the applicable SWPPP, the Department may order an immediate stop to all *construction activity* at the site until the non-compliance is remedied. The stop work order shall be in writing, shall describe the non-compliance in detail, and shall be sent to the *owner or operator*.

If any human remains or archaeological remains are encountered during excavation, the *owner or operator* must immediately cease, or cause to cease, all *construction activity* in the area of the remains and notify the appropriate Regional Water Engineer (RWE). *Construction activity* shall not resume until written permission to do so has been received from the RWE.

B. Continuation of the Expired General Permit

This permit expires five (5) years from the effective date. If a new general permit is not issued prior to the expiration of this general permit, an *owner or operator* with coverage under this permit may continue to operate and *discharge* in accordance with the terms and conditions of this general permit, if it is extended pursuant to the State Administrative Procedure Act and 6 NYCRR Part 621, until a new general permit is issued.

C. Enforcement

Failure of the *owner or operator*, its contractors, subcontractors, agents and/or assigns to strictly adhere to any of the permit requirements contained herein shall constitute a violation of this permit. There are substantial criminal, civil, and administrative penalties associated with violating the provisions of this permit. Fines of up to \$37,500 per day for each violation and imprisonment for up to fifteen (15) years may be assessed depending upon the nature and degree of the offense.

D. Need to Halt or Reduce Activity Not a Defense

It shall not be a defense for an *owner or operator* in an enforcement action that it would have been necessary to halt or reduce the *construction activity* in order to maintain compliance with the conditions of this permit.

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(Part VII.E)

E. Duty to Mitigate

The *owner or operator* and its contractors and subcontractors shall take all reasonable steps to *minimize* or prevent any *discharge* in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment.

F. Duty to Provide Information

The *owner or operator* shall furnish to the Department, within a reasonable specified time period of a written request, all documentation necessary to demonstrate eligibility and any information to determine compliance with this permit or to determine whether cause exists for modifying or revoking this permit, or suspending or denying coverage under this permit, in accordance with the terms and conditions of this permit. The NOI, SWPPP and inspection reports required by this permit are public documents that the *owner or operator* must make available for review and copying by any person within five (5) business days of the *owner or operator* receiving a written request by any such person to review these documents. Copying of documents will be done at the requester's expense.

G. Other Information

When the *owner or operator* becomes aware that they failed to submit any relevant facts, or submitted incorrect information in the NOI or in any of the documents required by this permit, or have made substantive revisions to the SWPPP (e.g. the scope of the project changes significantly, the type of post-construction stormwater management practice(s) changes, there is a reduction in the sizing of the post-construction stormwater management practice, or there is an increase in the disturbance area or *impervious area*), which were not reflected in the original NOI submitted to the Department, they shall promptly submit such facts or information to the Department using the contact information in Part II.A. of this permit. Failure of the *owner or operator* to correct or supplement any relevant facts within five (5) business days of becoming aware of the deficiency shall constitute a violation of this permit.

H. Signatory Requirements

1. All NOIs and NOTs shall be signed as follows:

- a. For a corporation these forms shall be signed by a responsible corporate officer. For the purpose of this section, a responsible corporate officer means:

- (i) a president, secretary, treasurer, or vice-president of the

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(Part VII.H.1.a.i)

corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation; or

- (ii) the manager of one or more manufacturing, production or operating facilities, provided the manager is authorized to make management decisions which govern the operation of the regulated facility including having the explicit or implicit duty of making major capital investment recommendations, and initiating and directing other comprehensive measures to assure long term environmental compliance with environmental laws and regulations; the manager can ensure that the necessary systems are established or actions taken to gather complete and accurate information for permit application requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures;

b. For a partnership or sole proprietorship these forms shall be signed by a general partner or the proprietor, respectively; or

c. For a municipality, State, Federal, or other public agency these forms shall be signed by either a principal executive officer or ranking elected official. For purposes of this section, a principal executive officer of a Federal agency includes:

- (i) the chief executive officer of the agency, or
- (ii) a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., Regional Administrators of EPA).

2. The SWPPP and other information requested by the Department shall be signed by a person described in Part VII.H.1. of this permit or by a duly authorized representative of that person. A person is a duly authorized representative only if:

a. The authorization is made in writing by a person described in Part VII.H.1. of this permit;

b. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as the position of plant manager, operator of a well or a well field, superintendent, position of *equivalent* responsibility, or an individual or position having overall responsibility for environmental matters for the company. (A duly authorized representative may thus be either a named

(Part VII.H.2.b)

individual or any individual occupying a named position) and,

c. The written authorization shall include the name, title and signature of the authorized representative and be attached to the SWPPP.

3. All inspection reports shall be signed by the *qualified inspector* that performs the inspection.

4. The MS4 SWPPP Acceptance form shall be signed by the principal executive officer or ranking elected official from the *regulated, traditional land use control MS4*, or by a duly authorized representative of that person.

It shall constitute a permit violation if an incorrect and/or improper signatory authorizes any required forms, SWPPP and/or inspection reports.

I. Property Rights

The issuance of this permit does not convey any property rights of any sort, nor any exclusive privileges, nor does it authorize any injury to private property nor any invasion of personal rights, nor any infringement of Federal, State or local laws or regulations. *Owners or operators* must obtain any applicable conveyances, easements, licenses and/or access to real property prior to *commencing construction activity*.

J. Severability

The provisions of this permit are severable, and if any provision of this permit, or the application of any provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this permit shall not be affected thereby.

K. Requirement to Obtain Coverage Under an Alternative Permit

1. The Department may require any *owner or operator* authorized by this permit to apply for and/or obtain either an individual SPDES permit or another SPDES general permit. When the Department requires any *discharger* authorized by a general permit to apply for an individual SPDES permit, it shall notify the *discharger* in writing that a permit application is required. This notice shall include a brief statement of the reasons for this decision, an application form, a statement setting a time frame for the *owner or operator* to file the application for an individual SPDES permit, and a deadline, not sooner than 180 days from *owner or operator* receipt of the notification letter, whereby the authorization to

(Part VII.K.1)

discharge under this general permit shall be terminated. Applications must be submitted to the appropriate Permit Administrator at the Regional Office. The Department may grant additional time upon demonstration, to the satisfaction of the Department, that additional time to apply for an alternative authorization is necessary or where the Department has not provided a permit determination in accordance with Part 621 of this Title.

2. When an individual SPDES permit is issued to a discharger authorized to *discharge* under a general SPDES permit for the same *discharge(s)*, the general permit authorization for outfalls authorized under the individual SPDES permit is automatically terminated on the effective date of the individual permit unless termination is earlier in accordance with 6 NYCRR Part 750.

L. Proper Operation and Maintenance

The *owner or operator* shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the *owner or operator* to achieve compliance with the conditions of this permit and with the requirements of the SWPPP.

M. Inspection and Entry

The *owner or operator* shall allow an authorized representative of the Department, EPA, applicable county health department, or, in the case of a construction site which *discharges* through an *MS4*, an authorized representative of the *MS4* receiving the discharge, upon the presentation of credentials and other documents as may be required by law, to:

- 1. Enter upon the *owner's or operator's* premises where a regulated facility or activity is located or conducted or where records must be kept under the conditions of this permit;
- 2. Have access to and copy at reasonable times, any records that must be kept under the conditions of this permit; and
- 3. Inspect at reasonable times any facilities or equipment (including monitoring and control equipment), practices or operations regulated or required by this permit.
- 4. Sample or monitor at reasonable times, for purposes of assuring permit compliance or as otherwise authorized by the Act or ECL, any substances or parameters at any location.

(Part VII.N)

N. Permit Actions

This permit may, at any time, be modified, suspended, revoked, or renewed by the Department in accordance with 6 NYCRR Part 621. The filing of a request by the *owner or operator* for a permit modification, revocation and reissuance, termination, a notification of planned changes or anticipated noncompliance does not limit, diminish and/or stay compliance with any terms of this permit.

O. Definitions

Definitions of key terms are included in Appendix A of this permit.

P. Re-Opener Clause

1. If there is evidence indicating potential or realized impacts on water quality due to any stormwater discharge associated with *construction activity* covered by this permit, the *owner or operator* of such discharge may be required to obtain an individual permit or alternative general permit in accordance with Part VII.K. of this permit or the permit may be modified to include different limitations and/or requirements.

2. Any Department initiated permit modification, suspension or revocation will be conducted in accordance with 6 NYCRR Part 621, 6 NYCRR 750-1.18, and 6 NYCRR 750-1.20.

Q. Penalties for Falsification of Forms and Reports

In accordance with 6NYCRR Part 750-2.4 and 750-2.5, any person who knowingly makes any false material statement, representation, or certification in any application, record, report or other document filed or required to be maintained under this permit, including reports of compliance or noncompliance shall, upon conviction, be punished in accordance with ECL §71-1933 and or Articles 175 and 210 of the New York State Penal Law.

R. Other Permits

Nothing in this permit relieves the *owner or operator* from a requirement to obtain any other permits required by law.

Definitions

Alter Hydrology from Pre to Post-Development Conditions - means the post-development peak flow rate(s) has increased by more than 5% of the pre-developed condition for the design storm of interest (e.g. 10 yr and 100 yr).

Combined Sewer - means a sewer that is designed to collect and convey both "sewage" and "stormwater".

Commence (Commencement of) Construction Activities - means the initial disturbance of soils associated with clearing, grading or excavation activities; or other construction related activities that disturb or expose soils such as demolition, stockpiling of fill material, and the initial installation of erosion and sediment control practices required in the SWPPP. See definition for "*Construction Activity(ies)*" also.

Construction Activity(ies) - means any clearing, grading, excavation, filling, demolition or stockpiling activities that result in soil disturbance. Clearing activities can include, but are not limited to, logging equipment operation, the cutting and skidding of trees, stump removal and/or brush root removal. Construction activity does not include routine maintenance that is performed to maintain the original line and grade, hydraulic capacity, or original purpose of a facility.

Direct Discharge (to a specific surface waterbody) - means that runoff flows from a construction site by overland flow and the first point of discharge is the specific surface waterbody, or runoff flows from a construction site to a separate storm sewer system and the first point of discharge from the separate storm sewer system is the specific surface waterbody.

Discharge(s) - means any addition of any pollutant to waters of the State through an outlet or point source.

Environmental Conservation Law (ECL) - means chapter 43-B of the Consolidated Laws of the State of New York, entitled the Environmental Conservation Law.

Equivalent (Equivalence) – means that the practice or measure meets all the performance, longevity, maintenance, and safety objectives of the technical standard and will provide an equal or greater degree of water quality protection.

Final Stabilization - means that all soil disturbance activities have ceased and a uniform, perennial vegetative cover with a density of eighty (80) percent over the entire pervious surface has been established; or other equivalent stabilization measures, such as permanent landscape mulches, rock rip-rap or washed/crushed stone have been applied

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ditches, man-made channels, or storm drains):

- (i) Owned or operated by a State, city, town, borough, county, parish, district, association, or other public body (created by or pursuant to State law) having jurisdiction over disposal of sewage, industrial wastes, stormwater, or other wastes, including special districts under State law such as a sewer district, flood control district or drainage district, or similar entity, or an Indian tribe or an authorized Indian tribal organization, or a designated and approved management agency under section 208 of the CWA that discharges to surface waters of the State;
- (ii) Designed or used for collecting or conveying stormwater;
- (iii) Which is not a *combined sewer*; and
- (iv) Which is not part of a Publicly Owned Treatment Works (POTW) as defined at 40 CFR 122.2.

National Pollutant Discharge Elimination System (NPDES) - means the national system for the issuance of wastewater and stormwater permits under the Federal Water Pollution Control Act (Clean Water Act).

New Development – means any land disturbance that does meet the definition of Redevelopment Activity included in this appendix.

NOI Acknowledgment Letter - means the letter that the Department sends to an owner or operator to acknowledge the Department's receipt and acceptance of a complete Notice of Intent. This letter documents the owner's or operator's authorization to discharge in accordance with the general permit for stormwater discharges from *construction activity*.

Owner or Operator - means the person, persons or legal entity which owns or leases the property on which the *construction activity* is occurring; and/or an entity that has operational control over the construction plans and specifications, including the ability to make modifications to the plans and specifications.

Performance Criteria – means the design criteria listed under the "Required Elements" sections in Chapters 5, 6 and 10 of the technical standard, New York State Stormwater Management Design Manual, dated January 2015. It does not include the Sizing Criteria (i.e. WQv, RRv, Cpv, Qp and Qf) in Part I.C.2. of the permit.

Pollutant - means dredged spoil, filter backwash, solid waste, incinerator residue, sewage, garbage, sewage sludge, munitions, chemical wastes, biological materials, radioactive materials, heat, wrecked or discarded equipment, rock, sand and industrial, municipal, agricultural waste and ballast discharged into water; which may cause or might reasonably be expected to cause pollution of the waters of the state in contravention of the standards or guidance values adopted as provided in 6 NYCRR Parts 700 et seq .

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on all disturbed areas that are not covered by permanent structures, concrete or pavement.

General SPDES permit - means a SPDES permit issued pursuant to 6 NYCRR Part 750-1.21 and Section 70-0117 of the ECL authorizing a category of discharges.

Groundwater(s) - means waters in the saturated zone. The saturated zone is a subsurface zone in which all the interstices are filled with water under pressure greater than that of the atmosphere. Although the zone may contain gas-filled interstices or interstices filled with fluids other than water, it is still considered saturated.

Historic Property – means any building, structure, site, object or district that is listed on the State or National Registers of Historic Places or is determined to be eligible for listing on the State or National Registers of Historic Places.

Impervious Area (Cover) - means all impermeable surfaces that cannot effectively infiltrate rainfall. This includes paved, concrete and gravel surfaces (i.e. parking lots, driveways, roads, runways and sidewalks); building rooftops and miscellaneous impermeable structures such as patios, pools, and sheds.

Infeasible – means not technologically possible, or not economically practicable and achievable in light of best industry practices.

Larger Common Plan of Development or Sale - means a contiguous area where multiple separate and distinct *construction activities* are occurring, or will occur, under one plan. The term "plan" in "larger common plan of development or sale" is broadly defined as any announcement or piece of documentation (including a sign, public notice or hearing, marketing plan, advertisement, drawing, permit application, State Environmental Quality Review Act (SEQRA) environmental assessment form or other documents, zoning request, computer design, etc.) or physical demarcation (including boundary signs, lot stakes, surveyor markings, etc.) indicating that *construction activities* may occur on a specific plot.

For discrete construction projects that are located within a larger common plan of development or sale that are at least 1/4 mile apart, each project can be treated as a separate plan of development or sale provided any interconnecting road, pipeline or utility project that is part of the same "common plan" is not concurrently being disturbed.

Minimize – means reduce and/or eliminate to the extent achievable using control measures (including best management practices) that are technologically available and economically practicable and achievable in light of best industry practices.

Municipal Separate Storm Sewer (MS4) - a conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters,

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Qualified Inspector - means a person that is knowledgeable in the principles and practices of erosion and sediment control, such as a licensed Professional Engineer, Certified Professional in Erosion and Sediment Control (CPESC), Registered Landscape Architect, or other Department endorsed individual(s).

It can also mean someone working under the direct supervision of, and at the same company as, the licensed Professional Engineer or Registered Landscape Architect, provided that person has training in the principles and practices of erosion and sediment control. Training in the principles and practices of erosion and sediment control means that the individual working under the direct supervision of the licensed Professional Engineer or Registered Landscape Architect has received four (4) hours of Department endorsed training in proper erosion and sediment control principles from a Soil and Water Conservation District, or other Department endorsed entity. After receiving the initial training, the individual working under the direct supervision of the licensed Professional Engineer or Registered Landscape Architect shall receive four (4) hours of training every three (3) years.

It can also mean a person that meets the *Qualified Professional* qualifications in addition to the *Qualified Inspector* qualifications.

Note: Inspections of any post-construction stormwater management practices that include structural components, such as a dam for an impoundment, shall be performed by a licensed Professional Engineer.

Qualified Professional - means a person that is knowledgeable in the principles and practices of stormwater management and treatment, such as a licensed Professional Engineer, Registered Landscape Architect or other Department endorsed individual(s). Individuals preparing SWPPPs that require the post-construction stormwater management practice component must have an understanding of the principles of hydrology, water quality management practice design, water quantity control design, and, in many cases, the principles of hydraulics. All components of the SWPPP that involve the practice of engineering, as defined by the NYS Education Law (see Article 145), shall be prepared by, or under the direct supervision of, a professional engineer licensed to practice in the State of New York.

Redevelopment Activity(ies) – means the disturbance and reconstruction of existing impervious area, including impervious areas that were removed from a project site within five (5) years of preliminary project plan submission to the local government (i.e. site plan, subdivision, etc.).

Regulated, Traditional Land Use Control MS4 - means a city, town or village with land use control authority that is required to gain coverage under New York State DEC's SPDES General Permit For Stormwater Discharges from Municipal Separate Stormwater Sewer Systems (MS4s).

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Routine Maintenance Activity - means *construction activity* that is performed to maintain the original line and grade, hydraulic capacity, or original purpose of a facility, including, but not limited to:

- Re-grading of gravel roads or parking lots,
- Stream bank restoration projects (does not include the placement of spoil material),
- Cleaning and shaping of existing roadside ditches and culverts that maintains the approximate original line and grade, and hydraulic capacity of the ditch,
- Cleaning and shaping of existing roadside ditches that does not maintain the approximate original grade, hydraulic capacity and purpose of the ditch if the changes to the line and grade, hydraulic capacity or purpose of the ditch are installed to improve water quality and quantity controls (e.g. installing grass lined ditch),
- Placement of aggregate shoulder backing that makes the transition between the road shoulder and the ditch or embankment,
- Full depth milling and filling of existing asphalt pavements, replacement of concrete pavement slabs, and similar work that does not expose soil or disturb the bottom six (6) inches of subbase material,
- Long-term use of equipment storage areas at or near highway maintenance facilities,
- Removal of sediment from the edge of the highway to restore a previously existing sheet-flow drainage connection from the highway surface to the highway ditch or embankment,
- Existing use of Canal Corp owned upland disposal sites for the canal, and
- Replacement of curbs, gutters, sidewalks and guide rail posts.

Site limitations – means site conditions that prevent the use of an infiltration technique and or infiltration of the total WQv. Typical site limitations include: seasonal high groundwater, shallow depth to bedrock, and soils with an infiltration rate less than 0.5 inches/hour. The existence of site limitations shall be confirmed and documented using actual field testing (i.e. test pits, soil borings, and infiltration test) or using information from the most current United States Department of Agriculture (USDA) Soil Survey for the County where the project is located.

Sizing Criteria – means the criteria included in Part I.C.2 of the permit that are used to size post-construction stormwater management control practices. The criteria include; Water Quality Volume (WQv), Runoff Reduction Volume (RRv), Channel Protection Volume (Cpv), Overbank Flood (Qp), and Extreme Flood (Qf).

State Pollutant Discharge Elimination System (SPDES) - means the system established pursuant to Article 17 of the ECL and 6 NYCRR Part 750 for issuance of permits authorizing discharges to the waters of the state.

Steep Slope – means land area with a Soil Slope Phase that is identified as an E or F, or

the map unit name is inclusive of 25% or greater slope, on the United States Department of Agriculture (“USDA”) Soil Survey for the County where the disturbance will occur.

Surface Waters of the State - shall be construed to include lakes, bays, sounds, ponds, impounding reservoirs, springs, rivers, streams, creeks, estuaries, marshes, inlets, canals, the Atlantic ocean within the territorial seas of the state of New York and all other bodies of surface water, natural or artificial, inland or coastal, fresh or salt, public or private (except those private waters that do not combine or effect a junction with natural surface waters), which are wholly or partially within or bordering the state or within its jurisdiction. Waters of the state are further defined in 6 NYCRR Parts 800 to 941.

Temporarily Ceased – means that an existing disturbed area will not be disturbed again within 14 calendar days of the previous soil disturbance.

Temporary Stabilization - means that exposed soil has been covered with material(s) as set forth in the technical standard, New York Standards and Specifications for Erosion and Sediment Control, to prevent the exposed soil from eroding. The materials can include, but are not limited to, mulch, seed and mulch, and erosion control mats (e.g. jute twisted yarn, excelsior wood fiber mats).

Total Maximum Daily Loads (TMDLs) - A TMDL is the sum of the allowable loads of a single pollutant from all contributing point and nonpoint sources. It is a calculation of the maximum amount of a pollutant that a waterbody can receive on a daily basis and still meet *water quality standards*, and an allocation of that amount to the pollutant's sources. A TMDL stipulates wasteload allocations (WLAs) for point source discharges, load allocations (LAs) for nonpoint sources, and a margin of safety (MOS).

Trained Contractor - means an employee from the contracting (construction) company, identified in Part III.A.6., that has received four (4) hours of Department endorsed training in proper erosion and sediment control principles from a Soil and Water Conservation District, or other Department endorsed entity. After receiving the initial training, the *trained contractor* shall receive four (4) hours of training every three (3) years.

It can also mean an employee from the contracting (construction) company, identified in Part III.A.6., that meets the *qualified inspector* qualifications (e.g. licensed Professional Engineer, Certified Professional in Erosion and Sediment Control (CPESC), Registered Landscape Architect, or someone working under the direct supervision of, and at the same company as, the licensed Professional Engineer or Registered Landscape Architect, provided they have received four (4) hours of Department endorsed training in proper erosion and sediment control principles from a Soil and Water Conservation District, or other Department endorsed entity).

The *trained contractor* is responsible for the day to day implementation of the SWPPP.

Uniform Procedures Act (UPA) Permit - means a permit required under 6 NYCRR Part

621 of the Environmental Conservation Law (ECL), Article 70.

Water Quality Standard - means such measures of purity or quality for any waters in relation to their reasonable and necessary use as promulgated in 6 NYCRR Part 700 et seq.

APPENDIX B

Required SWPPP Components by Project Type

**Table 1
CONSTRUCTION ACTIVITIES THAT REQUIRE THE PREPARATION OF A SWPPP
THAT ONLY INCLUDES EROSION AND SEDIMENT CONTROLS**

<p>The following construction activities that involve soil disturbances of one (1) or more acres of land, but less than five (5) acres:</p> <ul style="list-style-type: none"> • Single family home <u>not</u> located in one of the watersheds listed in Appendix C or <u>not</u> directly discharging to one of the 303(d) segments listed in Appendix E • Single family residential subdivisions with 25% or less impervious cover at total site build-out and <u>not</u> located in one of the watersheds listed in Appendix C and <u>not</u> directly discharging to one of the 303(d) segments listed in Appendix E • Construction of a barn or other agricultural building, silo, stock yard or pen.
<p>The following construction activities that involve soil disturbances of one (1) or more acres of land:</p> <ul style="list-style-type: none"> • Installation of underground, linear utilities; such as gas lines, fiber-optic cable, cable TV, electric, telephone, sewer mains, and water mains • Environmental enhancement projects, such as wetland mitigation projects, stormwater retrofits and stream restoration projects • Bike paths and trails • Sidewalk construction projects that are not part of a road/ highway construction or reconstruction project • Slope stabilization projects • Slope flattening that changes the grade of the site, but does not significantly change the runoff characteristics • Spoil areas that will be covered with vegetation • Land clearing and grading for the purposes of creating vegetated open space (i.e. recreational parks, lawns, meadows, fields), excluding projects that <i>alter hydrology from pre to post development</i> conditions • Athletic fields (natural grass) that do not include the construction or reconstruction of <i>impervious area</i> and do not <i>alter hydrology from pre to post development</i> conditions • Demolition project where vegetation will be established and no redevelopment is planned • Overhead electric transmission line project that does not include the construction of permanent access roads or parking areas surfaced with <i>impervious cover</i> • Structural practices as identified in Table II in the "Agricultural Management Practices Catalog for Nonpoint Source Pollution in New York State", excluding projects that involve soil disturbances of less than five acres and construction activities that include the construction or reconstruction of impervious area
<p>The following construction activities that involve soil disturbances between five thousand (5000) square feet and one (1) acre of land:</p> <ul style="list-style-type: none"> • All construction activities located in the watersheds identified in Appendix D that involve soil disturbances between five thousand (5,000) square feet and one (1) acre of land.

Table 2
CONSTRUCTION ACTIVITIES THAT REQUIRE THE PREPARATION OF A SWPPP THAT INCLUDES POST-CONSTRUCTION STORMWATER MANAGEMENT PRACTICES

The following construction activities that involve soil disturbances of one (1) or more acres of land:

- Single family home located in one of the watersheds listed in Appendix C or *directly discharging* to one of the 303(d) segments listed in Appendix E
- Single family residential subdivisions located in one of the watersheds listed in Appendix C or *directly discharging* to one of the 303(d) segments listed in Appendix E
- Single family residential subdivisions that involve soil disturbances of between one (1) and five (5) acres of land with greater than 25% impervious cover at total site build-out
- Single family residential subdivisions that involve soil disturbances of five (5) or more acres of land, and single family residential subdivisions that involve soil disturbances of less than five (5) acres that are part of a larger common plan of development or sale that will ultimately disturb five or more acres of land
- Multi-family residential developments; includes townhomes, condominiums, senior housing complexes, apartment complexes, and mobile home parks
- Airports
- Amusement parks
- Campgrounds
- Cemeteries that include the construction or reconstruction of impervious area (>5% of disturbed area) or *alter the hydrology from pre to post development conditions*
- Commercial developments
- Churches and other places of worship
- Construction of a barn or other agricultural building(e.g. silo) and structural practices as identified in Table II in the "Agricultural Management Practices Catalog for Nonpoint Source Pollution in New York State" that include the construction or reconstruction of *impervious area*, excluding projects that involve soil disturbances of less than five acres.
- Golf courses
- Institutional, includes hospitals, prisons, schools and colleges
- Industrial facilities, includes industrial parks
- Landfills
- Municipal facilities; includes highway garages, transfer stations, office buildings, POTW's and water treatment plants
- Office complexes
- Sports complexes
- Racetracks, includes racetracks with earthen (dirt) surface
- Road construction or reconstruction
- Parking lot construction or reconstruction
- Athletic fields (natural grass) that include the construction or reconstruction of impervious area (>5% of disturbed area) or *alter the hydrology from pre to post development conditions*
- Athletic fields with artificial turf
- Permanent access roads, parking areas, substations, compressor stations and well drilling pads, surfaced with *impervious cover*, and constructed as part of an over-head electric transmission line project, wind-power project, cell tower project, oil or gas well drilling project, sewer or water main project or other linear utility project
- All other construction activities that include the construction or reconstruction of *impervious area* or *alter the hydrology from pre to post development conditions*, and are not listed in Table 1

APPENDIX C

Watersheds Where Enhanced Phosphorus Removal Standards Are Required

Watersheds where *owners or operators* of construction activities identified in Table 2 of Appendix B must prepare a SWPPP that includes post-construction stormwater management practices designed in conformance with the Enhanced Phosphorus Removal Standards included in the technical standard, New York State Stormwater Management Design Manual ("Design Manual").

- Entire New York City Watershed located east of the Hudson River - Figure 1
- Onondaga Lake Watershed - Figure 2
- Greenwood Lake Watershed - Figure 3
- Oscawana Lake Watershed - Figure 4
- Kinderhook Lake Watershed - Figure 5

Figure 1 - New York City Watershed East of the Hudson

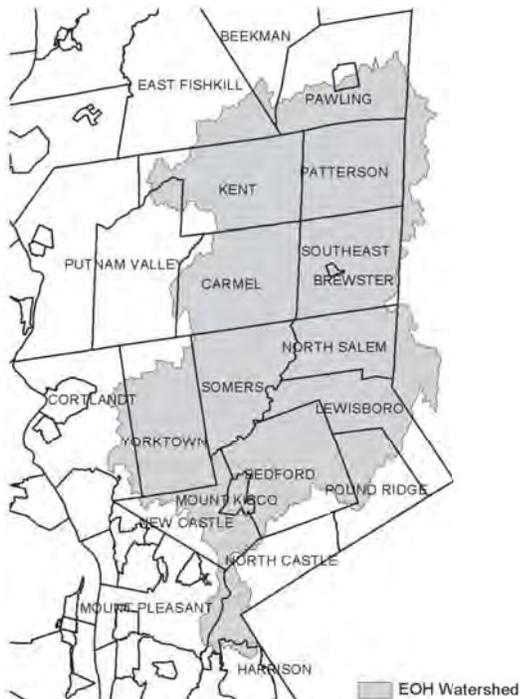


Figure 2 - Onondaga Lake Watershed



Figure 3 - Greenwood Lake Watershed



Figure 4 - Oscawana Lake Watershed

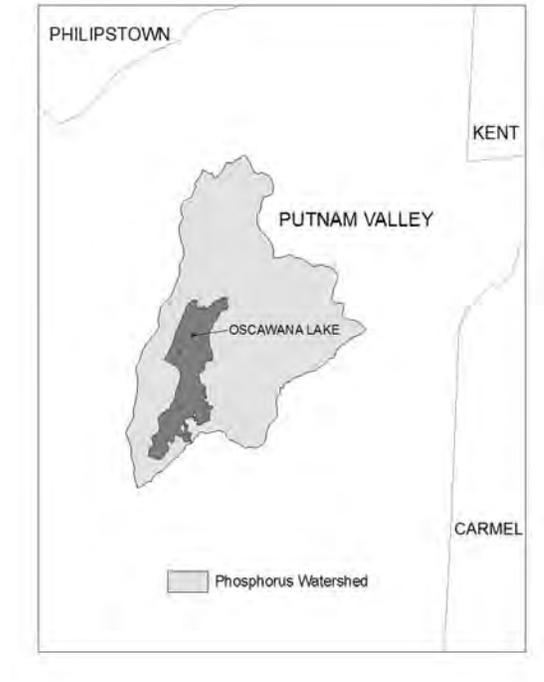
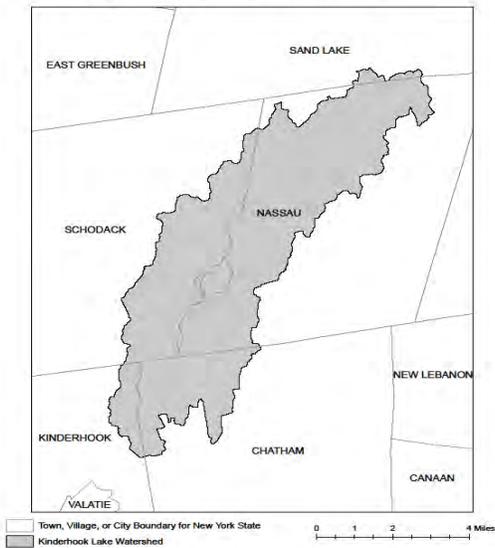


Figure 5: Kinderhook Lake Watershed



APPENDIX D

Watersheds where *owners* or *operators* of construction activities that involve soil disturbances between five thousand (5000) square feet and one (1) acre of land must obtain coverage under this permit.

Entire New York City Watershed that is located east of the Hudson River - See Figure 1 in Appendix C

APPENDIX E

List of 303(d) segments impaired by pollutants related to *construction activity* (e.g. silt, sediment or nutrients). *Owners or operators* of single family home and single family residential subdivisions with 25% or less total impervious cover at total site build-out that involve soil disturbances of one or more acres of land, but less than 5 acres, and *directly discharge* to one of the listed segments below shall prepare a SWPPP that includes post-construction stormwater management practices designed in conformance with the New York State Stormwater Management Design Manual ("Design Manual"), dated January 2015.

COUNTY	WATERBODY	COUNTY	WATERBODY
Albany	Ann Lee (Shakers) Pond, Stump Pond	Greene	Sleepy Hollow Lake
Albany	Basic Creek Reservoir	Herkimer	Steele Creek tribs
Allegheny	Amity Lake, Saunders Pond	Kings	Hendrix Creek
Bronx	Van Cortlandt Lake	Lewis	Mill Creek/South Branch and tribs
Broome	Whitney Point Lake/Reservoir	Livingston	Conesus Lake
Broome	Fly Pond, Deer Lake	Livingston	Jaycox Creek and tribs
Broome	Minor Tribs to Lower Susquehanna (north)	Livingston	Mill Creek and minor tribs
Cattaraugus	Allegheny River/Reservoir	Livingston	Bradner Creek and tribs
Cattaraugus	Case Lake	Livingston	Christie Creek and tribs
Cattaraugus	Linyco/Club Pond	Monroe	Lake Ontario Shoreline, Western
Cayuga	Duck Lake	Monroe	Mill Creek/Blue Pond Outlet and tribs
Chautauqua	Chautauqua Lake, North	Monroe	Rochester Embayment - East
Chautauqua	Chautauqua Lake, South	Monroe	Rochester Embayment - West
Chautauqua	Bear Lake	Monroe	Unnamed Trib to Honeoye Creek
Chautauqua	Chadakoin River and tribs	Monroe	Genesee River, Lower, Main Stem
Chautauqua	Lower Cassadaga Lake	Monroe	Genesee River, Middle, Main Stem
Chautauqua	Middle Cassadaga Lake	Monroe	Black Creek, Lower, and minor tribs
Clinton	Findley Lake	Monroe	Buck Pond
Clinton	Great Chazy River, Lower, Main Stem	Monroe	Long Pond
Columbia	Kinderhook Lake	Monroe	Cranberry Pond
Columbia	Robinson Pond	Monroe	Mill Creek and tribs
Dutchess	Hillside Lake	Monroe	Shipbuilders Creek and tribs
Dutchess	Wallpaper Lakes	Monroe	Minor tribs to Irondequoit Bay
Dutchess	Fall Kill and tribs	Monroe	Thomas Creek/White Brook and tribs
Erie	Green Lake	Nassau	Glen Cove Creek, Lower, and tribs
Erie	Scajaquada Creek, Lower, and tribs	Nassau	LI Tribs (fresh) to East Bay
Erie	Scajaquada Creek, Middle, and tribs	Nassau	East Meadow Brook, Upper, and tribs
Erie	Scajaquada Creek, Upper, and tribs	Nassau	Hempstead Bay
Erie	Rush Creek and tribs	Nassau	Hempstead Lake
Erie	Ellicott Creek, Lower, and tribs	Nassau	Grant Park Pond
Erie	Beeman Creek and tribs	Nassau	Beaver Lake
Erie	Murder Creek, Lower, and tribs	Nassau	Camaans Pond
Erie	South Branch Smoke Cr, Lower, and tribs	Nassau	Halls Pond
Erie	Little Sister Creek, Lower, and tribs	Nassau	LI Tidal Tribs to Hempstead Bay
Essex	Lake George (primary county: Warren)	Nassau	Massapequa Creek and tribs
Genesee	Black Creek, Upper, and minor tribs	Nassau	Reynolds Channel, east
Genesee	Tonawanda Creek, Middle, Main Stem	Nassau	Reynolds Channel, west
Genesee	Oak Orchard Creek, Upper, and tribs	Nassau	Silver Lake, Lofts Pond
Genesee	Bowen Brook and tribs	Nassau	Woodmere Channel
Genesee	Bigelow Creek and tribs	Niagara	Hyde Park Lake
Genesee	Black Creek, Middle, and minor tribs	Niagara	Lake Ontario Shoreline, Western
Genesee	LeRoy Reservoir	Niagara	Bergholtz Creek and tribs
Greene	Schoharie Reservoir	Onondaga	Ballou, Nail Creeks
		Onondaga	Ley Creek and tribs
		Onondaga	Onondaga Creek, Lower and tribs

APPENDIX E

List of 303(d) segments impaired by pollutants related to *construction activity*, cont'd.

COUNTY	WATERBODY	COUNTY	WATERBODY
Onondaga	Onondaga Creek, Middle and tribs	Suffolk	Great South Bay, West
Onondaga	Onondaga Creek, Upp, and minor tribs	Suffolk	Mill and Seven Ponds
Onondaga	Harbor Brook, Lower, and tribs	Suffolk	Moniches Bay, East
Onondaga	Ninemile Creek, Lower, and tribs	Suffolk	Moniches Bay, West
Onondaga	Minor tribs to Onondaga Lake	Suffolk	Quantuck Bay
Onondaga	Onondaga Creek, Lower, and tribs	Suffolk	Shinneck Bay (and Inlet)
Ontario	Honeoye Lake	Sullivan	Bodine, Montgomery Lakes
Ontario	Hemlock Lake Outlet and minor tribs	Sullivan	Davies Lake
Ontario	Great Brook and minor tribs	Sullivan	Pleasure Lake
Orange	Monhagen Brook and tribs	Sullivan	Swan Lake
Orange	Orange Lake	Tompkins	Cayuga Lake, Southern End
Orleans	Lake Ontario Shoreline, Western	Tompkins	Owasco Inlet, Upper, and tribs
Oswego	Pleasant Lake	Ulster	Ashokan Reservoir
Oswego	Lake Neatahwanta	Ulster	Esopus Creek, Upper, and minor tribs
Putnam	Oscawana Lake	Ulster	Esopus Creek, Lower, Main Stem
Putnam	Palmer Lake	Ulster	Esopus Creek, Middle, and minor tribs
Putnam	Lake Carmel	Warren	Lake George
Queens	Jamaica Bay, Eastern, and tribs (Queens)	Warren	Tribs to L George, Village of L George
Queens	Bergen Basin	Warren	Huddle/Finkle Brooks and tribs
Queens	Shellbank Basin	Warren	Indian Brook and tribs
Rensselaer	Nassau Lake	Warren	Hague Brook and tribs
Rensselaer	Snyders Lake	Washington	Tribs to L George, East Shr Lk George
Richmond	Grasmere, Arbutus and Wolfes Lakes	Washington	Cossayuna Lake
Rockland	Congers Lake, Swartout Lake	Washington	Wood Cr/Champlain Canal, minor tribs
Rockland	Rockland Lake	Wayne	Port Bay
Saratoga	Ballston Lake	Wayne	Marbletown Creek and tribs
Saratoga	Round Lake	Westchester	Lake Katonah
Saratoga	Dwaas Kill and tribs	Westchester	Lake Mohegan
Saratoga	Tribs to Lake Lonely	Westchester	Lake Shenorock
Saratoga	Lake Lonely	Westchester	Reservoir No.1 (Lake Isle)
Schenectady	Collins Lake	Westchester	Saw Mill River, Middle, and tribs
Schenectady	Duane Lake	Westchester	Silver Lake
Schenectady	Mariaville Lake	Westchester	Teatown Lake
Schoharie	Engleville Pond	Westchester	Truesdale Lake
Schoharie	Summit Lake	Westchester	Wallace Pond
Schuyler	Cayuta Lake	Westchester	Peach Lake
St. Lawrence	Fish Creek and minor tribs	Westchester	Mamaroneck River, Lower
St. Lawrence	Black Lake Outlet/Black Lake	Westchester	Mamaroneck River, Upp, and tribs
Steuben	Lake Salubria	Westchester	Sheldrake River and tribs
Steuben	Smith Pond	Westchester	Blind Brook, Lower
Suffolk	Millers Pond	Westchester	Blind Brook, Upper, and tribs
Suffolk	Mattituck (Marratooka) Pond	Westchester	Lake Lincoldale
Suffolk	Tidal tribs to West Moniches Bay	Westchester	Lake Meahaugh
Suffolk	Canaan Lake	Wyoming	Java Lake
Suffolk	Lake Ronkonkoma	Wyoming	Silver Lake
Suffolk	Beaverdam Creek and tribs		
Suffolk	Big/Little Fresh Ponds		
Suffolk	Fresh Pond		
Suffolk	Great South Bay, East		
Suffolk	Great South Bay, Middle		

Note: The list above identifies those waters from the final New York State 2014 Section 303(d) List of Impaired Waters Requiring a TMDL/Other Strategy, dated January 2015, that are impaired by silt, sediment or nutrients.

APPENDIX F

LIST OF NYS DEC REGIONAL OFFICES

Region	COVERING THE FOLLOWING COUNTIES:	DIVISION OF ENVIRONMENTAL PERMITS (DEP)	DIVISION OF WATER (DOW)
		PERMIT ADMINISTRATORS	WATER (SPDES) PROGRAM
1	NASSAU AND SUFFOLK	50 CIRCLE ROAD STONY BROOK, NY 11790 TEL. (631) 444-0365	50 CIRCLE ROAD STONY BROOK, NY 11790-3409 TEL. (631) 444-0405
2	BRONX, KINGS, NEW YORK, QUEENS AND RICHMOND	1 HUNTERS POINT PLAZA, 47-40 21ST ST. LONG ISLAND CITY, NY 11101-5407 TEL. (718) 482-4997	1 HUNTERS POINT PLAZA, 47-40 21ST ST. LONG ISLAND CITY, NY 11101-5407 TEL. (718) 482-4933
3	DUTCHESS, ORANGE, PUTNAM, ROCKLAND, SULLIVAN, ULSTER AND WESTCHESTER	21 SOUTH PUTT CORNERS ROAD NEW PALTZ, NY 12561-1696 TEL. (845) 256-3059	100 HILLSIDE AVENUE, SUITE 1W WHITE PLAINS, NY 10603 TEL. (914) 426 - 2505
4	ALBANY, COLUMBIA, DELAWARE, GREENE, MONTGOMERY, OTSEGO, RENSSELAER, SCHENECTADY AND SCHOHARIE	1150 NORTH WESTCOTT ROAD SCHENECTADY, NY 12306-2014 TEL. (518) 357-2069	1130 NORTH WESTCOTT ROAD SCHENECTADY, NY 12306-2014 TEL. (518) 357-2045
5	CLINTON, ESSEX, FRANKLIN, FULTON, HAMILTON, SARATOGA, WARREN AND WASHINGTON	1115 STATE ROUTE 86, Po Box 296 RAY BROOK, NY 12977-0296 TEL. (518) 897-1234	232 GOLF COURSE ROAD WARRENSBURG, NY 12885-1172 TEL. (518) 623-1200
6	HERKIMER, JEFFERSON, LEWIS, ONEIDA AND ST. LAWRENCE	STATE OFFICE BUILDING 317 WASHINGTON STREET WATERTOWN, NY 13601-3787 TEL. (315) 785-2245	STATE OFFICE BUILDING 207 GENESSEE STREET UTICA, NY 13501-2885 TEL. (315) 793-2554
7	BROOME, CAYUGA, CHENANGO, CORTLAND, MADISON, ONONDAGA, OSWEGO, TIOGA AND TOMPKINS	615 ERIE BLVD, WEST SYRACUSE, NY 13204-2400 TEL. (315) 426-7438	615 ERIE BLVD, WEST SYRACUSE, NY 13204-2400 TEL. (315) 426-7500
8	CHEMUNG, GENESEE, LIVINGSTON, MONROE, ONTARIO, ORLEANS, SCHUYLER, SENECA, STEUBEN, WAYNE AND YATES	6274 EAST AVON-LIMA ROAD AVON, NY 14414-9519 TEL. (585) 226-2466	6274 EAST AVON-LIMA RD. AVON, NY 14414-9519 TEL. (585) 226-2466
9	ALLEGANY, CATTARAUGUS, CHAUTAUQUA, ERIE, NIAGARA AND WYOMING	270 MICHIGAN AVENUE BUFFALO, NY 14203-2999 TEL. (716) 851-7165	270 MICHIGAN AVE. BUFFALO, NY 14203-2999 TEL. (716) 851-7070

Appendix G

Historic Preservation/Endangered Species Documentation

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
Division of Fish, Wildlife & Marine Resources
New York Natural Heritage Program
625 Broadway, 5th Floor, Albany, New York 12233-4757
Phone: (518) 402-8935 • **Fax:** (518) 402-8925
Website: www.dec.ny.gov



February 10, 2016

Michael Hale
The LA Group
40 Long Alley
Saratoga Springs, NY 12866

Re: Moore Hall student residential building, Union Avenue
Town/City: City Of Saratoga Springs. County: Saratoga.

Dear Michael Hale:

In response to your recent request, we have reviewed the New York Natural Heritage Program database with respect to the above project.

We have no records of rare or state-listed animals or plants, or significant natural communities at your site or in its immediate vicinity.

The absence of data does not necessarily mean that rare or state-listed species, significant natural communities, or other significant habitats do not exist on or adjacent to the proposed site. Rather, our files currently do not contain information that indicates their presence. For most sites, comprehensive field surveys have not been conducted. We cannot provide a definitive statement on the presence or absence of all rare or state-listed species or significant natural communities. Depending on the nature of the project and the conditions at the project site, further information from on-site surveys or other resources may be required to fully assess impacts on biological resources.

This response applies only to known occurrences of rare or state-listed animals and plants, significant natural communities, and other significant habitats maintained in the Natural Heritage Database. Your project may require additional review or permits; for information regarding other permits that may be required under state law for regulated areas or activities (e.g., regulated wetlands), please contact the appropriate NYS DEC Regional Office, Division of Environmental Permits, as listed at www.dec.ny.gov/about/39381.html.

Sincerely,

A handwritten signature in black ink that reads "Nick Conrad".

Nicholas Conrad
Information Resources Coordinator
New York Natural Heritage Program



Parks, Recreation, and Historic Preservation

ANDREW M. CUOMO
Governor

ROSE HARVEY
Commissioner

April 5, 2016

Mr. Michael Hale, Associate
The LA Group
40 Long Alley
Saratoga Springs, NY 12866

Re: DEC
Moore Hall Demolition & New Construction
28 Union Avenue, Saratoga Springs, NY 12866
16PR00001

Dear Mr. Hale:

Thank you for continuing to consult with the Division for Historic Preservation of the Office of Parks, Recreation and Historic Preservation (OPRHP). We have reviewed the additional materials submitted in accordance with the New York State Historic Preservation Act of 1980 (Section 14.09 of the New York Parks, Recreation and Historic Preservation Law). These comments are those of the Division for Historic Preservation and relate only to Historic/Cultural resources.

Based upon this review, it is the OPRHP's opinion that the demolition of Moore Hall and the proposed new construction at 28 Union Avenue will have No Adverse Impact upon the Union Avenue Historic District listed in the State and National Registers of Historic Places, provided the following conditions are met:

- The building materials for the new construction are sympathetic to the surrounding architecture and work well within the streetscape of the historic district.
- The setbacks and lawn areas along Union Avenue and White Street are consistent with neighboring properties.

OPRHP appreciates the opportunity to comment on this project. Should you have questions about this review, I can be reached at (518) 268-2170.

Sincerely,

Laurie E. Klenkel
Historic Site Restoration Coordinator
e-mail: Laurie.Klenkel@parks.ny.gov

via e-mail only

Division for Historic Preservation

P.O. Box 189, Waterford, New York 12188-0189 • (518) 237-8643 • www.nysparks.com

Appendix H

Deep Ripping and De-compaction (DEC, 2008)



New York State
DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Division of Water

Deep-Ripping and Decompaction

April 2008

Document Prepared by:

John E. Lacey,
Land Resource Consultant and Environmental Compliance Monitor
(Formerly with the Division of Agricultural Protection and Development Services,
NYS Dept. of Agriculture & Markets)

New York State
Department of Environmental Conservation

Alternative Stormwater Management
Deep-Ripping and Decomaction

Description

The two-phase practice of 1) “Deep Ripping,” and 2) “Decomaction” (deep subsoiling), of the soil material as a step in the cleanup and restoration/landscaping of a construction site, helps mitigate the physically induced impacts of soil compression; i.e.: soil compaction or the substantial increase in the bulk density of the soil material.

Deep Ripping and Decomaction are key factors which help in restoring soil pore space and permeability for water infiltration. Conversely, the physical actions of cut-and-fill work, land grading, the ongoing movement of construction equipment and the transport of building materials throughout a site alter the architecture and structure of the soil, resulting in: the mixing of layers (horizons) of soil materials, compression of those materials and diminished soil porosity which, if left unchecked, severely impairs the soil’s water holding capacity and vertical drainage (rainfall infiltration), from the surface downward.

In a humid climate region, compaction damage on a site is virtually guaranteed over the duration of a project. Soil in very moist to wet condition when compacted, will have severely reduced permeability. Figure 1 displays the early stage of the deep-ripping phase (Note that all topsoil was stripped prior to construction access, and it remains stockpiled until the next phase – decomaction – is complete). A heavy-duty tractor is pulling a three-shank ripper on the first of several series of incrementally deepening passes through the construction access corridor’s densely compressed subsoil material. Figure 2 illustrates the approximate volumetric composition of a loam surface soil when conditions are good for plant growth, with adequate natural pore space for fluctuating moisture conditions.



Fig. 1. A typical deep ripping phase of this practice, during the first in a series of progressively deeper “rips” through severely compressed subsoil.

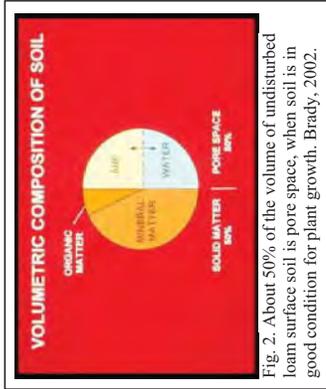


Fig. 2. About 50% of the volume of undisturbed loam surface soil is pore space, when soil is in good condition for plant growth. Brady, 2002.

Recommended Application of Practice

The objective of Deep Ripping and Decomaction is to effectively fracture (vertically and laterally) through the thickness of the physically compressed subsoil material (see Figure 3), restoring soil porosity and permeability and aiding infiltration to help reduce runoff. Together with topsoil stripping, the “two-phase” practice of Deep Ripping and Decomaction first became established as a “best management practice” through ongoing success on commercial farmlands affected by heavy utility construction right-of-way projects (transmission pipelines and large power lines).

Soil permeability, soil drainage and cropland productivity were restored. For broader construction application, the two-phase practice of Deep Ripping and Decomaction is best adapted to areas impacted with significant soil compaction, on contiguous open portions of large construction sites and inside long, open construction corridors used as temporary access over the duration of construction. Each mitigation area should have minimal above-and-below-ground obstructions for the easy avoidance and maneuvering of a large tractor and ripping/decompacting implements. Conversely, the complete two-phase practice is not recommended in congested or obstructed areas due to the limitations on tractor and implement movement.



Fig. 3. Construction site with significant compaction of the deep basal till subsoil extends 24 inches below this exposed cut-and-fill work surface.

Benefits

Aggressive “deep ripping” through the compressed thickness of exposed subsoil before the replacement/respreading of the topsoil layer, followed by “decompaction,” i.e.: “sub-soiling,” through the restored topsoil layer down into the subsoil, offers the following benefits:

- Increases the project (larger size) area’s direct surface infiltration of rainfall by providing the open site’s mitigated soil condition and lowers the demand on concentrated runoff control structures
- Enhances direct groundwater recharge through greater dispersion across and through a broader surface than afforded by some runoff-control structural measures
- Decreases runoff volume generated and provides hydrologic source control
- May be planned for application in feasible open locations either alone or in

conjunction with plans for structural practices (e.g., subsurface drain line or infiltration basin) serving the same or contiguous areas

- Promotes successful long-term revegetation by restoring soil permeability, drainage and water holding capacity for healthy (rather than restricted) root-system development of trees, shrubs and deep rooted ground cover, minimizing plant drowning during wet periods and burnout during dry periods.

Feasibility/Limitations

The effectiveness of Deep Ripping and Decompaction is governed mostly by site factors such as: the original (undisturbed) soil's hydrologic characteristics; the general slope; local weather/timing (soil moisture) for implementation; the space-related freedom of equipment/implementation maneuverability (noted above in **Recommended Application of Practice**), and by the proper selection and operation of tractor and implements (explained below in **Design Guidance**). The more notable site-related factors include:

Soil

In the undisturbed condition, each identified soil type comprising a site is grouped into one of four categories of soil hydrology, Hydrologic Soil Group A, B, C or D, determined primarily by a range of characteristics including soil texture, drainage capability when thoroughly wet, and depth to water table. The natural rates of infiltration and transmission of soil-water through the undisturbed soil layers for Group A is "high" with a low runoff potential while soils in Group B are moderate in infiltration and the transmission of soil-water with a moderate runoff potential, depending somewhat on slope. Soils in Group C have slow rates of infiltration and transmission of soil-water and a moderately high runoff potential influenced by soil texture and slope; while soils in Group D have exceptionally slow rates of infiltration and transmission of soil-water, and high runoff potential.

In Figure 4, the profile displays the undisturbed horizons of a soil in Hydrologic Soil Group C and the naturally slow rate of infiltration through the subsoil. The slow rate of infiltration begins immediately below the topsoil horizon (30 cm), due to the limited amount of macro pores, e.g.: natural subsoil fractures, worm holes and root channels. Infiltration after the construction-induced mixing and compression of such subsoil material is virtually absent; but can be restored back to this natural level with the two-phase practice of deep ripping and decompaction, followed by the permanent establishment of an appropriate, deep taproot

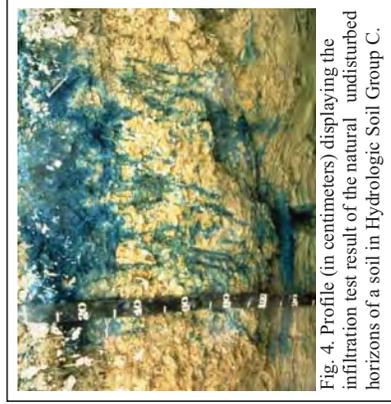


Fig. 4. Profile (in centimeters) displaying the infiltration test result of the natural undisturbed horizons of a soil in Hydrologic Soil Group C.

lawn/ground cover to help maintain the restored subsoil structure. Infiltration after construction-induced mixing and compression of such subsoil material can be notably rehabilitated with the Deep Ripping and Decompaction practice, which prepares the site for the appropriate long-term lawn/ground cover mix including deep taproot plants such as clover, fescue or trefoil, etc. needed for all rehabilitated soils.

Generally, soils in Hydrologic Soil Groups A and B, which respectively may include deep, well-drained, sandy-gravelly materials or deep, moderately well-drained basal till materials, are among the easier ones to restore permeability and infiltration, by deep ripping and decompaction. Among the many different soils in Hydrologic Soil Group C are those unique glacial tills having a natural fragipan zone, beginning about 12 to 18 inches (30 – 45cm), below surface. Although soils in Hydrologic Soil Group C do require a somewhat more carefully applied level of the Deep Ripping and Decompaction practice, it can greatly benefit such affected areas by reducing the runoff and fostering infiltration to a level equal to that of pre-disturbance.

Soils in Hydrologic Soil Group D typically have a permanent high water table close to the surface, influenced by a clay or other highly impervious layer of material. In many locations with clay subsoil material, the bulk density is so naturally high that heavy trafficking has little or no added impact on infiltration; and structural runoff control practices rather than Deep Ripping and Decompaction should be considered.

The information about Hydrologic Soil Groups is merely a general guideline. Site-specific data such as limited depths of cut-and-fill grading with minimal removal or translocation of the inherent subsoil materials (as analyzed in the county soil survey) or, conversely, the excavation and translocation of deeper, unconsolidated substratum or consolidated bedrock materials (unlike the analyzed subsoil horizons' materials referred to in the county soil survey) should always be taken into account.

Sites made up with significant quantities of large rocks, or having a very shallow depth to bedrock, are not conducive to deep ripping and decompaction (subsoiling), and other measures may be more practical.

Slope

The two-phase application of 1) deep ripping and 2) decompaction (deep subsoiling), is most practical on flat, gentle and moderate slopes. In some situations, such as but not limited to temporary construction access corridors, inclusion areas that are moderately steep along a project's otherwise gentle or moderate slope may also be deep ripped and decompacted. For limited instances of moderate steepness on other projects, however, the post-construction land use and the relative alignment of the potential ripping and decompaction work in relation to the lay of the slope should be reviewed for safety and practicality. In broad construction areas predominated by moderately steep or steep slopes, the practice is generally not used.

Local Weather/Timing/Soil Moisture

Effective fracturing of compressed subsoil material from the exposed work surface, laterally and vertically down through the affected zone is achieved only when the soil material is moderately dry to moderately moist. Neither one of the two-phases, deep ripping nor decompaction (deep

subsoiling), can be effectively conducted when the soil material (subsoil or replaced topsoil) is in either a “plastic” or “liquid” state of soil consistency. Pulling the respective implements legs through the soil when it is overly moist only results in the “slicing and smearing” of the material or added “squeezing and compression” instead of the necessary fracturing. Ample drying time is needed for a “rippable” soil condition not merely in the material close to the surface, but throughout the material located down to the bottom of the physically compressed zone of the subsoil.

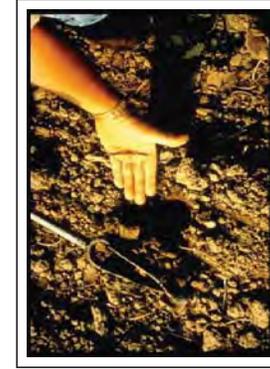


Fig. 5. Augered from a depth of 19 inches below the surface of the replaced topsoil, this subsoil sample was hand rolled to a 1/8-inch diameter. The test shows the soil at this site stretches out too far without crumbling; it indicates the material is in a plastic state of consistency, too wet for final decompaction (deep subsoiling) at this time.

The “poor man’s Atterberg field test” for soil plasticity is a simple “hand-roll” method used for quick, on-site determination of whether or not the moisture level of the affected soil material is low enough for: effective deep ripping of subsoil; respreading of topsoil in a friable state; and final decompaction (deep subsoiling). Using a sample of soil material obtained from the planned bottom depth of ripping, e.g.: 20 - 24 inches below exposed subsoil surface, the sample is hand rolled between the palms down to a 1/8-inch diameter thread. (Use the same test for stored topsoil material before respreading on the site.) If the respective soil sample crumbles apart in segments no greater than 3/8 of an inch long, by the time it is rolled down to 1/8 inch diameter, it is low enough in moisture for deep ripping (or topsoil replacement), and decompaction. Conversely, as shown in Figure 5, if the rolled sample stretches out in increments greater than 3/8 of an inch long before crumbling, it is in a “plastic” state of soil consistency and is too wet for subsoil ripping (as well as topsoil replacement) and final decompaction.

Design Guidance

Beyond the above-noted site factors, a vital requirement for the effective Deep Ripping and Decompaction (deep subsoiling), is implementing the practice in its distinct, two-phase process:

- 1) Deep rip the affected thickness of exposed subsoil material (see Figure 10 and 11), aggressively fracturing it before the protected topsoil is reapplied on the site (see Figure 12); and
- 2) Decompact (deep subsoil), simultaneously through the restored topsoil layer and the upper half of the affected subsoil (Figure 13). The second phase, “decompaction,” mitigates the partial recompaction which occurs during the heavy process of topsoil spreading/grading. Prior to deep ripping and decompacting the site, all construction activity, including construction equipment and material storage, site cleanup and trafficking (Figure 14), should be finished; and the site closed off to further disturbance. Likewise, once the practice is underway and the area’s soil permeability and

rainfall infiltration are being restored, a policy limiting all further traffic to permanent travel lanes is maintained.

The other critical elements, outlined below, are: using the proper implements (deep, heavy-duty rippers and subsoilers), and ample pulling-power equipment (tractors); and conducting the practice at the appropriate speed, depth and pattern(s) of movement.

Note that an appropriate plan for the separate practice of establishing a healthy perennial ground cover, with deep rooting to help maintain the restored soil structure, should be developed in advance. This may require the assistance of an agronomist or landscape horticulturist.

Implements

Avoid the use of all undersize implements. The small-to-medium, light-duty tool will, at best, only “scarify” the uppermost surface portion of the mass of compacted subsoil material. The term “chisel plow” is commonly but incorrectly applied to a broad range of implements. While a few may be adapted for the moderate subsoiling of non-impacted soils, the majority are less durable and used for only lighter land-fitting (see Figure 6).



Fig. 6. A light duty chisel implement, not adequate for either the deep ripping or decompaction (deep subsoiling) phase.



Fig. 7. One of several variations of an agricultural ripper. This unit has long, rugged shanks mounted on a steel V-frame for deep, aggressive fracturing through Phase 1.

Use a “heavy duty” agricultural-grade, deep ripper (see Figures 7,9,10 and 11) for the first phase: the lateral and vertical fracturing of the mass of exposed and compressed subsoil, down and through, to the bottom of impact, prior to the replacement of the topsoil layer. (Any oversize rocks which are uplifted to the subsoil surface during the deep ripping phase are picked and removed.) Like the heavy-duty class of implement for the first phase, the decompaction (deep subsoiling) of Phase 2 is conducted with the heavy-duty version of the deep subsoiler. More preferable is the angled-leg variety of deep subsoiler (shown in Figures 8 and 13). It minimizes the inversion of the subsoil and topsoil layers while laterally and vertically fracturing the upper half of the previously ripped subsoil layer and all of the topsoil layer by delivering a momentary, wave-like “lifting and shattering” action up through the soil layers as it is pulled.

Pulling-Power of Equipment

Use the following rule of thumb for tractor horsepower (hp) whenever deep ripping and decompaction a significantly impacted site: For both types of implement, have at least 40 hp of tractor pull available for each mounted shank/ leg.

Using the examples of a 3-shank and a 5-shank implement, the respective tractors should have 120 and 200 hp available for fracturing down to the final depth of 20-to-24 inches per phase. Final depth for the deep ripping in Phase 1 is achieved incrementally by a progressive series of passes (see Depth and Patterns of Movement, below); while for Phase 2, the full operating depth of the deep subsoiler is applied from the beginning.

The operating speed for pulling both types of implement should not exceed 2 to 3 mph. At this slow and managed rate of operating speed, maximum functional performance is sustained by the tractor and the implement performing the soil fracturing. Referring to Figure 8, the implement is the 6-leg version of the deep angled-leg subsoiler. Its two outside legs are "chained up" so that only four legs will be engaged (at the maximum depth), requiring no less than 160 hp. (rather than 240 hp) of pull. The 4-wheel drive, articulated-frame tractor in Figure 8 is 174 hp. It will be decompacting this unobstructed, former construction access area simultaneously through 11 inches of replaced topsoil and the upper 12 inches of the previously deep-ripped subsoil. In constricted areas of Phase 1) Deep Ripping, a medium-size tractor with adequate hp, such as the one in Figure 9 pulling a 3-shank deep ripper, may be more maneuverable.

Some industrial-grade variations of ripping implements are attached to power graders and bulldozers. Although highly durable, they are generally not recommended. Typically, the shanks or "teeth" of these rippers are too short and stout; and they are mounted too far apart to achieve the well-distributed type of lateral and vertical fracturing of the soil materials necessary to restore soil permeability and infiltration. In addition, the power graders and bulldozers, as pullers, are far less maneuverable for turns and patterns than the tractor.



Fig. 8. A deep, angled-leg subsoiler, ideal for Phase 2 decompaction of after the topsoil layer is graded on top of the ripped subsoil.



Fig. 9. This medium tractor is pulling a 3-shank deep ripper. The severely compacted construction access corridor is narrow, and the 120 hp tractor is more maneuverable for Phase 1 deep ripping (subsoil fracturing), here.

Depth and Patterns of Movement

As previously noted both Phase 1 Deep Ripping through significantly compressed, exposed subsoil and Phase 2 Decompaction (deep subsoiling) through the replaced topsoil and upper subsoil need to be performed at maximum capable depth of each implement. With an implement's guide wheels attached, some have a "normal" maximum operating depth of 18 inches, while others may go deeper. In many situations, however, the tractor/implement operator must first remove the guide wheels and other non essential elements from the implement. This adapts the ripper or the deep subsoiler for skillful pulling with its frame only a few inches above surface, while the shanks or legs, fracture the soil material 20-to-24 inches deep.

There may be construction sites where the depth of the exposed subsoil's compression is moderate, e.g.: 12 inches, rather than deep. This can be verified by using a 3/4 inch cone penetrometer and a shovel to test the subsoil for its level of compaction, incrementally, every three inches of increasing depth. Once the full thickness of the subsoil's compacted zone is finally "pieced" and there is a significant drop in the psi measurements of the soil penetrometer, the depth/thickness of compaction is determined. This is repeated at several representative locations of the construction site. If the thickness of the site's subsoil compaction is verified as, for example, ten inches, then the Phase 1 Deep Ripping can be correspondingly reduced to the implement's minimum operable depth of 12 inches. However, the Phase 2 simultaneous Decompaction (subsoiling) of an 11 inch thick layer of replaced topsoil and the upper subsoil should run at the subsoiling implements full operating depth.



Fig. 10. An early pass with a 3-shank deep ripper penetrating only 8 inches into this worksite's severely compressed subsoil.



Fig. 11. A repeat run of the 3-shank ripper along the same patterned pass area as Fig. 9; here, incrementally reaching 18 of the needed 22 inches of subsoil fracture.

Typically, three separate series (patterns) are used for both the Phase 1 Deep Ripping and the Phase 2 Decompaction on significantly compacted sites. For Phase 1, each series begins with a moderate depth of rip and, by repeat-pass, continues until full depth is reached. Phase 2 applies the full depth of Decompaction (subsoiling), from the beginning.

Every separate series (pattern) consists of parallel, forward-and-return runs, with each progressive

pass of the implement's legs or shanks evenly staggered between those from the previous pass. This compensates for the shank or leg-spacing on the implement, e.g., with 24-to-30 inches between each shank or leg. The staggered return pass ensures lateral and vertical fracturing actuated every 12 to 15 inches across the densely compressed soil mass.

Large, Unobstructed Areas

For larger easy areas, use the standard patterns of movement:

- The first series (pattern) of passes is applied lengthwise, parallel with the longest spread of the site; gradually progressing across the site's width, with each successive pass.
- The second series runs obliquely, crossing the first series at an angle of about 45 degrees.
- The third series runs at right angle (or 90 degrees), to the first series to complete the fracturing and shattering on severely compacted sites, and avoid leaving large unbroken blocks of compressed soil material. (In certain instances, the third series may be optional, depending on how thoroughly the first two series loosen the material and eliminate large chunks/blocks of material as verified by tests with a 3/4-inch cone penetrometer.)



Fig. 12. Moderately dry topsoil is being replaced on the affected site now that Phase 1 deep ripping of the compressed subsoil is complete.



Fig. 13. The same deep, angled-leg subsoiler shown in Fig. 7 is engaged at maximum depth for Phase 2, decompaction (deep soiling), of the replaced topsoil and the upper subsoil materials.

Corridors

In long corridors of limited width and less maneuverability than larger sites, e.g.: along compacted areas used as temporary construction access, a modified series of pattern passes are used.

- First, apply the same initial lengthwise, parallel series of passes described above.

- A second series of passes makes a broad "S" shaped pattern of rips, continually and gradually alternating the "S" curves between opposite edges inside the compacted corridor.
- The third and final series again uses the broad, alternating S pattern, but it is "flip-flopped" to continually cross the previous S pattern along the corridor's centerline. This final series of the S pattern curves back along the edge areas skipped by the second series.

Maintenance and Cost

Once the two-phase practice of Deep Ripping and Decompaction is completed, two items are essential for maintaining a site's soil porosity and permeability for infiltration. They are: planting and maintaining the appropriate ground cover with deep roots to maintain the soil structure (see Figure 15); and keeping the site free of traffic or other weight loads.

Note that site-specific choice of an appropriate vegetative ground-cover seed mix, including the proper seeding ratio of one or more perennial species with a deep taproot system and the proper amount of lime and soil nutrients (fertilizer mix) adapted to the soil-needs, are basic to the final practice of landscaping, i.e.: surface tillage, seeding/planting/fertilizing and culti-packing or mulching is applied. The "maintenance" of an effectively deep-ripped and decompacted area is generally limited to the successful perennial (long-term) landscape ground cover; as long as no weight-bearing force of soil compaction is applied.



Fig. 14. The severely compacted soil of a temporary construction yard used daily by heavy equipment for four months, shown before deep ripping, topsoil replacement, and decompaction.



Fig. 15. The same site as Fig. 14 after deep ripping of the exposed subsoil, topsoil replacement, decompaction through the topsoil and upper subsoil and final surface tillage and revegetation to maintain soil permeability and infiltration.

The Deep Ripping and Decompaction practice is, by necessity, more extensive than periodic subsoiling of farmland. The cost of deep ripping and decompaction (deep subsoiling), will vary according to the depth and severity of soil-material compression and the relative amount of tractor and implement time that is required. In some instances, depending on open maneuverability, two-to-three acres of compacted project area may be deep-ripped in one day. In other situations of more severe compaction and - or less maneuverability, as little as one acre may be fully ripped in a day. Generally, if the Phase 1) Deep Ripping is fully effective, the Phase 2) Decompaction should be completed in 2/3 to 3/4 of the time required for Phase 1.

Using the example of two acres of Phase 1) Deep Ripping in one day, at \$1800 per day, the net cost is \$900 per acre. If the Phase 2) Decompaction or deep subsoiling takes 3/4 the time as Phase 1, it costs \$675 per acre for a combined total of \$1575 per acre to complete the practice (these figures do not include the cost of the separate practice of topsoil stripping and replacement). Due to the many variables, it must be recognized that cost will be determined by the specific conditions or constraints of the site and the availability of proper equipment.

Resources

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Internet Access:

- Examples of implements:
V-Rippers. Access by internet search of [John Deere Ag-New Equipment for 915 \(larger-frame model\) V-Ripper](#); and, for 913 (smaller-frame model) [V-Ripper](#). [Deep angled-leg subsoiler](#). Access by internet search of: [Biglram Brothers Shear Bolt Paratill-Subsoiler](#).
http://salesmanual.deere.com/sales/salesmanual/en_NA/primary_billage/2008/feature/rippers/915v_pattern_frame.html?suba_g&link=modcat Last visited March 08.
- Soils data of USDA Natural Resources Conservation Service. *NRCS Web Soil Survey*. <http://websoilsurvey.nrcs.usda.gov/app/> and *USDA-NRCS Official Soil Series Descriptions; View by Name*. <http://ortho.fvw.nrcs.usda.gov/cgi-bin/osd/osdname.cgi>. Last visited Jan. 08.
- Soil penetrometer information. Access by internet searches of: *Diagnosing Soil Compaction using a Penetrometer (soil compaction tester)*, *PSU Extension*; as well as *Dickey-John Soil Compaction Tester*. <http://www.dickey-johnproducts.com/pdf/SoilCompactionTest.pdf> and <http://cropsoil.psu.edu/Extension/Facts/uct128.pdf> Last visited Sept. 07

Appendix I

Restrictive Covenant for Maintenance of Post-Construction Stormwater Management Practices

SAMPLE DEED COVENANT

**DECLARATION OF RESTRICTIVE COVENANT
REGARDING STORMWATER MAINTENANCE**

This Declaration of Restrictive Covenant regarding Stormwater Maintenance is entered into effective the ____ day of _____, _____ by _____ (the “Owner”), as owner of the real property located at _____ And more particularly described in Exhibit A attached hereto and made a part hereof (the “Property”). The Owner hereby acknowledges and agrees that the Property shall be operated and maintained in accordance with the operation and maintenance plan set forth in Schedule A and Schedule B attached hereto and made a part hereof.

This restrictive covenant shall run with the land and be binding on the successors and assigns of the owner.

DATED EFFECTIVE the day and year written above.

Exhibit A

LEGAL DESCRIPTION

(Insert Legal Description of property (e.g., All that certain plot, piece or parcel of land situate, lying...)

Schedule B

STORMWATER CONTROL FACILITY
MAINTENANCE AGREEMENT

The facility owner desires that the stormwater control measures be built in accordance with the approved project plans and thereafter be maintained, cleaned, repaired, and replaced and continued in perpetuity in order to ensure optimum performance of the components. Therefore, facility owner agrees as follows:

1. This document binds the facility owner, its successors and assigns, to the maintenance provisions depicted in the approved project plan which is attached as Schedule A of this agreement.
2. The facility owner shall maintain, clean, repair, replace and continue the stormwater control measures depicted in Schedule A as necessary to ensure optimum performance of the measures to design specifications. The stormwater control measures shall include, but shall not be limited to, the following: drainage ditches, swales, infiltrators, drain inlets, pipes, and culverts.
3. The facility owner shall be responsible for all expenses related to the maintenance of the stormwater control measures and shall establish a means for the collection and distribution of expenses among parties for any commonly owned facilities.
4. The facility owner shall provide for the periodic inspection of the stormwater control measures, not less than once every five-year period, to determine the condition and integrity of the measures. Such inspection shall be performed by a Professional Engineer licensed by the State of New York. The inspecting engineer shall prepare and submit to the facility owner within 30 days of the inspection, a written report of the findings including recommendations for those actions necessary for the continuation of the stormwater control measures.
5. The facility owner shall not authorize, undertake or permit alteration, abandonment, modification or discontinuation of the stormwater control measures except in accordance with written approval of the agencies having jurisdiction.
6. The facility owner shall undertake necessary repairs and replacement of the stormwater control measures in accordance with the recommendations of the inspecting engineer.
7. This agreement shall be recorded in the Office of the County Clerk, County of Saratoga, together with the deed for the common property.
8. This agreement is effective _____.



SARATOGA COUNTY PLANNING BOARD

TOM L. LEWIS
CHAIRMAN

JASON KEMPER
DIRECTOR

June 22, 2016

Kate Maynard, Principal Planner
City of Saratoga Springs
City Hall 474 Broadway
Saratoga Springs, NY 12866

SCPB Referral Review#15-171-Site Plan Review-Moore Hall, LLC/Union Avenue Condos

Demolition of existing 6-story dormitory building and construction of 26 residential units in 5 new structures.

Union Avenue (NYS Route 9P), North Lane (alley), and White Street

Received from the City of Saratoga Springs Planning Board on June 8, 2016.

Reviewed by the Saratoga County Planning Board on June 16, 2016.

Decision: Approve

Comments:

A handwritten signature in purple ink that reads "Michael Valentine".

Michael Valentine, Senior Planner
Authorized Agent for Saratoga County

DISCLAIMER: Recommendations made by the Saratoga County Planning Board on referrals and subdivisions are based upon the receipt and review of a "full statement of such proposed action" provided directly to SCPB by the municipal referring agency as stated under General Municipal Law section 239. A determination of action is rendered by the SCPB based upon the completeness and accuracy of information presented by its staff. The SCPB cannot be accountable for a decision rendered through incomplete or inaccurate information received as part of the complete statement.

Zimbra

kate.maynard@saratoga-springs.org

Moore Hall Demo/Condo Construction

From : Christian Mathiesen
<christian.mathiesen@saratoga-springs.org>

Wed, Jul 06, 2016 05:10 PM

Subject : Moore Hall Demo/Condo Construction

To : Kate Maynard <kate.maynard@saratoga-springs.org>

Cc : eileen finneran <eileen.finneran@saratoga-springs.org>, ss traffic1 <ss.traffic1@yahoo.com>, Brad Birge <bbirge@saratoga-springs.org>, Susan Barden <susan.barden@saratoga-springs.org>, Andrew Prestigiacomo <aprestigiacomo@saratogapolice.org>

Kate,

Thank you for meeting with Mark Benecquista and me on North Lane behind Moore Hall on Tuesday, July 5. During our discussion, we evaluated the travel conditions on North Lane and we discussed the impact of increased usage that would be associated with the proposed site plan for condominiums at the 28 Union Avenue/35 White Street parcel.

North Lane has been used primarily as a service route behind buildings on White Street and Union Avenue. It is narrow, especially on the western portion with no room for vehicles to pass. There are issues with snow accumulation during winter weather months. The site plan for the condominiums includes the year around use of North Lane for vehicular access for over 40 residential parking spaces.

Given the limitations and conditions of North Lane, both Mark Benecquista and I agree that, if North Lane is to be used as the primary access route for the condominium parking areas, the increased usage associated with this project would require changes in existing traffic regulations. As part of the site plan, we suggest that this alley be restricted to one way travel with traffic allowed from the west (Regent Street intersection) to the east (Clark Street intersection).

We also observed a driveway immediately to the east of the 28

Union Avenue parcel at 48 Union Avenue. We would encourage the developers to look into sharing this driveway and re-configuring vehicular access to the Union Avenue condominiums. This approach would help to lighten the traffic pressure on North Lane.

Another alternative would be to establish an additional curb cut and driveway from Union Avenue into a re-configured condominium complex.

We do anticipate some neighborhood objections to increased traffic on North Lane and to a one-way traffic restriction.

Chris Mathiesen
Saratoga Springs Commissioner of Public Safety

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Zimbra

kate.maynard@saratoga-springs.org

Moore Hall Project

From : richard upton <[REDACTED]>
Subject : Moore Hall Project

Wed, May 25, 2016 09:06 AM

To : kate maynard <kate.maynard@saratoga-springs.org>

Cc : richard upton <[REDACTED]>

Kate Maynard, AICP
Principle Planner
Planning & Economic Development

May 23, 2016

RE: MOORE HALL PROJECT 1/4 1st of 4 pages

I am writing in protest to the 46 Union Ave building using the North Lane Alley as access for its parking. The access should be on Union Avenue, not North Lane Alley.

I am not against the project, on the contrary it may add something to the area. The neighborhood residents also seem happy with the proposal. I just have a few concerns, some of them potentially serious.

Using North lane Alley as parking access for the Union Avenue building will potentially allow hundreds of vehicles per day to be traveling down this narrow, quite Alley. This is more traffic than many of the streets in this neighborhood host during a typical day. Currently North Lane Alley gets 6 to 12 vehicles per day, not HUNDREDS. During the winter this narrow Alley is going to be further narrowed and compromised by snow and plowed snow drifts, limiting visibility, and making it even more dangerous to pedestrians and children.

North Lane is a narrow Alley not designed for Heavy Traffic. Many of the Homes, and buildings have only a two or three foot setback, and no room for a vehicle to maneuver in the event of a problem, especially during the winter with high snow drifts. Should the City require Hundreds of vehicles to use an Alley not designed to support this type of volume it will create an unsafe environment with foreseeable consequences. This is sufficient grounds to include the city in any Litigation should anyone be injured or killed, especially children.

Regent Street has three schools within a 11/2 block distance from one of North Lanes entrances, which results in considerable traffic congestions from car and busses picking up and dropping off students. The Waldorf school is on the corner of Regent and North Lane Alley, and has students wandering around as well as busses, parents vehicles, and teachers. Heavy traffic use and Children do not Mix. While North Lane Alley as an exit onto Clark Street has limited visibility of people moving along the sidewalk. (I have personally experienced this, and not seen pedestrians until the last minute). This is also a good reason to keep North Lane Alley a two way street.

Heavy traffic concerns in regards to the previous Moore Hall renovation proposal was one of the primary issues raised. It is my opinion that using North Lane Alley as the access for the Union Ave building will pose a significantly

worse traffic and congestion problem. The previous proposed units were single bedroom, meaning one occupant in general. The current condo's are large family units, suggestive of two adults plus children. Parents work and shuttle kids to events, and if the children are of driving age the coming and going will be even higher. Additionally friends visiting, and being dropped off or picked up will add to traffic.

The statement of Hundreds of vehicles using North Lane Alley is not an exaggeration. Here's the math; 44 vehicles (two per condo, for 22 units) coming and going (which is 2 vehicle trips down Alley, ((to and from)).
 $44 \text{ vehicles} \times 2 \text{ (coming and going)} \times 2 \text{ (trips)} = 176 \text{ vehicles traveling through Alley.}$ $44 \text{ vehicles} \times 2 \text{ (coming and going)} \times 3 \text{ (trips)} = 264 \text{ vehicles traveling through Alley.}$

Twice a day;

176 vehicles traveling down the Alley.

Plus current vehicles, Plus additional traffic, Plus friends and dropoffs

Three a Day

264 vehicles traveling down the Alley.

Plus current vehicles, Plus additional traffic, Plus friends and dropoffs

These are reasonable numbers as these are large Family Unit Condo's, many of which will have children (who might also be playing around or in the Alley) so the number of vehicle trips could be higher.

North Lane Alley is very narrow with homes and buildings set close to the asphalt. Heavy traffic would be both annoying and dangerous to people living on the Alley. Examples of this, and my personal reasons for resisting using the Alley for access to a parking complex not located on North Lane Alley but rather Union Avenue are as follows.

Heavy Traffic will be Dangerous on North Lane Alley

- 1) Waldorf school located on the corner of North Lane Alley, and Regent Street. Children and teachers milling around, busses unloading and loading could be very dangerous
- 2) Heavy traffic congestion on Regent Street during different times of the day as the three schools begin and end. Parents drop off preschoolers and are distracted by thier children while crossing traffic
Waldorf School busses, Parents dropping off Children, teachers parking cars and walking to the school
- 3) Vibration due to Heavy Traffic, and construction which can cause structural damage. My Home is on the Historic registry and is over a hundred years old. It is constructed of soft brick and soft mortar and may well be susceptible to heavy vibration from demolition, construction and heavy traffic. My Home is bordered on three sides by this project and will be impacted more directly than any other properties. It is 30 feet from Moore Hall and very vulnerable, especially during demolition, while heavy construction vehicles (cement mixers, dump trucks, heavily laden delivery trucks), and construction equipment pose there own hazards. I would like some guarantees that if structural damage occurs during or after the demolition, and construction process that My Home will be restored to original condition.
- 4) Snow removal from rooftops. Ladders close to or on the blacktop as people rake snow off their roofs, are not going to be 100% focused on Heavy traffic moving down the Alley. While large snow drifts will limit visibility.
- 5) Gardening and Working on buildings which may again entail ladders close to or on the Alley. Many of the buildings on North Lane Alley have very narrow setbacks, sometimes only two feet.
- 6) Loading trucks which are parked for an indefinite period, blocking North Lane Alley. The only direct access I

have to my buildings is from the Alley, and I periodically load and unload crates and boxes into a truck.

7) Noise pollution; Heavy traffic on North lane Alley would be very disturbing and disruptive.

I WOULD ALSO LIKE TO STATE THAT I AM AGAINST NORTH LANE ALLEY BEING MADE ONE WAY.

A) North Lane Alley exiting onto Clark Street is dangerous, as it has limited visibility of pedestrians on the sidewalk. In the winter with large snow drifts and people bundled up it will be even worse. Add in an icy Alley and you could have flattened pedestrian.

B) North Lane Alley entering on Regent street will cause more congestion with three shools on Regent St.

C) Snow will continuously be plowed onto my side of alley, blocking driveway and entrances. During a heavy snow season trucks may not even be able to plow continuously to one side as the drifts may be too large, especially with two to four foot setbacks on some of these buildings. the combination of small setbacks and and one direction plowing could force snow into and up the walls of existing structures resulting in severe damage.

D) Whenever I am loading or unloading my trucks the alley will be blocked and people can choose to access there homes by entering the alley from the other direction. Even if I move my truck every time someone approaches its going to delay traffic

Alley ways are for rear access to building for the purpose of deliveries (loading and unloading), trash pickup, and fire access, and for secondary living accommodations. Local residents also stroll down North Lane Alley during the summer to get away from traffic and have a quitter experience. North Lane Alley is not designed for heavy traffic use, especially for buildings not located on that Alley. They have no sidewalks, limited visibility when entering the alley, and limited room to move out of the way should a driver be distracted or be driving recklessly. These problems will be compounded significantly during the winter months.

Union Avenue parking entrance should be on Union Avenue. They can enter and drive down along the side of the building, turning behind it and enter the parking area. Upon leaving they would exit in the opposite direction, driving down the opposite side of the building and enter Union Avenue. They have sufficient room on the side of the building to make this feasible.

Thank you for your time and consideration

Richard Upton

████ North Lane Alley
Saratoga Springs
████

Zimbra

kate.maynard@saratoga-springs.org

Moore Hall Project

From : richard upton <[REDACTED]>
Subject : Moore Hall Project
To : kate maynard <kate.maynard@saratoga-springs.org>
Cc : richard upton <[REDACTED]>

Thu, May 26, 2016 04:01 PM

Kate Maynard, AICP May 26, 2016
Principle Planner
Planning & Economic Development

RE: MOORE HALL PROJECT 1/2 1st of two pages

I have several concerns regarding the Moore Hall proposed buildings for White Street.

I am not against the project, on the contrary it may add something to the area. The neighborhood residents also seem happy with the proposal. I just have a few concerns, some of them potentially serious.

My Home faces White Street and is located in the northwest corner of the Moore Hall parking lot, facing out over an empty parking lot. It is bordered on three sides by the proposed project, and I am very concerned on several counts the primary being demolition, and construction vibration. The proposed three row house on white street is massive. I will loose my entire view and I am concerned that I will not get any direct sunlight during the winter. The sheer mass and scale of this one building is not in accord with the neighborhood. The proposed units are homes not an apartment building, and in order to be compatible with the neighborhood should be broken up into two separate units. This separation and reduction in size will look and feel like the homes on white street, as well as giving residents a little yard area.

I feel that the density of this project in total is too high. There should be some open areas available for residents, which would allow it to blend with the neighborhood house to yard ratio. If the average homeowner were attempting to build a house with this small a ratio of building to land the Zoning and permits would be denied.

My Primary concerns are;

1) Vibration due to demolition, and construction which can cause structural damage. My Home was built in 1906, and is constructed of soft brick and soft mortar and may well be susceptible to heavy vibration from demolition, construction and heavy traffic. My Home is bordered on three sides by this project which will amplify vibration, impacting it more directly than any other properties. It is 30 feet from Moore Hall and very vulnerable, especially during demolition. I would like some guarantees that if structural damage occurs during or after the demolition, and construction process, that My Home will be restored to original condition.

2) Snow build up (from plowing) directly in front of my yard. I would also like to confirm that there will be a snow removal contract as there is nowhere to plow snow (ANYWHERE). I am also concerned that plowing of light snowfalls will cumulatively build up directly in front of my home (there is absolutely nowhere to plow snow anywhere in this project space).

3) Loss of any view except the back of this disproportionately large building

3) Loss of direct sun during the winter due to height and mass of new structure.

4) Inability to see the house from the street. My Home maybe on the historic Registry (still checking) and was designed by (still researching) a famous architect at the turn of the century. The home is a very beautiful little brick and mortar building built in 1906. When viewed from White Street it is quite striking, but will be eclipsed and hidden behind all these new structures.

Thank you for your time and consideration

Richard Upton

█ North Lane Alley
Saratoga Springs
█

July 8, 2016

Mr. Tim Wales, PE City Engineer
City of Saratoga Springs
474 Broadway Saratoga Springs, New York 12866
Delivered via email: timothy.wales@saratoga-springs.org

**Re: Technical Review of Documents – 1st submittal
City Project No. PB# 15.045.2 - Moore Hall Site Plan
46 Union Avenue
City of Saratoga Springs, Saratoga County, New York
Chazen Project No. 31604.04**

Dear Mr. Wales:

General

Comment 1: All documents should reference the City's project number PB# 15.045.2.

Response 1: All documents from this point forward will have the planning board number referenced.

Comment 2: Please provide the design, type of construction and materials of proposed buildings, as required in the Site Plan Review Submittal Checklist.

Response 2: The design of the architecture is under review by the Design Review Commission. We will provide the architectural elevations and floor plans to demonstrate the design and type of construction materials of the proposed buildings.

Site Plans

Comment 3: The four (4) sanitary service laterals from buildings 2 and 3 appear to enter building 1. Please clarify how sewage from buildings 2 and 3 will be conveyed to the sanitary sewer main.

Response 3: A floor plan will be provided depicting the connection points for the sanitary service laterals for building 2 and 3 within building 1.

Comment 4: Please indicate where sump pumps and foundation drains will be discharged.

Response 4: The sump pump discharge locations will be depicted in the plan referenced in response 3 and the foundation drain connections will be depicted on the grading and drainage plan (L-3).

Comment 5: Detail 6 on sheet L-8 (drip strip) should be referenced on the Site Grading & Drainage Plan where applicable, with the locations and limits clearly defined.

Response 5: The detail for the Drip strip is referenced and the limits will be clearly defined on the Grading and Drainage Plan.

Stormwater Pollution Prevention Plan

Comment 6: Runoff from Subcatchments P1, P2, P5, and P6 contain impervious surfaces however they all appear to discharge to the existing storm sewer in Union Avenue without any water quality treatment. Please clarify.

Response 6: The project has been designed in accordance with Chapter 9 of the SWMDM for redevelopment projects. The total WQv provided accounts for 25% treatment of the existing impervious area (37,827 sf) and 100% treatment of new impervious (880 sf). The total WQv provided (0.041 ac-ft) which is greater than the WQv required for the site (0.022 ac-ft).

Comment 7: The stormwater management plan utilizes infiltration through both porous pavement and porous pavers for proposed driveways. Please address the following comments pertaining to the requirements of the NYSDEC Stormwater Management Design Manual (SWMDM) for porous pavement practices:

- a) The SWMDM requires a 25-foot down-gradient setback from structures for porous pavement practices. The site plans indicate that porous pavement/pavers will be utilized for all proposed driveways, which abut the proposed buildings. Please revise accordingly.
- b) The SWMDM requires observation wells

Response 7: a) Proposed structures will not have basements, therefore drip strips and porous pavement will not cause water problems to the buildings. Additionally, the buildings will be constructed with a waterproof membrane along the building sides of the drip strip and porous pavement.

b) In section 5.3.11 of the SWMDM for porous pavement, the installation of an observation well is not listed under the required elements and therefore the LA Group has opted not to provide them.

Comment 8: The SWPPP indicates that the site is located within an area on the OPRHP website that might contain archeologically sensitive resources. The correspondence from OPRHP provided in Appendix G addresses Historic/Cultural resources only. Please provide a determination from OPRHP regarding the potential for the project to impact archeologically sensitive resources.

Response 8: The project has received sign off from OPRHP for archeologically. The no effect letter will be added to Appendix G of the SWPPP.

Comment 9: The garage entrance to building 1 is recessed below the surrounding grade elevation. It appears that some of the runoff from subcatchment P5 will drain toward the garage entrance. A trench drain is shown at the garage entrance. Runoff from larger storm events may exceed the capacity of the trench drain and enter the garage. Please clarify.

Response 9: The trench drains proposed along building 1's garage entrance drive each have a capacity greater than that of the 100-year storm flow from subcatchment P-5. Additionally, trench drains within the garage (connected to sump pumps) will remove any water from the garage brought in by vehicles.

Comment 10: The City Engineer's office requires that yearly inspection and maintenance reports for post-construction stormwater management facilities be submitted for their files. This requirement should be added to the SWPPP.

Response 10: This requirement will be added to the SWPPP under section 6.1 “Maintenance to be performed” for post construction stormwater practices.

Sincerely,

A handwritten signature in black ink, appearing to read "Brett C. Strom".

Brett C. Strom, P.E.
Civil Engineer

